FAQoverflow
Great Answers to Questions About Everything

October 8, 2010

Contents

Chapter 1

A Brief Introduction to FAQoverflow

This chapter was written by the folks at GeekPunk[1] laboratories.

1.1 Overview

1.1.1 What Is FAQoverflow?

Question by GeekPunk [**?**]

What is the purpose of FAQoverflow?

Answer by GeekPunk [**?**]

FAQoverflow is the coffee table book version of the StackOverflow (SO) family of Q&A sites. There are a growing number of community-driven Q&A sites in the SO family. They're great resources if you're looking for the answer to a particular question, or if you have specialist knowledge that you'd like to share by answering questions asked by other users. If you just want to browse great questions and answers on a variety of topics, however, you're out of luck. You could visit each SO site separately, view the questions sorted by votes, and read the top few answers of each one. But that doesn't scale as the number of sites in the SO family grows, and you'll find questions and

[1] http://www.geekpunk.com.au

answers surrounded by lots of navigation and discussion that gets in the way. FAQoverflow is the solution. We select the best questions and answers from each site in the SO family and reformat them as a traditional FAQ. It's the perfect solution for people who just want to discover more about a topic without knowing what they're looking for!

1.1.2 Who Made It?

Question by GeekPunk [**?**]

Who is responsible for making FAQoverflow?

Answer by GeekPunk [**?**]

FAQoverflow is made by GeekPunk, a small web developer in Perth, Western Australia. Jason Hutchens is to blame for the original concept, and he did all of the coding, design, and ... well, he did all of it, to be honest (including writing both this question and answer). Jason is, in fact, quite modest, and thoroughly enjoys referring to himself in the third-person.

1.1.3 How Does FAQoverflow Make Money?

Question by GeekPunk [**?**]

How do you guys make money from FAQoverflow?

Answer by GeekPunk [**?**]

We don't. That's not to say that we don't like the idea of making money; rather, we don't want FAQoverflow to be our primary means of generating an income. We implemented FAQoverflow because we thought it was a cool idea, and we don't intend to profit from the hard work of others (namely, those who contributed the questions and answers). Having said all that, we'd like a little bit of help to continue developing and running this service, so please consider donating a small amount.

1.1.4 But I Want to Give You Money!

Question by GeekPunk [?]

I'd like to donate a small amount of money to help you with FAQoverflow. How do I do that?

Answer by GeekPunk [?]

That's great! We've set up one of those new-fangled PayPal donate buttons on the off-chance that someone out there wanted to throw some cash our way! We welcome donations of any amount; every dollar we receive makes it easier for us to continue to develop and host FAQoverflow. And thank-you very much!

1.1.5 Is a Version Available for Offline Reading?

Question by GeekPunk [?]

I like browsing FAQoverflow, but I'd love to get my hands on a version that I can read it whenever I want, without an Internet connection.

Answer by GeekPunk [?]

We're happy to announce that you can download a version of PDF version of FAQoverflow for offline reading! PDF: faqoverflow.pdf We hope to support other formats (such as EPUB) soon.

1.1.6 You Should Totally Do an iPhone App!

Question by GeekPunk [?]

FAQoverflow would be great as an iPhone App. Imagine the possibilities!

Answer by GeekPunk [?]

We know that browsing the web version of FAQoverflow on your iPhone can be a pain in the neck. That's why we've packaged it up nicely as an app that's both free and easy to install. All you need to do is visit the FAQoverflow home page on your iPhone, click on the "+" button at the bottom of the display, and select "Add to Home Screen". Like this:

And pay no attention to the man behind the curtains!

1.1.7 How Often Is the Site Updated?

Question by GeekPunk [**?**]

I've noticed that it takes some time for great new questions to show up, and for entirely new Q&A sites to appear. How often do you update FAQoverflow?

Answer by GeekPunk [**?**]

We try to ensure that FAQoverflow is updated on a weekly basis. As it's primarily intended to complement the SO family of sites, we didn't think it important for it to reflect the exact current state of everything. At the moment we update the site by manually running a script. We anticipate setting up a server to allow this script to be run around-the-clock by the middle of October, 2010. This will enable us to keep FAQoverflow a bit more up-to-date.

1.1.8 How Do I Contact You?

Question by GeekPunk [**?**]

What's the best way of getting in touch with you?

Answer by GeekPunk [**?**]

Please send an email to admin@faqoverflow.com and we'll answer as quickly as we can. Alternatively, write a blog post about how awesome you think FAQoverflow is, or use the #faqoverflow hashtag on Twitter, and we'll track you down :)

1.2 Technical Details

1.2.1 Where Is FAQoverflow Hosted?

Question by GeekPunk [?]

Where is FAQoverflow hosted?

Answer by GeekPunk [?]

FAQoverflow isn't hosted on a traditional web server per se. It's a static website, so we decided to host it entirely using Amazon's S3 and Cloudfront services. This is possible due to Amazon's recent support of "default root object" functionality, by which accesses to www.stackoverflow.com cause the index.html file to be served. We're hoping that this approach will reduce our costs and maximise our performance and reliability. In fact, we think that it has so many advantages that we expect lots of new web services to operate this way (i.e. they'll generate static content offline and integrate with third-party web services where dynamic content is required). We're sure there'll be some cool new term to describe sites that do this soon enough. It'll be like 1995 all over again!

1.2.2 How Do You Get the Questions & Answers?

Question by GeekPunk [?]

Do you spider each site to get the content that you use, like Google does?

Answer by GeekPunk [?]

No, we don't. We wrote a Ruby script that makes calls to the Stack Overflow API. The first thing the script does is retrieve the list of SO sites from stack-auth.com. It then queries each public site (with the exclusion of the various "meta" sites) for the top 1000 questions, as sorted by votes. The script then retrieves the top two answers to each question, again as determined by votes. This means that we can perform over one thousand separate API calls per SO site. To play nice, we make sure we wait a while between each API call. This means that the script can take a very long time to run. We were careful to serialise all data out to YAML files so that the script can resume from where it left of if an exceptional situation arises!

1.2.3 How Do You Decide Which Questions & Answers to Use?

Question by GeekPunk [?]

I've noticed that the questions on FAQoverflow aren't ordered by votes. In fact, some very popular questions are missing entirely. How do you decide which questions and answers to show?

Answer by GeekPunk [?]

It's all done automagically, via a crazy algorithm implemented in Ruby. What happens is this: once our Ruby script has retrieved the top 1000 questions for a SO site, along with the top 2 answers to each question, it then sets about calculating a quality score for each question (it does this after it's thrown away questions that have been closed, or that don't have any answers). The quality score takes into account the votes the question has received, and the difference between the votes that the top 2 answers received (in an attempt to favour questions that have one obvious stand-out answer). It also is biased towards succinct questions of a few sentences, and brief answers of a page or so.

1.2.4 How Do You Divide the Questions up into Different Sections?

Question by GeekPunk [?]

OK, I understand how you get the questions and decide which ones are good. How, then, do you group them into sections? And how do you decide which order these sections should be in?

Answer by GeekPunk [?]

It's all got to do with the quality score. We start with this big list of questions sorted by their quality score, and then we throw away questions that score too low. We then start grouping questions into sections, like this: Select the question at the top of the list, and create a new "bucket" to hold it. Label the bucket with a selection of tags from that question, determined as follows: No existing section should have the same label. It should be possible to give at least 4 other questions that same label, based on their tags. If two potential labels have the same number of tags, choose the one that would yield a list of questions with the highest average quality score.

If a suitable label is found, then that bucket becomes a new section, and the questions within it are removed from the list. Otherwise, the question is added to the generic "miscellaneous" section. This process continues until no more questions remain, or the miscellaneous section contains 10 questions. The questions within each section are sorted by their quality score. The sections within each "chapter" are sorted by their average quality, with the exception that the miscellaneous section is always placed last. And the "chapters" are also sorted by their average quality, with the exception that this chapter, A Brief Introduction to FAQoverflow, is always placed first. What this means is that new sites will tend to enter towards the bottom, will initially contain few sections and questions, and will slowly bubble up as the weeks and months pass. It also means that the miscellaneous section is usually where the most interesting, left-of-field questions may be found!

1.2.5 How Is the Content Published?

Question by GeekPunk [**?**]

Once you've retrieved the content and divided it up into sections, how is it formatted and published?

Answer by GeekPunk [**?**]

Our trusty old Ruby script does that too. It generates static HTML from the content, and then uploads this to Amazon S3, which updates the live site. We intend to run our Ruby script around the clock on a micro-insance on Amazon, which means that we should be able to keep FAQoverflow relatively up-to-date. Right now, however, we run the script manually.

1.3 Credits & Copyright

1.3.1 Isn't All StackExchange Content Licensed?

Question by GeekPunk [?]

I thought all of the content on the SO family of sites was licensed?

Answer by GeekPunk [?]

Yes, that's true; all user-generated content (that is, the questions and the answers) are licensed under cc-wiki. That's great for us, because it allows us to share and remix that content provided that we give attribution (you'll notice that all questions and answers link back to the originating site, and that all authors link back to their user profile).

1.3.2 What Are the Copyright Details of the FAQoverflow Site Itself?

Question by GeekPunk [?]

How can I properly attribute copyright to FAQoverflow?

Answer by GeekPunk [?]

Quite simply; use Copyright 2010 GeekPunk Pty. Ltd.

Chapter 2

Professional & Enthusiast Programmers

This chapter is shared and re-mixed from the Stack Overflow[1] Q&A site.

2.1 Miscellaneous

2.1.1 What's Your Favorite "programmer" Cartoon?[2]

Question by Dan Williams [?]

Personally I like this one:

P.S. Do not hotlink the cartoon without the site's permission please.

Answer by Rick [?]

Another one from xkcd

[1] http://stackoverflow.com

[2] http://stackoverflow.com/questions/84556

2.1.2 Strangest Language Feature[3]

Question by Andreas Bonini [?]

What is, in your opinion, the most surprising, weird, strange or really "WTF" language feature you have encountered?

Please only one feature per answer.

Answer by Edan Maor [?]

In C, arrays can be indexed like so:

a[10]

which is very common.

However, the lesser known form (which really does work!) is:

10[a]

which means the same as the above.

2.1.3 What Is Your Best Programmer Joke?[4]

Question by hmason [?]

When I teach introductory computer science courses, I like to lighten the mood with some humor. Having a sense of fun about the material makes it less frustrating and more memorable, and it's even motivating if the joke requires some technical understanding to 'get it'!

I'll start off with a couple of my favorites:

Q: How do you tell an introverted computer scientist from an extroverted computer scientist?

A: An extroverted computer scientist looks at your shoes when he talks to you.

And the classic:

Q: Why do programmers always mix up Halloween and Christmas?

A: Because Oct 31 == Dec 25!

I'm always looking for more of these, and I can't think of a better group of people to ask. What are your best programmer/computer science/programming

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[3] http://stackoverflow.com/questions/1995113

[4] http://stackoverflow.com/questions/234075

jokes?

Answer by Gulzar [?]

A man flying in a hot air balloon suddenly realizes hes lost. He reduces height and spots a man down below. He lowers the balloon further and shouts to get directions, "Excuse me, can you tell me where I am?"

The man below says: "Yes. You're in a hot air balloon, hovering 30 feet above this field."

"You must work in Information Technology," says the balloonist.

"I do" replies the man. "How did you know?"

"Well," says the balloonist, "everything you have told me is technically correct, but It's of no use to anyone."

The man below replies, "You must work in management."

"I do," replies the balloonist, "But how'd you know?"

"Well", says the man, "you dont know where you are, or where youre going, you expect me to be able to help. Youre in the same position you were before we met, but now its my fault."

2.1.4 What Is the Single Most Influential Book Every Programmer Should Read?[5]

Question by NotMyself [?]

If you could go back in time and tell yourself to read a specific book at the beginning of your career as a developer, which book would it be?

I expect this list to be varied and to cover a wide range of things. For me, the book would be Code Complete. After reading that book, I was able to get out of the immediate task mindset and begin to think about the bigger picture, quality and maintainability.

Answer by Justin Standard [?]

Code Complete (2nd Ed) by Steve McConnell

"The encyclopedia of good programming practice, Code Complete focuses on individual craftsmanship – all the things that add up to what we instinc-

[5] http://stackoverflow.com/questions/1711

tively call "writing clean code." This is the kind of book that has 50 pages just talking about code layout and whitespace." –Joel (NB imo there's more to it than semantics)

2.1.5 How Do You Clear Your Mind after a Day of Coding?[6]

Question by Bryan [?]

I'm having a hard time taking my mind off of work projects in my personal time. It's not that I have a stressful job or tight deadlines; I love my job. I find that after spending the whole day (8-10 hours) writing code and trying to solve problems, I have an extremely hard time getting it out of my mind. I'm constantly thinking about the current project/problem/task all the time. It's keeping me from relaxing, and in the long run it just builds stress.

Personal projects help to some extent, but mostly just to distract me. I still have source code bouncing around my head 16 hours a day.

I'm still relatively new to the workforce. Have you struggled with this, perhaps as a new developer? How did you overcome it? How can I wind down after a long programming session?

Related:Ways to prepare your mind before coding?When to take a break?

Answer by AlexanderJohannesen [?]

Funny you should bring this up, because I have the same problem, and I have actually devised a technique that works really well for me. I use the last 5 minutes of my day to write myself a debrief note for the next day. This will do three important things;

It takes your mind off the complexities as the debriefing will be a short form of all the things you've worried about, and helps clear the mind of all the what-if things. If your mind has a long down-settling time, the debrief note is the perfect place to use for a central of "things I forgot about" or should note somewhere. The debrief note becomes a knowledge central for whatever you did that day. It focuses your mind on the real issues. One thing is to clear the mind, another is to let it keep going, but more focused.

[6]http://stackoverflow.com/questions/784461

So even if your conscious mind is letting go, it's probably a good idea to let your unconscious mind keep churning at the problems, and a good way to help your mind do this is to be slightly futuristic in your notes (thoughts on direction, for example). Here's a real example from my note yesterday (with some notes in brackets) ;

Struggled with the new simplified data model for Topic Maps integration as recursive key/value pairs don't always explain complex relationships, but think that the added 'scope' column handles most if not all of my use cases. I feel I've reached a good place where some heavy coding can take place. Enough thinking, more doing. (Helps me get a feel for what I was doing, what I struggled with especially, and that it's about my feelings. Feelings is actually important in trying to make the brain settle.) Implemented the dreaded global stack which seems to be working fine. (Focus your fears and worries where it belongs. 'Dreaded' prepares me for uglies in the future) Talked with ZZZ about banners for the front page, and can probably do this through the Index Front Controller the easiest. (Put down some thoughts you've had on upcoming work. Once down on 'paper', out of mind) And so on. I never have more than 3 to 5 notes on any day. If you feel there's more issues, try to classify them into 3 to 5 notes anyway. Anything more than that will freak your mind, and you're back to square one. :)

An added bonus of this is that this is, in fact, a developer's log, which many, many would recommend. After a while these notes will be so good they fit into release notes as well. Practice, practice, practice.

Good luck, and tell us what you came up with (a debrief note, if you will :).

Chapter 3

Computer Enthusiasts & Power Users

This chapter is shared and re-mixed from the Super User[1] Q&A site.

3.1 Miscellaneous

3.1.1 How Do You Keep Track of All Your Passwords?[2]

Question by Sam Saffron [?]

How do you keep track of all your passwords?

Personally I host a personal copy of clipperz, I used keepass and passpack in the past.

What password manager would you recommend, what features does it have that make it awesome?

Now at 70+ "answers" it's a pretty good bet that your favourite program is already mentioned. Upvote that if that's the case. If you can't yet upvote, come back when you've gained enough reputation instead of posting a duplicate answer.

Answer by jtimberman [?]

[1] http://superuser.com

[2] http://superuser.com/questions/255

I use KeePass. Features I like:

Strong encryption Cross platform - I use it on Windows, Linux and Mac OSX daily Password quality meter Excellent random password generator, with customizable "character type" selection. Open Source Software. This is very important for an encryption program! Extensible with Plugins. Export/import between databases. The big win for me was the cross-platform capability and the ability to export and import databases.

There's also an iPhone app in the works (independent project, yay open source software!).

Those who want to store in the cloud can look into dropbox.

There's not a lot of Firefox plugins, but LastPass will import from KeePass into Firefox.

3.1.2 "Must-Have" Firefox Addons?[3]

Question by Jonathan Sampson [?]

Only one addon per answer, please.

What are some of the best addons when it comes to Firefox? My current favorites include:

Firebug

Firebug integrates with Firefox to put a wealth of web development tools at your fingertips while you browse. You can edit, debug, and monitor CSS, HTML, and JavaScript live in any web page. Greasemonkey

Allows you to customize the way a webpage displays using small bits of JavaScript. What am I missing?

Answer by Bryson [?]

Adblock Plus is one of my essential add-ons. It does an excellent job at blocking annoying advertisements.

[3] http://superuser.com/questions/587

3.1.3 How Do I Create Unicode Smilies like ()[4]

Question by Anirudh Goel [?]

How to make Unicode texts like the one in the title, or like the following?

(--) () () (-).

As an aside, note that in your browser the above example should look like:

Answer by Joey [?]

As for your confusion about multi-line: There are numerous diacritics at work here. Those are combining characters that get placed above or below other characters. If we dissect the specific smiley () we get the following:

(U+0028 Left Parenthesis (this is obvious)

U+25CF Black Circle (this will be the left eye)

U+032E Combining breve below (this gets part of the mouth) The fact that it's placed slightly right of the circle is a font issue. Normally it should appear directly below the preceding character

U+032E Combining breve below (still part of the mouth)

U+0303 Combining Tilde (this will be the left eyebrow)

U+2022 Bullet (right eye)

U+0303 Combining Tilde (eyebrow)

) U+0029 Right Parenthesis

It's some clever use of diacritic characters that creates the illusion of multiple lines here. Combining characters can be stacked, as seen with the breve, but usually the results are less good.

You can paste the smileys into Word and by placing the cursor after a character and pressing Alt+C you can cause the character to be replaced with its Unicode code point in hexadecimal. In the case of diacritics you first replace the diacritic and then can proceed with the base character (or still more diacritics if they are there). The other way around works too. You can enter 2022 and press Alt+C and get a bullet point.

So for getting the smiley above you can use the following string of letters and numbers:

[4]http://superuser.com/questions/52671

002825CF032E032E0303202203030029

paste it into Word and hit Alt+C every four places, beginning at the left.

Note: In the preceding paragraphs I have used the hotkey Alt+C exclusively. When not using Word but instead some variant of RichEdit (for example in WordPad) this becomes Alt+X instead. Also, as mentioned in the comments, for some people apparently it's Alt+X in Word, too. In the interest of brevity I will only talk about Alt+C, but you should use whatever variant applies to you. Another method, mentioned in this answer would be to use Ctrl+Alt+Shift+F12 which seems to work as well. Just in case there aren't enough options yet.

Note 2: In the overview of characters used for the smiley above the spacing seems off in some places. This had technical reasons and may differ from one browser to another. Also some combining characters tended to disappear which is why some of them are shifted to the right.

3.1.4 Recovering a Lost Website with No Backup?[5]

Question by Jeff Atwood [?]

Unfortunately, our hosting provider experienced 100% data loss, so I've lost all content for two hosted blog websites:

http://blog.stackoverflow.comhttp://www.codinghorror.com

(Yes, yes, I absolutely should have done complete offsite backups. Unfortunately, all my backups were on the server itself. So save the lecture; you're 100% absolutely right, but that doesn't help me at the moment. Let's stay focused on the question here!)

I am beginning the slow, painful process of recovering the website from web crawler caches.

There are a few automated tools for recovering a website from internet web spider (Yahoo, Bing, Google, etc.) caches, like Warrick, but I had some bad results using this:

My IP was quickly banned from Google for using it I get lots of 500 and 503 errors and "waiting 5 minutes" Ultimately, I can recover the text content faster by hand I've had much better luck by using a list of all blog posts, clicking through to the Google cache and saving each individual file as HTML. While there are a lot of blog posts, there aren't that many, and I

[5]http://superuser.com/questions/82036

figure I deserve some self-flagellation for not having a better backup strategy. Anyway, the important thing is that I've had good luck getting the blog post text this way, and I am definitely able to get the text of the web pages out of the internet caches. Based on what I've done so far, I am confident I can recover all the lost blog post text and comments.

However, the images that go with each blog post are provingmore difficult.

Any general tips for recovering website pages from internet caches, and in particular, places to recover archived images from website pages?

(And, again, please, no backup lectures. You're totally, completely, utterly right! But being right isn't solving my immediate problemunless you have a time machine)

Answer by John Siracusa [**?**]

Here's my wild stab in the dark: configure your web server to return 304 for every image request, then crowd-source the recovery by posting a list of URLs somewhere and asking on the podcast for all your readers to load each URL and harvest any images that load from their local caches. (This can only work after you restore the HTML pages themselves, complete with the ¡img ...¿ tags, which your question seems to imply that you will be able to do.)

This is basically a fancy way of saying, "get it from your readers' web browser caches." You have many readers and podcast listeners, so you can effectively mobilize a large number of people who are likely to have viewed your web site recently. But manually finding and extracting images from various web browsers' caches is difficult, and the entire approach works best if it's easy enough that many people will try it and be successful. Thus the 304 approach. All it requires of readers is that they click on a series of links and drag off any images that do load in their web browser (or right-click and save-as, etc.) and then email them to you or upload them to a central location you set up, or whatever. The main drawback of this approach is that web browser caches don't go back that far in time. But it only takes one reader who happened to load a post from 2006 in the past few days to rescue even a very old image. With a big enough audience, anything is possible.

3.1.5 Free Antivirus Solutions for Windows[6]

Question by kristof [?]

What free antivirus solutions would you recommend?

What are the limitations? What are the dangers of using free versions as opposed to paid solutions? E.g. are they less reliable? As mentioned by Tony, most of the free solutions are limited to personal use so the question will mainly focus on solutions for personal use.

See if your antivirus of choice is already listed. Chances are it is.

If you spot an answer that mentions one you already use, vote that up if you think it's a good solution.

If you know of a feature or drawback not listed, or can include experiences in dealing with it, please edit the answer accordingly.

If you know of any that can also be used at work please point this out.

This covers all Windows platforms from XP, Vista and Windows 7. If you see an existing entry that needs an update or to add your testimonial, please do.

Answer by kajdehoop [?]

Microsoft Security Essentials

Limited to personal or home-office use and small business up to 10 PCs only. Requires genuine Windows.

Features

No registration, no ads Simple, unobtrusive UI Updates via Microsoft Update (note: virus definitions are updated more often) Drawbacks

Rather new, so not yet tested extensively

[6] http://superuser.com/questions/2

Chapter 4

System Administrators & IT Professionals

This chapter is shared and re-mixed from the Server Fault[1] Q&A site.

4.1 Miscellaneous

4.1.1 Any Benefit or Detriment from Removing a Pagefile on an 8GB RAM Machine?[2]

Question by Jason [?]

I'm running Windows 7 on a dual core, x64 AMD with 8GB RAM.
Do I even need a pagefile?
Will removing it help or hurt performance?
Would it make a difference if this is a server or a desktop?
Does Windows 7 vs. Windows 2008 make a difference with a page file?

Answer by quux [?]

TL;DR version: Let Windows handle your memory/pagefile settings. The people at MS have spent a lot more hours thinking about these issues than most of us sysadmins.

[1] http://serverfault.com
[2] http://serverfault.com/questions/23621

Many people seem to assume that Windows pushes data into the pagefile on demand. EG: something wants a lot of memory, and there is not enough RAM to fill the need, so Windows begins madly writing data from RAM to disk at this last minute, so that it can free up RAM for the new demands.

This is incorrect. There's more going on under the hood. Generally speaking, Windows maintains a backing store, meaning that it wants to see everything that's in memory also on the disk somewhere. Now, when something comes along and demands a lot of memory, Windows can clear RAM very quickly, because that data is already on disk, ready to be paged back into RAM if it is called for. So it can be said that much of what's in pagefile is also in RAM; the data was preemptively placed in pagefile to speed up new memory allocation demands.

Describing the specific mechanisms involved would take many pages (see chapter 7 of Windows Internals, and note that a new edition will soon be available), but there are a few nice things to note. First, much of what's in RAM is intrinsically already on the disk - program code fetched from an executable file or a DLL for example. So this doesn't need to be written to the pagefile; Windows can simply keep track of where the bits were originally fetched from. Second, Windows keeps track of which data in RAM is most frequently used, and so clears from RAM that data which has gone longest without being accessed.

Removing pagefile entirely can cause more disk thrashing. Imagine a simple scenario where some app launches and demands 80% of existing RAM. This would force current executable code out of RAM - possibly even OS code. Now every time those other apps - or the OS itself (!!) need access to that data, the OS must page them in from backing store on disk, leading to much thrashing. Because without pagefile to serve as backing store for transient data, the only things that can be paged are executables and DLLs which had inherent backing stores to start with.

There are of course many resource/utilization scenarios. It is not impossible that you have one of the scenarios under which there would be no adverse effects from removing pagefile, but these are the minority. In most cases, removing or reducing pagefile will lead to reduced performance under peak-resource-utilization scenarios.

Some references:

Windows Internals book(s) (linked previously) Pushing the Limits of Windows: Physical Memory Pushing the Limits of Windows: Virtual Memory Inside the Windows Vista Kernel: Part 1 Inside the Windows Vista

Kernel: Part 2 Inside the Windows Vista Kernel: Part 3 Understanding Virtual Memory RAM, Virtual Memory, Pagefile and all that stuff (here's a longer version) dmo noted a recent Eric Lippert post which helps in the understanding of virtual memory (though is less related to the question). I'm putting it here because I suspect some people won't scroll down to other answers - but if you find it valuable, you owe dmo a vote, so scroll!

4.1.2 How Do You Find What Process Is Holding a File Open in Windows?[3]

Question by cletus [**?**]

One thing that annoys me no end about Windows is the old "sharing violation" error. Often you can't identify what's holding it open. Usually it's just an editor or explorer just pointing to a relevant directory but sometimes I've had to resort to rebooting my machine.

Any suggestions on how to find the culprit?

Answer by Eddie [**?**]

I've had success with Sysinternals Process Explorer. With this, you can search to find what process(es) have a file open, and you can use it to close the handle(s) if you want.

4.1.3 How Do You Search for Back Doors from Previous IT?[4]

Question by Jason Berg [**?**]

We all know it happens. Bitter old IT guy leaves a back door into the system and network in order to have fun with the new guys and show the company how bad things are without him.

I've never personally experienced this. The most I've experienced is somebody who broke and stole stuff right before leaving. I'm sure this happens though.

[3] http://serverfault.com/questions/1966
[4] http://serverfault.com/questions/171893

So, when taking over a network that can't quite be trusted, what steps should be gone through to ensure everything is safe and secure?

Answer by sysadmin1138 [?]

It's really, really, really hard. It requires a very complete audit. If you're very sure the old person left something behind that'll go boom, or require their re-hire because they're the only one who can put a fire out, then it's time to assume you've been rooted by a hostile party. Treat it like a group of hackers came in and stole stuff, and you have to clean up after their mess. Because that's what it is.

Audit every account on every system to ensure it is associated with a specific entity. Accounts that seem associated to systems but no one can account for are to be mistrusted. Accounts that aren't associated with anything need to be purged (this needs to be done anyway, but it is especially important in this case)

Change any and all passwords they might conceivably have come into contact with. This can be a real problem for utility accounts as those passwords tend to get hard-coded into things. If they were a helpdesk type responding to end-user calls, assume they have the password of anyone they worked with. If they had Enterprise Admin or Domain Admin to Active Directory, assume they grabbed a copy of the password hashes before they left. If they had root access to any *nix boxes assume they walked off with the password hashes. Also reset any public-key SSH keys that may be in use for root-login SSH (don't do that at all, but if you have it, clear 'em). If they had access to any telecom gear, change any router/switch/gateway/PBX passwords. This can be a really royal pain.

Fully audit your perimeter security arrangements. Ensure all firewall holes trace to known authorized devices and ports Ensure all remote access methods (VPN, SSH, BlackBerry, ActiveSync, Citrix, SMTP, IMAP, WebMail, whatever) have no extra authentication tacked on, and fully vet them for unauthorized access methods. Ensure remote WAN links trace to fully employed people, and verify it. Especially wireless connections. You don't want them walking off with a company paid cell-modem or smart-phone. Contact all such users to ensure they have the right device.

Fully audit internal privileged-access arrangements. These are things like SSH/VNC/RDP access to servers that general users don't have, or any access to sensitive systems like payroll. Start hunting for logic bombs. Check all automation (task schedulers, cron jobs, or anything that runs on a schedule) for signs of evil. By "All" I mean all. Check every single crontab. Check every single Windows Task Scheduler. Even workstations. Validate key system binaries on every server to ensure they are what they should be. This is tricky. Start hunting for rootkits. By definition they're hard to find, but there are scanners for this.

Not easy in the least. Justifying the expense of all of that can be really hard without definite proof that the now-ex admin was in fact evil. The entirety of the above may not even be doable with company assets, which will require hiring security consultants to do some of this work.

If actual evil is detected, especially if the evil is in some kind of software, trained security professionals are the best to determine the breadth of the problem. This is also the point when a criminal case can start being built, and you really want people who are trained in handling evidence to be doing this analysis.

But, really, how far do you have to go? For routine admin departures where expectation of evil is very slight, the full circus is probably not required; changing admin-level passwords and re-keying any external-facing SSH hosts is probably sufficient. Again, corporate security posture determines this.

For admins who were terminated for cause, or evil cropped up after their otherwise normal departure, the circus becomes more needed. The worst-case scenario is a paranoid BOFH-type who has been notified that their position will be made redundant in 2 weeks, as that gives them plenty of time to get ready; in circumstances like these Kyle's idea of a generous severance package can mitigate all kind of problems. Even paranoids can forgive a lot of sins after a check containing 4 months pay arrives. That check will probably cost less than the cost of the security consultants needed to ferret out their evil.

But ultimately, how deep you have to dig is determined by:

The expectation that evil was done The expected skill level of any evil being done The systems potentially exposed to the evil The potential damage of any evil Regulatory requirements for reporting perpetrated evil vs preemptively found evil. Generally you have to report the former, but not the later. But ultimately, it comes down to the cost of determining if evil was done versus the potential cost of any evil actually being done.

4.1.4 Cheat Sheets for System Administrators?[5]

Question by splattne [?]

I'd like to start a collection of good, free cheat sheet resources for system administrators. Please add your favorite ones. From the Wikipedia "cheat sheet" article:

In more general usage, a "cheat sheet" is any short (one or two page) reference to terms, commands, or symbols where the user is expected to understand the use of such terms etc but not necessarily to have memorized all of them.

Answer by splattne [?]

I add my own favorite: Cheat Sheets on PacketLife.com has some very nice ones on network technology topics.

Cheat sheets are in PDF format. You are welcome to use and redistribute them as you please, so long as they remain intact and unmodified.

Currently there are six categories:

Protocols: BGP, EIGRP, First Hop Redundancy, IEEE 802.11 Wireless, IEEE 802.1X, IPsec, IPv4 Multicast, IPv6, IS-IS, OSPF, Spanning Tree Applications: tcpdump, Wireshark Display Filters Reference: Common Ports, IP Access Lists, Subnetting Syntax: Markdown, MediaWiki Technologies: MPLS, Quality of Service, VLANs Miscellaneous: Cisco IOS Versions, Physical Terminations Examples: Common Ports and IPv6 (links to PDF files)

4.1.5 Good Tools That Fit on a Thumb Drive[6]

Question by Shard [?]

I have been on the lookout lately for some good tools to fill up my flash drive and I thought I would ask the Server Fault community for recomendations on good tools that will fit onto a thumb drive.

Some I use are Driver Packs, CCleaner and the portable apps suite.

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[5]http://serverfault.com/questions/31495

[6]http://serverfault.com/questions/261

Answer by Amir Arad [?]

These are the utilities I have on my drive:

CurrPorts displays the list of all currently opened TCP/IP and UDP ports on your local computer. ftpserver3lite is an FTP server ftpwanderer2 is an FTP client ipnetinfo answers questions about an IP address: owner, country/state, range, contact info, etc. miranda general messaging solution (supports most P2P messaging networks) omziff encryption decryption tool. FoxitReader wonderful alternative to adobe's PDF reader. light and fast and portable. Qm (The Quick Mailer) if you just want to send an Email the old pasion way with no installation. Restoration quick and basic undelete utility. smsniff basic TCP sniffer. torpark a Firefox-based browser for completely discrete browsing. treepad just a nice utility to organize your data in, much like freemind and other mind maps. cpicture a picture viewer DriveMan for managing hard drives on the local computer. FollowMeIPLite very much like www.whatismyip.com only much quicker. hfs opens a small HTTP file server from desired folder, for instant file sharing. angry ip scanner scans IP's kill.exe - needs no introduction :) putty a telnet utility every system administrator has got to be familiar with. startup control panel, StartupList, regcleaner - really there are many registry cleaners/managers out there, lots of them fits nicely in a thumb-drive. Revealer reveals passwords from password fields. It is very useful in many situations. vncviewer client for the VNC remote desktop protocol WinAudit audits a Windows machine. Lots of useful information. xcopy.exe - it is still useful to have around. TcpView shows all all TCP and UDP endpoints on your system. Beyond Compare is fantastic, btw. Also, you might want to check out portable freeware.

4.1.6 What Tool Do You Use to Monitor Your Servers?[7]

Question by Aron Rotteveel [?]

As the question states, what are the most commonly used tools used for this task and what are their strengths and weaknesses?

Answer by jdiaz [?]

[7] http://serverfault.com/questions/44

I've used Nagios in the past with success. It's very extensible (over 200 add-ons), relatively easy to use and lots of reports. A negative would be the initial setup.

4.1.7 Why Is Internet Access & Wi-Fi Always so Terrible at Large Tech Conferences?[8]

Question by Joel Spolsky [**?**]

Every tech conference I've ever been to, and I've been to a lot, has had absolutely abysmal Wi-Fi and Internet access.

Sometimes it's the DHCP server running out of addresses. Sometimes the backhaul is clearly inadequate. Sometimes there's one router for a ballroom with 3000 people. But it's always SOMETHING. It never works.

What are some of the best practices for conference organizers? What questions should they ask the conference venue or ISP to know, in advance, if the Wi-Fi is going to work? What are the most common causes of crappy Wi-Fi at conferences? Are they avoidable, or is Wi-Fi simply not an adequate technology for large conferences?

Answer by Evan Anderson [**?**]

I think the major issue is that Wi-Fi is probably the wrong technology for the job, if you're really talking about 3,000 clients in a small area like a ballroom. For fewer clients spread over a large space, I think it's feasible.

Covering a ballroom with potentially thousands of clients is going to be a stretch for Wi-Fi, assuming that the clients are actually using the network. You've only got 3 non-overlapping channels (in the US), and I've never seen an access point (AP) reasonably support more than 50 clients effectively. You're going to end up with a lot of access points sitting on the same channel and a lot of contention for the air. That's a lot of client devices to have in a small area.

If you could rig some kind of highly directional antennas and radio power was clamped down to target small numbers of clients you might make this better. For a temporary event like a conference, the level of obsessive care

[8] http://serverfault.com/questions/72767

that such a site survey would require would, I'd imagine, be unreasonably expensive.

Assuming you're covering a lower client density than 3,000 clients in a single open-air space, you'd want to space APs with coverage zones sized to handle a significant fraction of the possible number of clients that AP can support (by tweaking radio power / antennas), and you'll want to try and keep adjacent APs on non-overlapping channels. The more APs the better, and don't overload the APs with too many clients. (Tweaking radio power / antennas to make coverage zones seems non-intuitive to anybody who hasn't tried to scale Wi-Fi to handle a large number of clients in a small physical area.)

From a layer 2 broadcast perspective, it would make sense to broadcast multiple SSIDs and back-end them into different VLANs / IP subnets. That would depend on the number of client devices and the character of the traffic. Personally, I wouldn't put more than about 500 devices in a single layer 2 broadcast domain on a corporate LAN. I can only imagine that a conference Wi-Fi network would be worse.

DHCP should be a no-brainer, though redundancy is a concern. I'd probably use the ISC dhcpd and work out a failover arrangement to a second server. I think I'd be on the lookout for rogue DHCP servers, too. On wired Ethernet you could easily disable the ports that rogue DHCP servers show up on. For wireless Ethernet, it's a little more problematic. Anybody know if there are APs that support blocking mobile units based on MAC address? (That doesn't help if the rogue DHCP server spoofs its MAC once detected, but it's a start...)

Obviously, the firewall / edge router should be able to handle the number of NAT table entries that such a number of clients might generate. A consumer toy NAT router isn't going to handle it. A redundant router protocol (HSRP, VRRP, etc) and multiple edge router devices are going to be a necessity to prevent a single point of failure from ruining the whole show.

As for bandwidth contention on the backhaul, you could throttle client bandwidth to the Internet. That should also limit the overall contention on the air, to some extent.

I'd throw something like Squid Cache in place as a transparent proxy for HTTP traffic. That's going to help with utilization of the backhaul. Your HTTP proxy cache shouldn't be a point of failure, so you'll need infrastructure to monitor the cache's health and, if it fails, route around it.

I don't have the energy to fire up a spreadsheet and look at the economics of a bunch of small Ethernet switches and patch cables strewn about, but the more that I read, the more that it sounds like wired Ethernet would be a great way to pull off decent connectivity. There would be, no doubt, major effort needed to run the Ethernet cables and power the switches, but it provides a much more manageable network infrastructure, more reliable bandwidth, and requires a lot less obsessive tweaking than wireless. You could get away with using low-end gear for the edge switches, too, since 100 Mbps service would plenty for the purposes of accessing the Internet.

Cisco has a little 8 port switch that draws its power from PoE– the Catalyst 2960PD-8TT-L. That'd be sweet for this application– putting something like that on each table, drawing its power from a larger PoE-capable switch. I'm guessing that those are pretty expensive for this application, but I'm guessing that there's a "downmarket" option that's not as pricey available from somebody. (Searching for switches powered by PoE seems to be fairly difficult with Gooogle...)

Intel has a 2006-era paper re: providing Wi-Fi access at conferences. Looking at their numbers, they had 50 clients on a single AP at one point, and a peak client load under 100 clients total. Those seem like pretty small numbers compared to what you're talking about, and in 2006 everybody wasn't carrying around iPhones, etc.

Chapter 5

Power Users of Web Applications

This chapter is shared and re-mixed from the Web Applications[1] Q&A site.

5.1 Miscellaneous

5.1.1 Hidden Features of Google[2]

Question by George Stocker [**?**]

What little known tips and tricks do you have for searching on Google?

Answer by Doug Harris [**?**]

I like, but rarely remember to use, the synonym operator.

Search for " auto loan" will find info for both the word auto and its synonyms: truck, car, etc.

(example taken from Google's cheat sheet of search operators)

[1]http://webapps.stackexchange.com

[2]http://webapps.stackexchange.com/questions/753

5.1.2 Are There Any Good Pandora Alternatives with General Availability outside the US?[3]

Question by Ivo Flipse [?]

Unfortunately for us Europeans (and all the other non-US) based people, services like Pandora aren't available.

So does anyone know a good alternative to Pandora, where you can listen to streaming music?

Preferably free and not restricted to certain countries. Spotify for instance would be awesome, but is only available in a couple of countries. Last.fm isn't free and Youtube has to take the music from certain videos or doesn't even show them.

Answer by jfoucher [?]

Have you tried Grooveshark ? although you have to have a browser window open, it's still pretty good

5.1.3 What Is Your Most-Used Web Application?[4]

Question by nevster [?]

What is your most-used web application? Fairly straightforward question. It shouldn't be too hard to guess what will come out on top, but I'm interested to see what else gets high votes.

ONE entry per post and NO duplicates. The following applications have already been listed.

Gmail Google Reader Google Search Stack Overflow Facebook Twitter Remember the Milk GitHub Use the following search query inquestion:2050 "example name"

Why do you use this one more than anything else and what is it actually, should I use it too?

Answer by Bara [?]

[3] http://webapps.stackexchange.com/questions/1562
[4] http://webapps.stackexchange.com/questions/2050

Gmail

I'd have to say Gmail is my most-used web app. Most others get used sparingly or when I need them, but Gmail is almost always opened.

5.1.4 How to Send Big Files via Email?[5]

Question by Hameds [?]

Gmail maximum attchment size is 25MB, how to send files bigger than that?

Answer by Simon Brown [?]

Upload it to a website like Dropbox or drop.io (suggested by Henri Watson) in a public folder and send them a link.

If you choose Dropbox and it's important that it's kept confidential have them sign-up and put it in a shared folder, or encrypt it with 7-Zip.

With drop.io you can just set a password.

5.1.5 How Do I Delete My Facebook Account?[6]

Question by Ivo Flipse [?]

I don't trust Facebook's new privacy settings and have decided to delete my account, but I can't find the kill switch.

Does anyone know how I can delete my Facebook account?

Answer by Victor Stanciu [?]

from here:

Go here: http://www.facebook.com/help/contact.php?show_form=delete_account

Click "Submit" and follow the instructions.

Your account will be deactivated for two weeks, and if you DO NOT USE FACEBOOK IN ANY WAY during that period, your account is permanently deleted.

[5] http://webapps.stackexchange.com/questions/1062

[6] http://webapps.stackexchange.com/questions/1

5.1.6 Online To Do List Apps?[7]

Question by Lucas McCoy [?]

I'm a big fan of the To Do list. I currently use TeuxDeux because I love how simple it is.

What is your favorite To Do list web app?

Answer by Damo [?]

Remember the Milk is my favourite.

5.1.7 How Do I Download a Youtube Video?[8]

Question by Alex B [?]

How do I download a youtube video?

I have used various solutions in the past that do not seem to work any longer (keepvid and various greasemonkey scripts). Is this just no longer possible?

Answer by Pulse [?]

If you're using firefox as your browser there are a wealth of addons available for the purpose. Personally I use NetVideoHunter It suits the way I work. Other options are;

Video DownloadHelper

1-Click YouTube Video Download

There are plenty of others..

For Google Chrome you could try:

YouTube Downloader - 1.1

Opera has a number of widgets available for the same purpose, but I know nothing about them, like wise IE, i haven't used that in years...

Alternatively there is a really useful bookmarklet here:

http://clipnabber.com/

[7] http://webapps.stackexchange.com/questions/1248

[8] http://webapps.stackexchange.com/questions/2781

5.1.8 Is There Any Way to Give More (or less) Weight to Words in a Google Search?[9]

Question by Senseful [?]

Sometimes I may prefer results that have a certain term:

resize image bookmarklet +chrome

In this example, I want a bookmarklet to resize images. Preferably, I want one that works in chrome, however the term "chrome" isn't required... it's just "nice to have."

Other times I want to exclude a word:

Apple contact sync -iPhone

Here I'm looking for a way to sync contacts but not to the iPhone.

The problem with this query is that it will exclude all pages that have the word "iPhone" anywhere. Now, imagine a blog or site has the exact information I want, but it's excluded from the results since it has a "links" side bar which has the word "iPhone" in it. Basically I want the main content of the page to not include the word "iPhone", or even if it does, to not be the main focus of the content.

Update:

Here's an example you can try it out on:

If you use the search query "from the clever ad campaigns", you will get the result Motorola Droid accessories - CNET Reviews. Now if you add -iphone to the query, the result will no longer appear. You will notice that the linked page has the word "iPhone" mentioned only once on the page and its not even in the main article's text (it's on the bottom in the Popular topics section). (I'll try to find better examples... if you can think of any please let me know.)

Answer by pelms [?]

Weirdly, it seems that by simply repeating words in the Google search box it will give more weight to them (or at least look for more instances of them on the page).

Try:elephant galaxy calculator netball compared with:elephant galaxy calculator calculator netball

[9] http://webapps.stackexchange.com/questions/1214

So, you could try:resize resize image image bookmarklet bookmarklet chrome

'Google Hacks (2003 version)' - see the section 'Repetition matters' - suggests that Google looks for at least the number of instances of a keyword that you supply.

Also, the order of words in the query makes a difference... Compare:resize image bookmarklet chrome to:chrome resize image bookmarklet the latter seems to give more emphasis to 'chrome' in the results.

Chapter 6

Statisticians, Data Analysts, Data Miners & Data Visualization Experts

This chapter is shared and re-mixed from the Statistical Analysis[1] Q&A site.

6.1 Miscellaneous

6.1.1 What Are Some Valuable Statistical Analysis Open Source Projects?[2]

Question by grokus [?]

What are some valuable Statistical Analysis open source projects available right now?

Edit: as pointed out by Sharpie, valuable could mean that helping you get things done faster and/or cheaper.

Answer by Jay Stevens [?]

The R-project
http://www.r-project.org/

[1]http://stats.stackexchange.com
[2]http://stats.stackexchange.com/questions/3

R is valuable and significant because it was the first widely-accepted Open-Source alternative to big-box packages. It's mature, well supported, and a standard within many scientific communities.

Some reasons why it is useful and valuable There are some nice tutorials here.

6.1.2 Famous Statistician Quotes[3]

Question by robin girard [?]

What is your favorite statistician quote? This is community wiki, so please one quote per answer.

Answer by Rob Hyndman [?]

All models are wrong, but some are useful. (George E. P. Box)

6.1.3 Standard Deviation : Why Square the Difference Instead of Taking the Absolute Value?[4]

Question by saimas [?]

In the definition of standard deviation, why do we have to square the difference from the mean to get the mean(E) and take the square root back at the end? Can't we just simply take the absolute value of the difference instead and get the expected value(mean) of those, and wouldn't that also show the variation of the data? The number is going to be different from square method(the absolute-value method will be smaller), but it should still show the spread of data. Anybody know why we take this square approach as a standard?

The Definition of Standard Deviation:

Can't we just take the absolute value instead and still be a good measurement?

[3]http://stats.stackexchange.com/questions/726
[4]http://stats.stackexchange.com/questions/118

= E[—X-—]

Answer by Rich [?]

The squared difference has nicer mathematical properties; it's continuously differentiable (nice when you want to minimize it), it's a sufficient statistic for the Gaussian distribution, and it's (a version of) the L2 norm which comes in handy for proving convergence and so on.

The mean absolute deviation (the absolute value notation you suggest) is also used as a measure of dispersion, but it's not as "well-behaved" as the squared error.

Chapter 7

Passionate Videogamers on All Platforms

This chapter is shared and re-mixed from the Gaming[1] Q&A site.

7.1 Starcraft 2

7.1.1 What Build Order Should I Use for Zerg in StarCraft 2?[2]

Question by McKay [?]

I'm familiar with the general mechanics of the game, but what's the best build order for the beginning of the game?

Answer by tzenes [?]

An opening dictates how you are going to start the match.

The basic Zerg openings:

10 Pool (Rush) 13 Pool (Standard) 14 Pool, 16 Hatch (Macro) 14 Hatch, 15 Pool (Macro+) 13 Gas, 13 Pool (NeoZerg) 12 Pool (Sen Style) How to read these: The number indicates the number of drones you should build before your first structure. Since you can only build 10 before an overlord

[1] http://gaming.stackexchange.com

[2] http://gaming.stackexchange.com/questions/359

any number over 10 indicates building an overlord on 9 or 10 (9 or Extractor trick is the superior choice). Pool indicates building a Spawning Pool. Hatch indicates building a Hatchery. Gas, indicates building a Vespian Extractor on your near by Vespian Geiser.

Which opening you choose usually relies on two things:

Your Opponent Your Build The Rush: A Rush opening is necessarily an all in, so that is a decision you are making prior to starting the match.

Standard: 13 pool is considered standard play, it can easily lead to fast expo or 1 base or speedlings or any of another things. Its considered standard play because of the options it offers you. I believe Slush of root gaming still runs this build.

New Zerg: This is a strat that cropped up near the end of Beta mostly on Korean servers. If you build your gas before your spawning pool and immediately throw 3 drones in it on completion, then you will have exactly 100 gas when your spawning pool finishes. This leads to early speedlings for heavy pressure. Artosis is a large proponent of this build.

Macro and Macro+: Both of these are fast expansion builds designed to get up a very good early economy. They are very vulnerable to rushes, and require good scouting to support. The advantage of these is that if you can scout when your opponent leaves his base you can quickly put together a large force that will be ready just as he arrives allowing you to hold off the assault and be in better economic position. Idra and Machine tends to run this build.

Sen runs a 12 pool to give him a larger advantage against more aggressive zerg opponents, which are common on the asian server. Outside of him, it is not a very popular build.

9 Overlord vs 10 Overlord

There has been a lot of debate as to getting your overlord after your 9th drone or after your 10th drones. To add confusion it is possible to get your overlord after your 11th drones by building a vespene extractor, building the 11th drone and then canceling the extractor to get your drone back. It is usually agree that getting your Overlord on your 9th drone, or building it after your 10th and then using the extractor trick to get an 11th while your overlord is building are the better choices.

There is some evidence to indicate 9 overlord is slightly better.

7.1.2 What Exactly Is a "cheese" in Starcraft 2?[3]

Question by TM [?]

I seem to see commentators mention "cheese" with regards to Starcraft 2, but I'm not quite sure what they mean.

If a particular build/tactic is called a "cheese", does that mean it is a considered to be uncounterable? Or does it just mean that it is considered to be a tactic that is "too easy" with regard to its effectiveness? Or is there some other more subtle meaning that I am missing?

Answer by Raven Dreamer [?]

The term "Cheese" comes from the adjective "Cheesy". The not-so-subtle innuendo there is that a victory via so-called "cheese" did not come from the players own skill, but was merely because the loser was unprepared for the "cheesy" tactics that lead to their loss.

What qualifies as "cheese" will undoubtedly vary from player to player, but generally the term refers to exploiting system mechanics in a way unanticipated by your opponent, or otherwise not balanced around.

Many people dislike cheese because it is hard to predict and counter if you are not prepared for it.

Several Examples:

Thor Rush – build a factory near your opponent, attack with Thor + repair SCV's around 7 minute mark. Photo-Cannon Push – rushing a forge and placing photon cannons around your opponents base. Banshee / Void Ray rush vs. Zerg – takes adavantage of the fact that Zerg has little viable anti-air at T1 other than mass queens. Proxy Rush – Building a unit production facility much closer to your opponents base than your own so that you can reinforce your troops faster. Worker Rush – in 2v2 (or more), making no units, and instead attacking another player with your workers alone.

[3] http://gaming.stackexchange.com/questions/1724

7.1.3 What Are the Popular Build Orders for Protoss in StarCraft 2?[4]

Question by McKay [?]

I've played a lot of Protoss in the original StarCraft, but I thought I might try to play it in StarCraft 2 also. What build orders are being used competitively?

Answer by tzenes [?]

I'm not sure if you mean openings or builds, but I'll give you both.

For openings, most Protoss start 13 Gate (10 probes, a pylon, 3 more probes, then a gateway). From here they will usually either build another Gateway or a Cybernetics core. You can go 10 Gate into a 2 Gate rush, but its less common.

There are a number of builds which go down these two routes:

2 Gate Rush 3 Gate Timing Push 4 Gate 3 Gate into Robo Tech into Starport Since Protoss revolve around gateway units, its common to refer to Protoss strategies by the number of Gateways you build. Its worth noting, that with the exception of 2 gate, all Gateway based builds involve turning your Gateways into Warpgates (Learned at the Cybernetics Facility).

2 Gate Rush usually involves walling off your Main or your Natural with your first two Gateways and building 5-7 Zealots to rush with. This helps as a defense against any counter rush. This early rush style latter will rely on using Warpgate technology to warp in units past that wall. This early rush banks heavily on Zealot's superiority to small numbers of other tier 1 units. This is most effective vs Fast Expand strategies. It also allows for an earlier expansion if you block off your natural.

3 Gate Timing push can involve either an early Cybernetics Core (preferred) or out of a 2 Gate style build. Given the high build speed based around Chronoboost and Warpgates, this build relies on building a very nice tier 1.5 army composed of Zealots, Stalkers and Sentries. This is a very standard opening for most Protoss players as it builds a very powerful army right at the start of the midgame. Try to remember to build Sentries as they are key to this build and Chronoboost your Warpgate technology.

[4] http://gaming.stackexchange.com/questions/875

4 Gate is the natural extension of 3 Gate allowing for a more powerful mid game push (possibly as a follow up to an earlier 3 Gate). This is the logical alternative to 3 Gate into Robo as a Protoss base can support 4 Gateways of continuous production or 3 Gateways and a Robotics Facility. 4 Gate can then move to Robo with the extension of an expansion or move to Templar tech. Templar tech is useful for Terran Bio assisted by Ghosts as the Templar can "snipe" the Ghosts, where as Robo is more effective against Terran Bio or Zerg Hydra/Roach

3 Gate into Robo rose up as a response to early Roach pushes at the beginning of Beta. This usually involved building the first gateway and then immediately teching to Robo before adding on additional Gateways. This provided for the Immortal timing push, which was a strong force backed up by an Immortal. Since the Roach nerfs, and other changes, its more common to build the Gateways first and add on the Robo later as a tech to Colossus. The colossus gives this strategy an advantage vs Terran Bio or Roach/Hydra Zerg builds.

Tech to Starport builds grew out of early Void Ray rushes. Since those strategies cannot be maintained, a more common move is to instead build Phoenix out of the Starport and use graviton beam to destroy high priced units. These builds usually involve getting a number of Phoenix early and then bringing them along for a 3 Gate timing push. The delayed push is bolstered by being able to remove enemy units from the board. This is especially effective vs Terran mech.

Finally, it is worth noting there are a number of cheese builds. These revolve around hiding a Dark Templar shrine or Starport for Void Ray. While they are not sustainable builds, they are worth mentioning.

Note I use the terms:

Tier 1 to indicate: Zerglings, Zealots, and Marines.

Tier 1.5 to indicate: Stalkers, Sentries, Roaches, Banelings, Marauders, and Reapers.

7.1.4 Great Ways to Learn StarCraft II?[5]

Question by a paid nerd [?]

Besides practicing, what are some great ways to become a better StarCraft

[5]http://gaming.stackexchange.com/questions/2900

II player?

Off the top of my head I can think of:

Watching replays with commentary from youtube.com/hdstarcraft and youtube.com/huskystarcraft Watching live gamecasts on Team Liquid's user streams page Following the Team Liquid Starcraft 2 Strategy forum ...?

Answer by tzenes [**?**]

I learned large portions of my knowledge by watching the Day9 Dailies. I believe he not only offers a steady supply of high level play and in depth analysis, but he also highlights issues that newer players often have.

As a starter I'd suggest the following:

Idra's solid ZvP opening Brat_OK's TvP Special White_ra's PvP Blink Stalkers Back to the Basics Gold Level 2v2 Plugging Leaks in Silver level play Learning from a loss Fine Tuning an Opening Among other things he'll stress the importance of:

Splitting and rallying workers Sending builders prior to having the minerals "Normal" build orders Having lots of "stuff" Keeping Minerals and Energy low (for macro) Powering drones Transferring workers Expanding when you attack Timing pushes I'd also avoid anything with TheLittleOne (TLO) in it. While his style is amazingly fun to watch, he plays on such a high level that little can be learned from his replays until you're more advanced.

Now once you've watched all those and practiced your builds my next advice is PRACTICE MOAR. To help with this I suggest YABOT. It'll allow you to practice your builds again and again without having to load a new game (it has an in game reset). Smooth out your builds till you start playing like Machine

After that you can look at Gosu Coaching to help bring your play up to more competitive standards.

Also, if you need a practice partner my Starcraft 2 account email is tzenes@gmail.com

There are also a number of good articles here on gaming.se:

What build order should I use for Zerg in Starcraft 2 What are popular opening builds for Terran in Starcraft 2 What are popular build orders for Protoss in Starcraft 2 Scouting in Starcraft 2 There is also a good article on SC abbreviations on battle.net as well as a Beginners Guide

7.1.5 Are There Replays of Bad (new) Players with Commentary?[6]

Question by Andy Giesler [?]

I know, sounds dumb, but bear with me a sec.

People here have posted links to tons of high-level replays with commentary. (Thanks.) They're awesome fun, and I can learn a little.

But since I'm a low-level player, it's a lot like watching Iron Chef: experts way above my current skill/understanding level duke it out, while expert commentators point out strategy errors so subtle that I often don't even understand why they're errors.

Are there commentary replays of low-to-mid level matches?

Tutorials like SC2 Noob School and Shokz are great, but they're not the same as watching a real match. And while it wouldn't be as sexy a gig for the commentators, it'd be a great teaching tool: watching 1,000 things go wrong, and having an expert point out which are most common, and which are most important to fix.

Answer by sjohnston [?]

TotalHalibut has a series called I Suck at Starcraft where he comments on his own noob games, focusing on what mistakes were made and how to improve.

The series starts out very basic, explaining economy, supply, teching, and the uses of some individual units. It should be understandable even for someone brand-new to SC2. The downside to this is that it may be too basic for many players. However, over the course of about 15 videos, he moves into (somewhat) more advanced concepts.

[6] http://gaming.stackexchange.com/questions/7517

7.2 Miscellaneous

7.2.1 How Can I Tell If a Corpse Is Safe to Eat?[7]

Question by Kaestur Hakarl [**?**]

I am playing a human wizard, and I just killed a monster, leaving a corpse on the ground. How do I tell whether it is safe to eat this corpse?

I leave the monster unspecified because I am interested in "how can I figure out whether this is edible," rather than whether any particular monster is edible. Likewise, I would prefer to avoid having to look up or memorize a list of every single monster (but rules for particular symbols are great).

Answer by Grace Note [**?**]

First off, no matter the corpse, never eat unless you just made that corpse or you have a method of preservation (tinning, icebox). Rotten corpses cause food poisoning, and it doesn't take very long for a corpse to rot. And there isn't a visual indication of rotting, either, so the safe bet is to never eat something you didn't just kill. Most undead corpses are automatically rotten, as well.

If the monster has poison or acid attacks, or is made of poison or acid, then there's a very high chance that you'll be poisoned or take acid damage. Both of these can be fatal, the former even instantly so, but poison and acid resistance will protect against this. Note that most poisonous corpses will chance to give you poison resistance, so this can be something to risk if you have enough health. Other elemental effects like fire, cold, and electricity are traditionally safe.

If the monster causes you to be stunned, hallucinating, or confused by natural attacks (as opposed to casting a spell), then it is highly likely you will be tripping after you eat its corpse. Some of these are very obvious. Actually, most creatures with negative effects like petrification will also carry over that effect with their corpse.

While it won't directly kill you, the corpses of teleporting creatures like imps, nymphs, tengu, and leprechauns will often give you teleportitis. Note that tengu do have a chance of giving you teleport control, so it's a good

[7] http://gaming.stackexchange.com/questions/4999

idea to start eating those when you do get stuck with teleportitis.

Unless you are of the Caveman profession or the Orc race, you are not a cannibal. This means that eating a member of your own race will give you a penalty in the form of the "Aggravate Monster" intrinsic (which is as bad as it sounds) and a penalty to your Luck.

For specific exceptions, off the top of my head: Bats cause stunning. Wraiths are safe to eat despite being undead. All adult Dragons are safe to eat, as well as most babies, but baby green dragons are poisonous unlike their adult counterpart. Lichen and Lizards do not rot over time and carry no negative effects that some other members of the same creature class might, so they make excellent backup food.

Attributions for information provided within comments to:

WillfulWizard for reminding about teleporting monsters. ire_and_curses for corrections on non-rotting lizards and poisonous baby green dragons. Kaestur Hakarl, who investigated and discovered the safe measures for cannibalism.

7.2.2 How Do I Do a Barrel Roll?[8]

Question by Fernando [**?**]

Ok, so I'm playing Starfox 64, and this so-called "Peppy" hare keeps yelling at me:

Do a barrel roll!

What's his problem? And what is this barrel roll he's talking about?

Answer by alexanderpas [**?**]

If you look at the screen, you will notice it'll give you a hint on how to perform the barrel roll in the text blurb.

You can perform a barrel roll by pressing Z or R twice

Here is a video showing the blurb and a succesfull barrel roll.

http://www.youtube.com/watch?v=7oLHOpTTuOE

[8]http://gaming.stackexchange.com/questions/4624

Chapter 8

Professional & Amateur Chefs

This chapter is shared and re-mixed from the Cooking[1] Q&A site.

8.1 Miscellaneous

8.1.1 Is It Safe to Leave Butter at Room Temperature?[2]

Question by Chas. Owens [?]

Is it safe to leave butter at room temperature? If so, how long is it safe to keep it out?

Answer by Jon B [?]

Try a butter crock. This will keep your butter fresh at room temperature for a fairly long time (weeks, not days).

[1] http://cooking.stackexchange.com
[2] http://cooking.stackexchange.com/questions/36

8.1.2 What Knives Are "required" for a Serious Home Kitchen?[3]

Question by Nathan Koop [?]

I consider myself a serious home cook. What knives are essential?

Answer by hobodave [?]

There are three core essentials:

Chef's knife 8" or 10" depending on your preferences

Paring knife 3" or 4" depending on your preferences

Bread knife As long as possible, 12"+ Feel free to go cheap here, it's serrated and thus largely unsharpenable

You may want to check out Alton Brown's book, Alton Brown's Gear For Your Kitchen. He spends a chapter on knives and where to go past the essentials. He also suggests which ones are worth spending money on and which should be throwaways.

8.1.3 What Is the Difference between White & Brown Eggs?[4]

Question by shsteimer [?]

I always use brown extra large eggs, but I can't honestly say why I do this other than habit at this point. Is there any distinct advantage or disadvantage is flavor, shelf life, etc?

Answer by Donut [?]

The Egg Nutrition Center's FAQ page has an entry on this very topic. Basically, the color of the egg does not affect the egg's flavor, nutritional value, etc. It simply depends on the particular breed of chicken that lays the egg – white eggs from white hens, brown eggs from brown hens.

It's also worth noting, as the ENC points out:

[3] http://cooking.stackexchange.com/questions/184

[4] http://cooking.stackexchange.com/questions/3

Generally, brown hens are larger and require more feed and therefore their eggs may be slightly higher priced.

8.1.4 Why Add Salt to the Water When Cooking Pasta?[5]

Question by bryn [?]

What is the effect of adding salt to the water when cooking pasta?

Answer by papin [?]

The salt adds flavor, but it also helps reduce the gelation of the starch in the pasta. The starch in food is the form of microscopic grains. When these grains come into contact with water, they will trap some of it (think cornstarch in cold water), but when the water is hot they swell up like balloons and merge with each other, and you have starch gelation.

Another thing you may want to add to the pasta water is some acid (lemon or cream of tartar). Tap water in most cities is made alkaline, which increases the starch loss from the pasta to the water, making the pasta stickier.

8.1.5 How Do You Peel Garlic Easily?[6]

Question by Sam Holder [?]

How should I approach peeling a clove of garlic to get the skin off most quickly? Is it different if I'm doing a bulb whole?

Answer by Crispy [?]

Even with a whole bulb, break it into cloves.

Put clove(s) on a cutting board. I usually cut off the root end of each clove. Lay a large chef's flat on the clove, then smack the knife to crush the clove. This breaks the skin of the clove and makes it much easier to peel.

[5] http://cooking.stackexchange.com/questions/2574
[6] http://cooking.stackexchange.com/questions/895

8.1.6 How Can I Chop Onions without Crying?[7]

Question by lomaxx [?]

Onions are an excellent addition to many dishes, but cutting them can be frustrating when they make you "cry" all the time.

Does anyone know any tips or tricks to help minimise the tears when chopping onions?

Answer by Gabriel Hurley [?]

The best thing to do is very simple: use a very sharp knife and cut them quickly. This causes a minimal amount of the gases in the onions to be released.

As for "tricks", I find that placing a candle by the cutting board to burn off some of the gases released helps for me.

8.1.7 What Cookbooks Do You Always Come Back To?[8]

Question by lomaxx [?]

Like me, there are probably a lot people on here that have a lot of cookbooks, but I find I keep coming back to the same 1 or 2 books to give me the basis of most of the stuff I cook.

For me, I find myself coming back to the Jamie At Home book and Jamies Italy but I'm interested to see what other cookbooks others have as their "go to" cookbooks?

Answer by Aaronut [?]

Definitely the Joy of Cooking. It's not a convenience cookbook for people with busy schedules or low patience - the majority of recipes in there are geared toward flavour and not specialty diets or quick prep times - but at least 9 out of 10 recipes I try in there have near-perfect flavour and texture.

[7] http://cooking.stackexchange.com/questions/567
[8] http://cooking.stackexchange.com/questions/396

IMO, this should be in every cook's kitchen, even the ones that don't really use cookbooks. It has all the classic recipes, and you never know when somebody will ask you to make Chicken Kiev.

Chapter 9

Cartographers, Geographers & GIS Professionals

This chapter is shared and re-mixed from the GIS[1] Q&A site.

9.1 Miscellaneous

9.1.1 How Can I Convert KML to ESRI's Shapefile Format?[2]

Question by TrotuSlayer [**?**]

My users are sending me point data that were digitized using GoogleEarth. How can I convert their KML to a shapefile?

Answer by fmark [**?**]

Using the open source ogr2ogr from GDAL/OGR:

```
ogr2ogr -f 'ESRI Shapefile' output.shp input.kml
```

[1] http://gis.stackexchange.com
[2] http://gis.stackexchange.com/questions/98

9.1.2 What Are Some Free & Open Source GIS Desktop Packages[3]

Question by TheSteve0 [?]

Can someone please give me a list of free and open source GIS desktop packages?

Answer by George [?]

Quantum GIS
uDig
OpenJump
gvSIG
TerraView
Kosmos
WhiteBox

9.1.3 What Is the Best Practice for Visualisation of a Spatio-Temporal Data Set?[4]

Question by fmark [?]

I'm investigating visualisation of a spatio-temporal data-set. What examples are available, online or offline, of high-quality spatio-temporal data visualisation?

Answer by radek [?]

Good question.

Geography, and later GISc have been struggling to incorporate 4th dimension since Torsten Hgerstrand brought time into geographic research.

Couple of things from the top of my head:

One of the solutions is to use 'space time aquarium' where in 3D space you can use X and Y to represent location in space and Y to represent time.

[3]http://gis.stackexchange.com/questions/24
[4]http://gis.stackexchange.com/questions/408

Two names that would be helpful exploring this approach would be

Mei-Po Kwan - see for example paper here and some more figures here Menno-Jan Kraak - he calls it 'cube'; see for example here From more recent stuff Fabian Neuhaus is writing his PhD @ UCL and his blog UrbanTick showcases interesting developments in this domain.

For more visualization inspiration you can check some projects from wizards of senseable city lab @ MIT, for example here, here or here.

One more eye candy I stumbled upon is Urban Mobs.

If you want to try building something on your own you might want to have a look at:

timemap this ArcGIS extension GeoTime [commercial!] Hope that helps a little bit. But can't wait what others add to this question!

Chapter 10

Pro Webmasters

This chapter is shared and re-mixed from the Webmasters[1] Q&A site.

10.1 Miscellaneous

10.1.1 Storing Credit Card Details[2]

Question by Farseeker [?]

I need to store credit card numbers for recurring billing through our 3rd party merchant.

Are there any standards I need to adhere to regarding the storage of the details? We've been accepting credit cards for years but we used to discard their details as soon as we were done with them. Our customers have requested that we store their details so they don't have to manually pay their subscription fee each month.

Moving to PayPal to utilise their subscriptions is not an option. We have to store them, and I need to make sure the storage is safe!

We utlise MSSQL 2005 for our data, and everything is already SSL'd.

Answer by Tim Post [?]

[1] http://webmasters.stackexchange.com
[2] http://webmasters.stackexchange.com/questions/1017

You will need to follow (to the letter) and preferably exceed the PCI DSS standard. This is, in no way, an easy task to accomplish nor should it be taken trivially.

I strongly recommend that you find a third party processor that can handle this for you and integrate it into your billing system. It goes WAY beyond just having SSL and encrypting the information in the database. You also have to monitor access, detect intrusions, have systems in place that can notify only affected people in the event of a breach (and determine what data may have been compromised), etc.

Then, there is physical access to the servers, the network, etc. This means a locked cabinet that is not shared on servers that you own where the physical LAN is also protected. Compliance is not going to be cheap, or easy.

Really, spend every effort possible to offload this to a third party. The liability alone is simply not worth the risk unless you're talking transactions that amount to hundreds of thousands of (insert your currency here) monthly. In that case, the fees you save might justify bringing on the talent needed to implement and monitor systems that store the information. You'll need:

Systems programmers (you will need kernel and file system level auditing hooks) IDS/IPS gurus (unless you love vendor lock-in) 24/7/365 staff to monitor the alerts generated from the systems that the experts designed. These people aren't cheap, they make the decision to pull the billing plug or report a bug in the algorithms that you use. And then again, you could offload all of that to a third party, quite cheaply.

10.1.2 Should I Bother Supporting IE6?[3]

Question by Jason [?]

IE6 is deprecated and Microsoft is bent on killing it. However, I know that a lot of people still use it. Should I continue to support it anyways?

Answer by Nat Ryall [?]

It completely depends on your user base. In my line of work we support local councils so we have to maintain IE6 support as their computers are generally

[3]http://webmasters.stackexchange.com/questions/134

out of date and won't be upgraded for some time. If you are developing for a cutting edge audience however, then IE6 support will be less necessary.

It is advised to make the website usable in IE6 by letting it degrade certain "unsupported" features gracefully. Just remember, dropping IE6 support will affect someone out there... it just depends whether you care or not.

10.1.3 Renaming a Domain & Preserving PageRank[4]

Question by Geoff Dalgas [**?**]

As part of graduating from Area51 and becoming a full fledged site we sometimes change domain names from http://topic.stackexchange.com to http://example.com. Aside from the obvious 301 redirect rules to support existing urls transparently, are there other techniques that would aid in the preservation of PageRank?

Answer by jmb [**?**]

Check out Google's guide to moving a site:

Use a 301 Redirect to permanently redirect all pages on your old site to your new site. Check both external and internal links to pages on your site and make sure they are updated to point to the new domain (obviously, for external links this is difficult) Use the Change of Address tool in Webmaster Tools to notify Google of your site's move. We recommend that you create and submit a Sitemap listing the URLs on your new site.

After the move, sanity checks to make sure things are working:

Check the web crawl errors for both your old and new sites, to make sure that the 301 redirects from the old site are working properly, and that the new site isn't showing unwanted 404 errors. If you've submitted a Sitemap, the Sitemap Details page lets you see how many URLs in your Sitemap we've crawled and indexed.

Esp. the Change of Address tool might be of interest.

[4] http://webmasters.stackexchange.com/questions/3399

10.1.4 Should I Include "www" in My Canonical URLs? What Are the Pros & Cons?[5]

Question by Andreas Bonini [**?**]

What are the pros and cons of having http://www.example.com/ vs http://example.com/ ?

For example a problem I'm aware of is that if I use a domain without www I can't set a cookie for the current subdomain only (since there is no subdomain), and the cookies I set will be sent to all subdomains.

Answer by neo [**?**]

Keep in mind though that using www.example.com lets you to set Cookies only on the main site. Using example.com will only allow you to set cookies on *.example.com which includes static.example.com. So every request for any subdomain will include the cookies which slows down the transfer a bit. Using www.example.com will allow you to decide for what part you want to set cookies.

10.1.5 What Are the Best Ways to Increase Your Site's Position in Google?[6]

Question by ilhan [**?**]

What are the best ways to increase your site's position in Google?

Answer by Nat Ryall [**?**]

Here are some rules I follow:

Try not to repeat content. Try to get linked from other, quality websites whilst keeping your outgoing links low. Give each page a relevant (and unique) title. Add in a meta-description to each page describing the contents or purpose. Build a sitemap for your website and submit it using the Google WebMaster tools. Keep content unique and relevant to your website. Use

[5]http://webmasters.stackexchange.com/questions/507
[6]http://webmasters.stackexchange.com/questions/2

HTML correctly (header tags, titles and alt attributes on images). Try to use relevant keywords in the URL. Ensure a fast load time. Over time your domain will gain ”trust” with Google and naturally rank better. If you try to speed this process up, using things like keyword spamming on your website, you are likely to be picked up and blacklisted by Google so avoid this wherever possible.

10.1.6 Site Too Large to Officially Use Google Analytics?[7]

Question by Jeff Atwood [**?**]

We just got this email from the Google Analytics team:

We love that you love our product and use it as much as you do. We have observed however, that a website you are tracking with Google Analytics is sending over 1 million hits per day to Google Analytics servers. This is well above the ”5 million pageviews per month per account” limit specified in the Google Analytics Terms of Service. Processing this amount of data multiple times a day takes up valuable resources that enable us to continue to develop the product for all Google Analytics users.

Processing this amount of data multiple times a day takes up valuable resources that enable us to continue to develop the product for all Google Analytics users.

As such, starting August 23rd, 2010, the metrics in your reports will be updated once a day, as opposed to multiple times during the course of the day. You will continue to receive all the reports and features in Google Analytics as usual. The only change will be that data for a given day will appear the following day.

We trust you understand the reasons for this change.

I totally respect this decision, and I think it's very generous to not kick us out.

But how do we do this the right way – what's the official, blessed Google way to use Google Analytics if you're a ”whale” website with lots of hits per day?

Or, are there other analytics services that would be more appropriate for very large websites?

[7]http://webmasters.stackexchange.com/questions/2141

Answer by Tall Jeff [?]

Stackoverflow.com does blow well past that limit doesn't it! Fortunately, per paragraph 2 of the terms of service...

FEES AND SERVICES . Subject to Section 15 herein, the Service is provided without charge to You for up to 5 million pageviews per month per account, and if You have an active Adwords campaign in good standing, the Service is provided without charge to You without a pageview limitation.

... as long as you have an "active Adwords campaign in good standing", then the service is provided "without charge to You without a pageview limitation". I assume this means active campaign of any size, which is a trivial requirement IMHO.

The full terms are currently documented at:

http://www.google.com/analytics/tos.html

Chapter 11

Linguists, Etymologists & Serious English Language Enthusiasts

This chapter is shared and re-mixed from the English Language amp; Usage[1] Q&A site.

11.1 Miscellaneous

11.1.1 Is It "bear" or "bare" with Me?[2]

Question by mafutrct [**?**]

Is it "bear" or "bare" with me?

Answer by Ami [**?**]

Bear with me, the standard expression, is a request for forbearance or patience.

Bare with me would be an invitation to undress.

Source

[1] http://english.stackexchange.com
[2] http://english.stackexchange.com/questions/1269

11.1.2 Do Most Languages Need More Space than English?[3]

Question by Antony Quinn [?]

I saw the following statement on http://ui.stackexchange.com/questions/1464:

Supporting multiple languages can break the user interface, because most languages need more space than english

This seems to be a gross generalisation. Does anyone have any data on this?

Answer by RegDwight [?]

Speaking as a translator, I can share a few rules of thumb that are popular in our profession:

Hebrew texts are usually shorter than their English equivalents by approximately 1/3. Spanish and Portuguese texts are longer than their English counterparts by about 1/5 to 1/4. Scandinavian languages are pretty much on par with English. Swedish is a tiny bit more compact. Whether or not Russian is more compact than English is subject to heated debate, and if you ask five people, you'll be presented with six different opinions. However, everybody seems to agree that the difference is just a few percent, whether this way or the other. So much for complete texts, on average, as a rule of thumb. Obviously, when you are working on a GUI, you mostly have to deal with translating individual words, which changes the picture dramatically. I am not aware of any universal research on the subject, but I will actually go out on a limb and say that it would be worthless to you, precisely because of being universal.

First of all, let's have a look at English itself. A very popular estimate for the average length of English words is 5 letters (or 5.2, or 5.3, or 5.1). I will not expressly address the validity of that estimate here, though I will link to this tiny bit of intriguing research. Much rather, I will focus on saying that your mileage will always vary.

It all depends on what application you are writing, and for which target audience. You might be writing a text editor for children, a web browser for everyone, or a worst-case execution time analyzer for the aerospace industry.

[3]http://english.stackexchange.com/questions/2998

Sometimes, your menu entries will read ”Open”, ”Edit”, ”Save” and ”Quit”. Other times, they will read ”Crossing reduction” and ”Simulated annealing”. Add into the equation that ”Quit” is not necessarily short in all languages, and ”simulated annealing” is not necessarily long, and you've got yourself a complete mess, no matter what the universal research says.

Secondly, there is something to be said about the units in which one measures the average word/text length. Traditional research and urban legends alike usually focus on the number of letters. But for a GUI designer, that kind of information is rather useless, because he measures the screen real estate in pixels.

As a simple example, in terms of letters, ”” is 66% shorter than ”cat” (which is what it means) and 75% shorter than ”neko” (which is its Kun reading). But in terms of pixels, you don't save anywhere as much space. So, whether or not your menu items in Japanese, Chinese, Arabic, Farsi or Urdu will end up being shorter than their English counterparts depends on how you define ”shorter”.

The tricky part is that to one extent or another, this is true for every pair of languages, even for those that use the same alphabet. You have the English word ”illicitly”, and you translate it into Phantasese, and you get ”mamwowo”. Now what? It's two letters shorter, yet it no longer fits. (Unless, of course, you are using monospaced fonts everywhere, which is highly unlikely.)

Lastly, I would like to specifically address the myth that German words are oh-so-long. All those awfully long German words are only that long because they correspond to many words in other languages. ”Kontrollflugraphvisualisierungssoftware” is no longer than its English counterpart, ”control flow graph visualization software”, and the famous ”Donaudampfschiffahrtselektrizittenhauptbetriebswerkbauunterbeamtengesellschaft” is considerably shorter than its English translation. Yep, you heard that right, that monster of a word actually saves space. German words can be long and succinct at the same time, and English recognizes that by borrowing (kindergarten, wunderkind, doppelganger, wanderlust, zeitgeist, schadenfreude...).

Edit: I want to add that when it comes to GUIs (or news headlines), English loves to cheat by dropping articles. ”Export file” rather than ”export the file”, ”import image” rather than ”import an image”, and so forth. Many languages can't do that because they don't have articles to begin with. If there's any advantage Russian does have over English in normal prose, it's not having ”a”s, ”an”s, ”the”s (and ”to”s) scattered all over the place. When it comes to GUIs, Russian loses that advantage, and an English expression that was longer than its Russian equivalent might suddenly become shorter. German is even better at that game: it has lots of articles to drop, none of them shorter than 3 letters, and quite a few that are 4 or 5 letters long.

11.1.3 How to Pronounce i.e. & e.g. ?[4]

Question by Ray J.Stomach [?]

How to pronounce i.e. & e.g. ?

Answer by Chris Dwyer [?]

i.e. stands for id est (Latin), which means that is. You use it to link in a deeper explanation about something. Pronounce it "eye - ee"

e.g. stands for exempli gratia (also Latin), which means for example. You use it to link in an example of a more generic term. Pronounce it "ee - jee"

11.1.4 Alternatives to "and/or"?[5]

Question by RegDwight [?]

As a programmer, I have no problem with seeing or using "and/or" in technical documentation. For example,

I can upvote an answer that satisfies me and/or mark it as accepted.

That's perfectly good English to me. However, if I were writing a novel, or even just an essay, or heaven forbid a poem, "and/or" would seem extremely out of place.

My question is, what should I be using instead? (I solemnly swear I will not use that knowledge to actually write a poem.)

Answer by Noldorin [?]

Here are a few alternatives to the example you provided that avoid the stroke (forward slash). Pick whichever one you like!

[4] http://english.stackexchange.com/questions/574
[5] http://english.stackexchange.com/questions/1655

I can upvote an answer that satisfies me, mark it as accepted, or do both. I can do either or both of up-voting and marking as accepted the answer that satisfies me. I can do either or both of up-voting the answer that satisfies me and marking it as accepted.

They are all grammatically correct, though perhaps 2. and 3. are a bit more convoluted, for the sake of logical clarity.

11.1.5 How Many Spaces Should Come after a period/full Stop?[6]

Question by Lord Torgamus [**?**]

In the past or at least, when I was in elementary school periods/full stops were followed by two spaces. Lately, it's become more and more common to see just one space. In the modern world, should we still use two spaces between sentences, or is just one okay? Does it depend on the situation? Or are both acceptable, with the choice simply coming down to personal preference?

Answer by mmyers [**?**]

Both are still acceptable, though the two-space style has been falling out of favor with the advent of variable-width fonts.

From Common Errors:

However, when justified variable-width type is set for printing it has always been standard to use only one space between sentences. Modern computers produce type that is more like print, and most modern styles call for only one space after a period.

The Chicago Manual of Style agrees in these two Q&A segments: http://www.chicagomanualofstyle.c

The latter states:

The view at CMOS is that there is no reason for two spaces after a period in published work. Some people, howevermy colleagues includedprefer it, relegating this preference to their personal correspondence and notes.

So yes, it basically falls to personal preference, but one space is becoming more and more prevalent.

[6]http://english.stackexchange.com/questions/2544

(It's worth noting that all HTML renderers I know of automatically condense multiple spaces into one, so it would actually take some effort to get the double-space style to render on the web.)

11.1.6 Is "I'd've" Proper Use of the English Language?[7]

Question by Kobi [**?**]

While reading a book, I came across the word I'd've, as in:

I'd've argued against it.

While it was obvious what it meant, it left me puzzled. Is I'd've a proper word?

Answer by Vincent McNabb [**?**]

After reading your post, I realised that I say "I'd've" quite a lot in my actual speech. But I have never ever written it down, nor have I seen it written down (or, more accurately, I don't recall having ever seen it written down.)

It's not the kind of thing that I'd feel comfortable putting into a business email, definitely not an essay (unless that was my topic, oh, and I think that will be the topic of my next essay now.)

But it is the sort of thing which would fit nicely in the dialogue inside a novel. And you never know, it could one day be perfectly cromulent to write that, and would perhaps embiggen the written English language.

11.1.7 Is It Web Site or Website?[8]

Question by Antony Quinn [**?**]

Future Perfect's "Is it Web site or website?" states:

Since the World Wide Web is a proper noun, we use initial upper-case letters, as we would with your surname, for example.

As for writing Web site as one word, it is true that this is seen a great deal, but then, so is the spelling recieve which is just plain wrong!

---

[7] http://english.stackexchange.com/questions/689

[8] http://english.stackexchange.com/questions/2957

I disagree. Languages change over time, and I think 'website' has now become the accepted spelling. A Google search for 'website' returns almost 3 billion results, including the official website of the British Monarchy. If 'website' is good enough for Her Majesty, it's good enough for me :-)

What do you think?

Answer by Kosmonaut [?]

As for writing Web site as one word, it is true that this is seen a great deal, but then, so is the spelling recieve which is just plain wrong!

They do not actually provide an argument against website as one word. The fact that orthographical errors exist at all is not exactly compelling evidence. Consider this evidence:

Obviously, similar compound words exist, both in terms of use and official definition: streetcar, doorman, jailhouse. There are hundreds of these. As VonC mentioned, both "website" and "Web site" are offered in most dictionaries. Regarding capitalization, many words derived from proper nouns do not retain capitalization, e.g. narcissist, sodomy, atlas, echo, siren. This was touched on previously regarding days of the week. I think it is safe to say that website is clearly used hands-down more often than Web site, so I think it should certainly be regarded as at least a valid variant. (And it is, by most authorities on standard English.)

11.1.8 Why Do English Writers Avoid Explicit Numerals?[9]

Question by Pavel Radzivilovsky [?]

The junction has a stop sign on each of the four entrances. The junction has a stop sign on each of the 4 entrances.

The first is preferred, for some reason, by many English texts. Why? I haven't seen this phenomenon in other languages.

Answer by Vincent McNabb [?]

[9] http://english.stackexchange.com/questions/979

I have also noticed when reading French and Spanish texts, that it is quite normal to write numbers below ten in full as well, e.g. "los tres hombres que..." instead of "los 3 hombres que..."

My guess is that writing numbers in full in a European language is easier than using Roman numerals, which were the mainstay until the Arabic-Hindu number system came to Europe. Eg, it is easier to understand "one hundred and fourty five" than it is to understand CVL or CXLV or CXXXXV, which are all different and valid ways of writing 145, with CXXXXV being the most common. Clumsy. So after the vastly superior Hindu-Arabic system was adopted in Europe, the habit of writing numbers as words would have remained.

English, being a European language, would have kept similar habits as per the other European languages.

Today, it is a simply an issue of style, so it is not wrong to always write numbers with numerals or to always write them in full. For instance, APA recommends that numbers below 10 are written in full, while numbers 10 and above are written with numerals. The Chicago Manual of Style recommends that all numbers below 100 are written in full, with numbers above 100 written as numerals.

Both style guides prohibit mixing spelt out numbers with numbers expressed as numerals, favouring numerals for all numbers when they are mixed. But my local newspaper, quite happily mixes numbers 1-9 spelt out, and higher numbers expressed with numerals.

The rules in both style guides (and others) are actually a lot more comprehensive than that, but I see no reason to include them here.

Most high schools teach similar rules in their English classes, which leads to everybody being accustomed to writing numbers out in full. In addition, as everybody is used to seeing numbers expressed like that in their novels, newspapers, and other texts, it becomes further engrained in the psyche of English writers.

Chapter 12

Expert Programmers Interested in Subjective Discussions on Software Development

This chapter is shared and re-mixed from the Programmers[1] Q&A site.

12.1 Miscellaneous

12.1.1 Why Are so Many Programmers Arrogant?[2]

Question by killown [?]

Not all programmers are arrogant but most are even quite, why?

Answer by Carlos [?]

To quote Scott Adams in Dilbert Principle: "In contrast to 'normal' people, engineers have rational objectives for social interactions: (1) Get it over with as soon as possible; (2) Avoid getting invited to something unpleasant; (3) Demonstrate mental superiority and mastery of all subjects."

It is our nature. We want to be always right. We know we are always right.

[1] http://programmers.stackexchange.com
[2] http://programmers.stackexchange.com/questions/4693

12.1.2 Worst Coding Standard You've Ever Had to Follow?[3]

Question by finnw [?]

Have you ever had to work to coding standards that:

Greatly decreased your productivity? Were originally included for good reasons but were kept long after the original concern became irrelevant? Were in a list so long that it was impossible to remember them all? Made you think the author was just trying to leave their mark rather than encouraging good coding practice? You had no idea why they were included? If so, what is your least favourite rule and why?

Some examples here

Answer by Fishtoaster [?]

Had a professor once who demanded we have at least one comment for each line of code.

//Set x to 3 var x = 3;

//if x is greater than 2 if(x¿2)

//Print x Print(x);

It was pretty ridiculous.

12.1.3 What's Your Favourite Quote about Programming?[4]

Question by Simon Brown [?]

Similar to this question on StackOverflow that was closed.

One quote per answer, and please check for duplicates before posting!

Answer by Fishtoaster [?]

Debugging is twice as hard as writing the code in the first place. There-

[3]http://programmers.stackexchange.com/questions/1338

[4]http://programmers.stackexchange.com/questions/39

fore, if you write the code as cleverly as possible, you are, by definition, not smart enough to debug it.

Brian W. Kernighan

12.1.4 What's Your Experience with Female Programmers?[5]

Question by Rachel [?]

Let me start by saying I'm female, but every single other female programmer I've known has been pretty terrible. The extent of their knowledge seems to be copy/paste and modify some values. Quite often they don't even try to learn new concepts, or understand what they're doing.

I'm not saying good female programmers aren't out there, just that the ratio of good/bad programmers seems much worse then males. Perhaps its because everyone feels they have to give female programmers a chance to prove they are not biased? Or is this just me?? What has your experiences been with them?

UPDATE: Just want to say thanks for all the responses. I've learned some interesting things and am happy to know that female programmers have such support :) My experience has been very limited with them but all bad, and I agree that it is probably due to my small sample size (around 5).

I wasn't trying to be sexist with such a question, I just wanted to find out if it was really that abnormal to be a female programmer. I'm abnormal about a lot of things you'd expect from a female... I play video games in most of my spare time, I liked Math so much I completed my entire math book during christmas break one year (What can I say, I found the subject interesting), I'm not very social, I dislike shopping, I only have 2 pairs of shoes, my significant other doesn't work but does all the housework/laundry/etc...

but anyways, thanks :)

Answer by lala [?]

[5] http://programmers.stackexchange.com/questions/3974

12.1.5 When Deciding on Whether or Not to Work for a New Company, What Are Your Dealbreakers?[6]

Question by Jaco Pretorius [?]

I know we've covered what questions you should ask about a company before you would decide to work there. But what do you do with the answers?

In other words, what would you consider a dealbreaker? I.e. what would scare you so much about a company that you wouldn't work there, even if everything else was great?

For example, if they tell me they don't use version control, I wouldn't work there. End of story.

Answer by Jesse C. Slicer [?]

Companies that feel the need to mention up-front that unpaid (for salaried employees) overtime is required 100% of the time.

12.1.6 Why Do Programmers Write Apps & Then Make Them Free?[7]

Question by Ken [?]

As an entrepreneur/programmer who makes a good living from writing and selling software, I'm dumbfounded as to why developers write apps and then put them up on the internet for free. You've found yourself in one of the most lucrative fields in the world. A business with 99% profit margin, where you have no physical product but can name your price; A business where you can ship a buggy product and the customer will still buy it.

Occasionally some of our software will get a free competitor, and I think, this guy is crazy. He could be making a good living off of this but instead chose to make it free.

Do you not like giant piles of money? Are you not confident that people would pay for it? Are you afraid of having to support it?

[6] http://programmers.stackexchange.com/questions/7861
[7] http://programmers.stackexchange.com/questions/3233

It's bad for the business of programming because now customers expect to be able to find a free solution to every problem. (I see tweets like "is there any good FREE software for XYZ? or do I need to pay $20 for that") It's also bad for customers because the free solutions eventually break (because of a new OS or what have you) and since it's free, the developer has no reason to fix it. Customers end up with free but stale software that no longer works and never gets updated. Customer cries. Developer still working day job cries in their cubical. What gives?

PS: Not looking to start an open-source/software should be free kind of debate. I'm talking about when developers make a closed source app and make it free.

Answer by Jeff O [**?**]

Because I don't want to feel obligated to provide technical support or offer refunds.

12.1.7 I've Stopped Coding for Fun, Is This a Bad Sign?[8]

Question by PSU_Kardi [**?**]

At some point in time, I just stopped coding for fun. I used to go to work, finish my assignments and then upon arriving home I'd go and write stuff on the side for fun. However, I now just go home and try to avoid the computer. I'd rather read the paper, watch TV, go out to the bar, etc.

Is this a bad sign? I mean I still try to keep up on the latest trends, hit up the developer forums/blogs/etc but I haven't said, "I want to learn language X - I wonder if I could write app Y in it"

Has this happened to anyone else?

Answer by ChaosPandion [**?**]

This is a very common issue called burn-out. It happens to everyone that takes their work seriously. My advice is to take a few weeks off from coding and plan a long term project for fun. Then set aside at least 15 minutes each

[8]http://programmers.stackexchange.com/questions/3558

night to complete a part of the project. As long as you take it slow you'll be back in the game in no time.

12.1.8 What's the Most Absurd Myth about Programming Issues?[9]

Question by bigown [**?**]

You can read as "what the most misunderstanding about a specific issue you experienced?".

Which wrong ideas are widespread for long time and have been hard to programmers know the right way.

Please, explain why this is a myth.

Answer by Neth [**?**]

That because you're a programmer, you know how to fix [person]'s virus ridden machine.

[9] http://programmers.stackexchange.com/questions/1745

Chapter 13

Ubuntu Users & Developers

This chapter is shared and re-mixed from the Ubuntu[1] Q&A site.

13.1 Miscellaneous

13.1.1 How Can I Tell, from the Command Line, Whether the Machine Requires a Reboot?[2]

Question by Marius Gedminas [?]

When you install certain updates (e.g. a new kernel) in Ubuntu Desktop, you get an indication that a reboot is required (in Lucid, the logout icon turns red).

How can I check, from the command line, whether an Ubuntu server requires a reboot?

I could grep for 'System restart required' in /etc/motd, but I'd like a solution that's more elegant. Also, I want a solution that works in older releases, e.g. Hardy (8.04 LTS).

Answer by Weboide [?]

You can simply check if the file /var/run/reboot-required exists or not.

For example, any of these would tell you "no such file" or "file not found"

[1] http://ubuntu.stackexchange.com

[2] http://ubuntu.stackexchange.com/questions/164

if you do not need to reboot, otherwise they will show information about the file:

file /var/run/reboot-required stat /var/run/reboot-required ls /var/run/reboot-required

In a bash script, you can use:

#!/bin/bash if [-f /var/run/reboot-required]; then echo 'reboot required' fi

13.1.2 What's the Difference between Ubuntu's Package Managers?[3]

Question by David Zaslavsky [?]

I know Ubuntu/Kubuntu has several programs that can be used to install packages, such as apt-get, aptitude, and synaptic (and perhaps others). What are the differences between them, and which one is the recommended choice for normal day-to-day package management?

This is a basic question, but I think it'd be good information to have on the site, and besides I am relatively new to Ubuntu so I could use an expert explanation.

Answer by mac9416 [?]

Probably the most popular package managers are apt-get, aptitude, synaptic, and Software Center. There are others (Linux Mint has its own, and there are some designed for KDE), but these are the ones you'll run into most often.

apt-get is a simple command-line tool. It's handy if you know the exact package name of what you want to install and don't want to spend time clicking through a GUI to get it.

aptitude is very similar to apt-get, and I've heard that it deals better with crazy dependency situations. Which one is really better is debatable.

synaptic is a low-level GUI. This is a good choice if you are a fairly advanced user but are not comfortable with command-line utilities.

Software Center is a very high-level, new-user-friendly GUI. Software is nicely categorized so that, if you're not exactly sure what app you want, you

[3]http://ubuntu.stackexchange.com/questions/76

can find what you need quickly.

In answer to your question, "which one is the recommended choice for normal day-to-day package management", I would say that Software Center is recommended for most uses. But as you gain more experience, you will find some of the features of lower-level package managers useful.

13.1.3 Smartphones & Ubuntu[4]

Question by user2087 [**?**]

It is time for a new cell phone and I am facing the difficult question: which one? I would like to get a smartphone and am now browsing around the web to see which smartphone provides the best support for Ubuntu and can synchronizes best with Ubuntu.

Any tips, info and experience to share?

Answer by Little Jawa [**?**]

I have an Android device (Motorola Milestone, called "Droid" in the US) that works great with Ubuntu... but you actually don't need to "sync" it, since the purpose of Android is to sync with your Google account. Then I have my Thunderbird + Lightning synced with my Google mail/contact/calendar (also works with Evolution), and I have the Android smartphone doing the same on its side.

You also can use UbuntuOne contact syncing if you prefer (works on Evolution, Thunderbird, and Android devices). It is still in beta, and seems to be targetted for paying users, but it may be a solution, if you don't want to rely on Google only :)

Then for music: Rythmbox can see it when I plug it on USB, and I can manage my phone's playlist from it. For photo/video/whatever, the phone is actually seen as a USB drive, so you can go put/remove files as you like.

No issue so far, I really find it easy to use.

Edit: About the iPhone... I guess it's worth some comments :)

We already have questions about iPhone syncing with Ubuntu on this site. Run a search for "iPhone" to find more. But you'll find all needed information here: https://help.ubuntu.com/community/PortableDevices/iPhone

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[4] http://ubuntu.stackexchange.com/questions/3782

Basically: it works, at least for music/video/podcast syncing. You can even get tethering working. Contact/calendar cannot be synced, but you can sync your iPhone to Google, so it's not a big deal.

Now the fact is that some things will require iTunes. For instance: Application management, phone's upgrade and phone's settings backup. And iTunes doesn't work on Linux :(

I am mentionning it because I know people are advertising the support of iPhones on Ubuntu, while this support is not as complete as you might think.

I had an iPhone some times ago. Great device, but I had to sell it because of this incompatibility (and other personal reasons). No fun to have a VM just for iTunes :-(

13.1.4 Tips to Extend Battery Life for Laptops & Notebooks[5]

Question by Niall Murphy [?]

It is possible to greatly extend the usage time of a laptop or netbook running on battery by disabling various services and installing various packages.

What tricks or tips do people have for getting an extra hour or two out of their batteries.

Perhaps one tip per answer.

Answer by Niall Murphy [?]

Use powertop to see which programs are doing unneeded background processing such as beagle/tracker, weather notifications, gnome-do, and (if you don't need the internet) network-manager, mail-notifications.

13.1.5 List of Blogs to Learn More about Ubuntu[6]

Question by Shubhkarman [?]

Can you tell me about some blogs that can help me know more about

[5]http://ubuntu.stackexchange.com/questions/400
[6]http://ubuntu.stackexchange.com/questions/594

Ubuntu?

One blog per answer, please - vote answers up/down as you feel appropriate. If you feel the blog is biased towards or is good for particular tasks, please mention them.

Answer by Shubhkarman [**?**]

OMG! Ubuntu!

Chapter 14

Enthusiasts, Power Users & Regular People Too Using the Android Operating System

This chapter is shared and re-mixed from the Android Enthusiasts[1] Q&A site.

14.1 Miscellaneous

14.1.1 Can You Recommend Some Alternative Keyboards for Android?[2]

Question by Chris S [?]

Can anyone recommend some keyboards for Android phones?

Ideally a keyboard for Android like the iPhone keyboard, but I'm interested in all types.

Answer by danivovich [?]

Swype is awesome. The beta is closed, but keep it in mind if it becomes available again.

[1] http://android.stackexchange.com
[2] http://android.stackexchange.com/questions/56

14.1.2 What Can I Do to Increase Battery Life on My Android Phone?[3]

Question by Community Wiki [?]

What can I do to get better battery life on my Droid? Batter life seems awful. Less than 15 hours or so on normal usage.

Answer by Community Wiki [?]

I played with this for a little while after getting my Droid, and found that there are a few easy things you can do that make a big difference. There's also a lot of misinformation out there, so you need to do some testing. I get 20 hours of regular use or 16 hours of heavy use.

Note that these are my results on a Motorola Droid with OS 2.1. Your results may vary, particularly if you're using a different OS version!

Don't use Live Wallpapers. They're cool, but they eat battery. Don't use Sense UI. That's HTC's home app. Again, it's pretty, but not friendly to battery. Prefer the back button over the home button. The back button lets apps decide if they want to run in the background. The home screen often leaves apps running when they don't need to. Don't use app killers! There's no need for them if you use the back button, and you'll end up crippling other apps because of non-obvious dependencies between apps. Use WiFi whenever you have access to a network because it uses less battery than 3G. (Shorter distance, lower power.) Turn WiFi off when you don't have access to a network, otherwise it will keep looking for a WiFi network it can use (which drains battery). Reduce the frequency at which apps refresh their content. Common offenders are social media clients (Twitter, Facebook, etc.) and news or weather apps. Finally, watch your battery usage under Settings -¿ About Phone -¿ Battery -¿ Battery Use. This will show you what has been using the battery since it was last charged. (So it shows nothing while charging!) If anything unexpected is using the battery, consider replacing it with another app or service. Best of luck, and enjoy your Android phone!

[3]http://android.stackexchange.com/questions/476

14.1.3 Do I Really Need to Install a Task Manager[4]

Question by Ravi Vyas [?]

Does one really need to install a task manager , my phone does slowdown on rare occasions but its not something that hampers regular usage.

Answer by Cristi [?]

See this
http://geekfor.me/faq/you-shouldnt-be-using-a-task-killer-with-android/
As Android was designed you don't need to kill apps.

14.1.4 Does Constant Charging Harm My Cellphone?[5]

Question by Community Wiki [?]

I usually disconnect my cellphone from the charger some time after it got fully charged because I'm afraid the battery could lose capacity over time if I didn't. However, I believe modern electronics should be able to handle this kind of scenario and automatically stop charging the battery once it's full. Does this apply to modern cellphones? Or do I need to continue disconnecting it all the time?

(I'm not a native speaker, so please feel free to edit this question to clarify my words.)

Answer by Jeff Atwood [?]

As njd pointed out, most cell phone batteries are Lithium Ion now.

Although constant charging cannot hurt, it looks like you may want to periodically run the battery all the way down so the digital circuits can correctly calibrate:

Although lithium-ion is memory-free in terms of performance deterioration, batteries with fuel gauges exhibit what engineers refer to as "digital memory". Short discharges with subsequent recharges do not provide the periodic calibration needed to synchronize the fuel gauge with the battery's

[4] http://android.stackexchange.com/questions/9
[5] http://android.stackexchange.com/questions/1020

state-of-charge. A deliberate full discharge and recharge every 30 charges corrects this problem. Letting the battery run down to the cut-off point in the equipment will do this. If ignored, the fuel gauge will become increasingly less accurate.

As for battery life, temperature is apparently a factor – the hotter the environment, the more capacity loss over time. And storing the battery at 100% charge is actually unhealthy for Lithium Ion batteries!

Great set of Lithium Ion battery use tips here: http://www.batteryuniversity.com/parttwo-34.htm

Avoid frequent full discharges because this puts additional strain on the battery. Several partial discharges with frequent recharges are better for lithium-ion than one deep one. Recharging a partially charged lithium-ion does not cause harm because there is no memory. (In this respect, lithium-ion differs from nickel-based batteries.) Short battery life in a laptop is mainly cause by heat rather than charge / discharge patterns. Batteries with fuel gauge (laptops) should be calibrated by applying a deliberate full discharge once every 30 charges. Running the pack down in the equipment does this. If ignored, the fuel gauge will become increasingly less accurate and in some cases cut off the device prematurely. Keep the lithium-ion battery cool. Avoid a hot car. For prolonged storage, keep the battery at a 40% charge level. Consider removing the battery from a laptop when running on fixed power. (Some laptop manufacturers are concerned about dust and moisture accumulating inside the battery casing.) Avoid purchasing spare lithium-ion batteries for later use. Observe manufacturing dates. Do not buy old stock, even if sold at clearance prices. If you have a spare lithium-ion battery, use one to the fullest and keep the other cool by placing it in the refrigerator. Do not freeze the battery. For best results, store the battery at 40% state-of-charge.

14.1.5 Battery Conservation?[6]

Question by Bryan Denny [?]

What are some general ways to improve the battery life of my phone?

Answer by Bryan Denny [?]

[6] http://android.stackexchange.com/questions/266

Some of the biggest power drainers: GPS, Wifi, and Bluetooth.

In general, it is best to keep these services off unless you are using them. However, GPS will only be used when an application calls for it, so you could technically leave it on all the time.

Some other tips:

Lower the screen brightness Turn off 3G (if you have a phone that you can switch between 3G and 2G). Disable automatic Data Sync or: Set your apps to sync at longer intervals or don't use apps/widgets that do synchronize often Turn off any unnecessary vibrations or haptic feedbacks Disable the keyboards backlight Avoid using the speakers, opt in for using headphones Underclock the CPU (rooted users) Turn off data completely (using an app like APNDroid) Don't use task killers to automatically kill off processes. They simply will respawn. Uninstall undesired apps. Use applications like Locale or Tasker to control your phone's Wifi/GPS/Bluetooth/Sreen brightness/etc. settings automatically with profiles that activate under certain conditions Set your screen timeout to a short time interval. Then use Screebl to keep your phone screen on when the phone is only held at certain angles.

14.1.6 I've Rooted My phone. Now What?[7]

Question by Bryan Denny [**?**]

This is a common question by those who have just rooted their phones. What apps, roms, benefits, etc. do I get from rooting? What should I be doing now?

Answer by Bryan Denny [**?**]

Applications that require root:

Root Explorer - File explorer that lets you browse all files and directories on your phone EStongs file/root explorer Wireless Tether - wifi tethering SetCPU - Control the processor speed of the phone, can also setup profiles based on conditions Dropcap2 - Take screenshots of your phone's screen Shoot me - Another screenshot app Titanium Backup - back up all of your applications and data AdFree - removes ads by changing the hosts file (so

[7] http://android.stackexchange.com/questions/1

both ads in apps and in browser) Droid VNC Server - Connect to your phone via VNC Rom Manager - facilitates installing new roms Overclock Widget - similar to SetCPU but less functional Quick Boot - Allows you to reboot, boot into recovery, or the bootloader Cache Mate - clear cache of all apps Droid Wall - firewall app LED Hack - Disable LED on phone Orbot - Tor app Roms

CyanogenMod is a very popular rom that many people put on their phones. It is also easy to install via the Rom Manager app. First install the Clockwork recovery. Then run a backup before you flash any roms.

Also check out XDA for other custom roms:

General HTC EVO HTC Droid Eris Nexus One HTC Desire HTC Droid Incredible Samsung Captivate Samsung Vibrant Samsung Epic 4G Samsung Galaxy S I9000 Moto Droid/Milestone Moto Droid 2 HTC Aria Moto Droid X HTC Buzz: Wildfire Always do a nandroid backup before installing any rom or mod! You may also need to wipe all data and cache from your phone before installing or upgrading a rom.

Custom kernels

One popular set of kernels is those provided by ChevyNo1. You can also download them via the premium version of the ROM Manager. Make a nandroid backup before using these kernels! You'll also want to get SetCPU to make the most out of these kernels.

Start with the low voltage kernels at the lowest speed and work your way up to the 1.2ghz. If your phone is stable up to the 1.2ghz range, then try some of the ultra low voltage kernels. If you start getting force closes, then switch back to a low voltage kernel.

Basically each phone (of the same phone brand/model) varies by which kernel it can handle due to the manufacturing differences between processors. So I may have a Motorola Droid that can run ultra low voltage kernels and yours may not be able to run them. These phones weren't necessarily designed to run like this.

How to remove bloatware apps

See this wiki on Cyanogenmod.

Chapter 15

Expert Users of TeX, LaTeX & Other Related Typesetting Systems

This chapter is shared and re-mixed from the TeX - LaTeX[1] Q&A site.

15.1 Miscellaneous

15.1.1 How to Look up a Math Symbol?[2]

Question by ajray [**?**]

I know what my math symbol looks like, but I don't know what the command is. How do I go about finding this out?

Answer by Rebekah [**?**]

You can look things up in the Comprehensive LaTeX symbols list.

Another good option is to try Detexify, which allows you to draw the symbol and tries to recognize what you've drawn.

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[1]http://tex.stackexchange.com
[2]http://tex.stackexchange.com/questions/14

15.1.2 P

referable to $$?]Why Is \[... \] Preferable to $$?[3]

Question by Ben Alpert [?]

I've heard that you should use

...

for displayed equations instead of $$ ... $$, but why is that?

I'd assumed that it's so that you can more easily tell which are starting and which are ending delimiters, but if I always use a syntax-highlighting text editor, I can see that easily based on the color of the symbols.

Is there any reason for this suggestion?

Answer by Kristoffer Arnsfelt Hansen [?]

Spacing is wrong.

It is a "deadly sin" according to l2tabu: http://www.ctan.org/tex-archive/info/l2tabu/engli

15.1.3 How to Encourage TeX as a Homework Medium[4]

Question by Johnson-Leung [?]

I have been trying to encourage my students to use TeX in writing up homework, especially in early math major courses, like intro to proofs, where the typesetting is not too arduous. I have had very limited success with students taking it up. Does anyone else encourage/require assignments to be typeset? What strategies have worked best for you?

Answer by Sharpie [?]

As a Mathematics/Engineering student approaching the end of my undergraduate career, I can say that typesetting my Homework was a pain until I had a nice refined template to use. Based on my experiences, I would suggest the following:

Provide your students with a LaTeX template that they can use as a starting point for their homework. Something that has nice features like

[3] http://tex.stackexchange.com/questions/503

[4] http://tex.stackexchange.com/questions/698

a "Problem" environment that auto-increments question numbers and has support for sub-problems (parts, a, b, c, etc). Bonus points for nice headers/footers that show the student's name, current problem and "Continued on next page" if the answer is long. Providing a nice template eases the learning curve and can really sell some people on the elegance of TeX. Absolutely, positively, provide the TeX sources to any assignment or notes page you hand out. One of the most pointless, time-consuming activities I have been forced to undertake is copying problem statements out of a PDF, pasting them into my homework document, and then regenerating all the mathematical typesetting and enumeration markup that did not copy cleanly or at all. Bonus points for using the homework template you developed to provide questions-then there is no copying and pasting, students just have to fill in the answer.

15.1.4 Differences between LuaTeX, ConTeXt & XeTeX[5]

Question by Konrad Rudolph [?]

Im interested in the differences and commonalities between the new (La)TeX processors:

LuaTeX, XeTeX, and ConTeXt. Personally, Ive only used XeTeX so far and without having the time to try out all three systems, Im having a surprisingly hard time setting them off from one each other.

As I understand it, these systems are actually very different in some regards. So Im explicitly asking for strengths and weaknesses in every-day use (whatever that is), rather than very special scenarios.

(Ive already asked a similar question on Super User some time ago.)

Answer by Joseph Wright [?]

Both LuaTeX and XeTeX are UTF-8 engines for processing TeX documents. This means that the input (.tex files) can contain characters that with pdfTeX are difficult to use directly. Both can also use system fonts, again in contrast to pdfTeX. However, the two are very different in approach.

XeTeX uses system-specific libraries to work. This means that it is very easy to use 'out of the box' for loading system fonts and other UTF-8 tasks.

[5] http://tex.stackexchange.com/questions/36

Indeed, it was written for this purpose: supporting languages, etc., that traditional TeX struggles with. This makes for an easy to use engine for end users, particularly if you use the fontspec package on LaTeX. However, as things are 'farmed out' to the OS, so there is a trade-off in flexibility terms.

In contrast, LuaTeX has bigger aims. The idea is to add a scripting language (Lua) to TeX, and to open up the internals of TeX to this language. The result is that a lot is possible, but it has to be programmed in. There is growing LaTeX support for LuaTeX: fontspec v2 supports it, and new packages are being written to use more of the new features.

At the moment, I'd use XeTeX for UTF-8 and font support, unless I was after particular effects that only LuaTeX does well (Arabic typography is a particular challenge). LuaTeX is an exciting idea, but XeTeX is more mature and I think at the moment the easier choice for end users. (I'm on the LaTeX kernel team, so as a programmer I'm very keen on exploiting LuaTeX.)

ConTeXt is not an engine, and so is in a slightly different place here. ConTeXt is a format for TeX, like LaTeX but is newer and much larger. ConTeXt Mark IV is a LuaTeX-only implementation. The people behind ConTeXt are very active in developing LuaTeX, and are using the new features to extend TeX and what ConTeXt can do. I've already pointed out that I'm working on LaTeX, so of course I'd like to see new features in LaTeX do the same. This is something I and the other members of the LaTeX project are working on.

15.1.5 How to Create Posters Using LaTeX[6]

Question by hayalci [**?**]

I want to create posters for my poster presentation on a conference. What tools or LaTeX classes are available for preparing posters ?

Answer by mbq [**?**]

The beamerposter package is quite nice.

[6]http://tex.stackexchange.com/questions/341

Chapter 16

WordPress Developers & Administrators

This chapter is shared and re-mixed from the WordPress[1] Q&A site.

16.1 Miscellaneous

16.1.1 Do Deactivated Plugins Slow down a WordPress Site?[2]

Question by tnorthcutt [**?**]

Most people are aware that minimizing the number of plugins used is a good way to help keep a WordPress site running fast. However, does that general rule include deactivated plugins?

Answer by John P Bloch [**?**]

No it doesn't. At least, not on the front end, or in the back end in any non-plugin area. WordPress only loads files whose filepaths are stored in the active_plugins option in the database and ignores everything else completely.

[1] http://wordpress.stackexchange.com
[2] http://wordpress.stackexchange.com/questions/222

16.1.2 Steps to Take to Hide the Fact a Site Is Using WordPress?[3]

Question by Casebash [?]

I have a website for which we are trying to be discreet about the fact that we are using WordPress. What steps can we take to make it less obvious?

Answer by Chris_O [?]

The biggest WordPress giveaways are between the ¡head¿ ¡/head¿ tags.

Example WordPress head content output by The Twentyten Theme and how to remove:

¡link rel="profile" href="http://gmpg.org/xfn/11" /¿

Remove directly from header.php

¡link rel="stylesheet" type="text/css" media="all" href="http://example.com/wp-content/themes/twentyten/style.css" /¿

Hide WordPress by calling your stylesheet from another location and change the wp-content directory. WordPress requires your theme to include some basic information at the top of style.css (style.css must be in the themes root directory). You will need to create an alternate CSS and call it from your head. WordPress does not require you to use the themes style.css it only requires it to be in the themes directory.

Remove directly from header.php

¡link rel="alternate" type="application/rss+xml" title="Example Blog » Feed" href="http://example.com/feed/" /¿ ¡link rel="alternate" type="application/rss+xml" title="Example Blog » Comments Feed" href="http://example.com/comments/feed/" /¿ ¡link rel="EditURI" type="application/rsd+ title="RSD" href="http://example.com/xmlrpc.php?rsd" /¿ ¡link rel="wlwmanifest" type="application/wlwmanifest+xml" href="http://example.com/wp-includes/wlwmanifest.x /¿ ¡link rel='index' title='Example Blog' href='http://example.com/' /¿ ¡meta name="generator" content="WordPress 3.1-alpha" /¿

To remove these extra links you can add a filter to functions.php

// remove junk from head remove_action('wp_head', 'rsd_link'); remove_action('wp_head', 'wp_generator'); remove_action('wp_head', 'feed_links', 2); remove_action('wp_head', 'index_rel_link'); remove_action('wp_head', 'wlwmanifest_link'); remove_action('wp_head',

[3] http://wordpress.stackexchange.com/questions/1507

'feed_links_extra', 3); remove_action('wp_head', 'start_post_rel_link', 10, 0); remove_action('wp_head', 'parent_post_rel_link', 10, 0); remove_action('wp_head', 'adjacent_posts_rel_link', 10, 0);

You can change your plugin directory and your wp-content directory in your wp-config.php file but you could have some problems if your theme or any plugins do not use the proper method to call files.

define('WP_CONTENT_DIR', $_SERVER['DOCUMENT_ROOT'] . '/new-wp-content');

Set WP_CONTENT_URL to the full URI of this directory (no trailing slash), e.g.

define('WP_CONTENT_URL', 'http://example/new-wp-content');

Optional Set WP_PLUGIN_DIR to the full local path of this directory (no trailing slash), e.g.

define('WP_PLUGIN_DIR', $_SERVER['DOCUMENT_ROOT'] . '/new-wp-content/new-plugins');

Set WP_PLUGIN_URL to the full URI of this directory (no trailing slash), e.g.

define('WP_PLUGIN_URL', 'http://example/new-wp-content/new-plugins');

PLUGINS

Be aware that some plugins like Akismat, All in One SEO, W3-Total-Cache, Super Cache, and many others add comments to the HTML output. Most are easy to modify to remove the comments but your changes will be overwritten anytime the plugins get updated.

wp-includes

The wp-includes directory holds jquery and various other js files that themes or plugins will call using wp_enqueue_script(). To change this you will need to deregister the default WordPress scripts and register the new location. Add to functions.php:

function my_init() if (!is_admin()) // comment out the next two lines to load the local copy of jQuery wp_deregister_script('jquery'); wp_register_script('jquery', 'http://ajax.googleapis.com/ajax/libs/jquery/1.4.2/jquery.min.js', false, '1.3.2'); wp_enqueue_script('jquery'); add_action('init', 'my_init');

This will need to be done with each script used by your theme or plugins.

16.1.3 Tips for Using WordPress as a CMS?[4]

Question by Damovisa [**?**]

I want to use WordPress as a CMS for a reasonably basic site rather than a blog. I have several pages and at the moment, I don't intend to have a "news" page.

While there are ways to make this work, the focus in the wp-admin console is clearly on new posts, and creating pages with custom content like maps and galleries feels like I'm working around the system rather than with it.

Do you have any suggestions as to using WordPress as a CMS?

Specifically:

Are there any good boilerplate themes that are designed around a CMS rather than a blog? Are there any good plugins to help with treating WordPress as a CMS? Alternatively, should I be using WordPress at all?

Answer by MikeSchinkel [**?**]

The killer feature that caused WordPress 3.0 to cross over from an extensible blogging tool to the CMS for 8 out of 10 needs is Custom Post Types (with the addition of Custom Taxonomies from v2.9) with an honorable mention going to the new Menu system in 3.0.

So if you want to learn WordPress as a CMS then study Custom Post Types. Here's a few articles to get you started:

Custom post types in WordPress Rock-Solid WordPress 3.0 Themes using Custom Post Types Everything You Need to Know About WordPress Custom Post Types Custom Post Types in WordPress 3.0 The WordPress Codex on Custom Post Types Adding Custom Field GUI to Custom Post Types in WordPress 3.0 Explore the Power of Custom Post Types to Maximize WordPress as a CMS Smarter Custom Post Types There are also several plugins to make Custom Post Types easier in no particular order and albeit all of them are still a long way from being fully mature so Caveat Emptor!:

WP Easy Post Types GD Custom Posts And Taxonomies Tools Custom Post Type UI Simple Fields As for Themes, that's a different subject. While blog themes all implemented the same use-case pattern, each person's CMS needs are likely to be different because each business is different (a restaurant needs different layouts than a yoga studio than an movie theatre than a fabric

[4]http://wordpress.stackexchange.com/questions/128

store.) At least early on I think you'll be hard-pressed to find the perfect ready-made "off-the-shelf" theme for your business; best to find one that's generally good and plan on modifying it or get a WordPress designer to build you a custom one. Having them layer on top of themes like the Genesis Framework from StudioPress can be a good option.

Best I can suggest is to look for ones that support the WordPress 3.0 menu system and then make your decisions from there. You can google for that and look for articles like this one:

22+ Fresh and Free WordPress 3.0 Ready Themes Hope this helps.

-Mike

P.S. If you are asking about streamlining the admin user interface so that the Posts and Pages and other blogging tools take a back seat and your specific CMS content is featured in the admin instead then that's a different subject; can I suggest you ask another question for that one?

UPDATE: Here are some screen shots from some projects I'm working on to give you an idea of what can be done:

16.1.4 Where Can I Download WordPress Themes From?[5]

Question by Thomas McDonald [**?**]

What sites offer WordPress themes to download? (Can be paid-for or free)

It's community wiki so if we had one site per answer, and with a little additional detail on each site, what sort of themes they generally offer, whether their themes are paid-for or free etc.

Answer by EAMann [**?**]

WordPress Offical Repository

http://wordpress.org/extend/themes

Official repository hosted by WordPress. Hosts several free themes and offers automatic updates.

[5]http://wordpress.stackexchange.com/questions/29

16.1.5 How to Implement a Customizable Free OpenID Autenthication?[6]

Question by Drake [?]

OpenID is a standard commonly used nowadays. I am trying to implement OpenID on my blog, but I have many difficulties.

I tried OpenID plugin but it seems to be incompatible with Wordpress 3.0.

I tried also Janrain plugin but the free version is too limited. I would like to integrate the login screen into my blog theme style.

Do you have any suggestions how to proceed? Any other plugins? Or any PHP library that can be adapted to an easy integration with Wordpress?

Answer by Viper007Bond [?]

The OpenID plugin you linked is the best one, but it has a minor bug preventing it from working with WordPress 3.0, at least when combined with PHP 5.3.

The fix can be found here: http://code.google.com/p/diso/issues/detail?id=161

[6]http://wordpress.stackexchange.com/questions/15

Chapter 17

Professional & Independent Game Developers

This chapter is shared and re-mixed from the Game Developers[1] Q&A site.

17.1 Miscellaneous

17.1.1 STL for Games, Yea or Nay?[2]

Question by munificent [?]

Every programming language has its standard library of containers, algorithms, and other helpful stuff. With languages like C#, Java, and Python, it's practically inconceivable to use the language without its standard lib.

Yet, on many C++ games I've worked on, we either didn't use the STL at all, used a tiny fraction of it, or used our own implementation. It's hard to tell if that was a sound decision for our games, or one simply made out of ignorance of the STL.

So... is the STL a good fit or not?

Answer by kevin42 [?]

Back when I worked in professional game development, STL was too imma-

[1] http://gamedev.stackexchange.com
[2] http://gamedev.stackexchange.com/questions/268

ture and bloated. But that was ¿10 years ago.

Now I work in military simulation, which has even tougher performance requirements (like the framerate can never go below some FPS). In military simulation STL is used all over the place.

Some of the people who tell you not to use STL use the argument that it's not always the perfect or even the best solution to the problem. But that isn't an answer to the question. The question should be: Is there something inherently wrong with using STL in games? I'd say no, STL is most of the time a better implementation than what a user would come up with on their own.

Just make sure you know how to use the STL, and use it in your game. Read some books and look at the implementation code in the STL you are using.

17.1.2 How Can I Effectively Manage a Hobby Game Project?[3]

Question by Michael Barth [?]

What are your tips and tricks to successfully finish a hobby game project in your freetime? How do you motivate yourself to keep it up and drive right through to the finish without losing interest or motivation along the way?

Answer by D. Hayes [?]

These tips apply to any hobby software project, and not just games.

Set tiny milestones. Having a goal like "item system works in my RPG game" is all well and good, but that implies a whole lot of under-specified functionality that you probably didn't even know you needed. What about "graphics environment set up"? Or, "A sprite is displayed on the screen." Do a little bit each day. Marathon sessions are great and all, but you're trying to squeeze a long-term commitment into an already crowded life. If you do a little bit each day you are making measurable progress and establishing a structure within which you can achieve your milestones. Scale yourself back. Whatever your grand vision is, try and figure out what the smallest achievable portion is and do that. Making an RPG? Start with one quest

[3] http://gamedev.stackexchange.com/questions/85

and no NPCs. Making a platformer? Start with one level and no enemies. Prototype early. Before you sink a bunch of your hard-earned hobby hours into a game, figure out if it'd be fun first. There's nothing so dispiriting as working your ass off on something for dozens of hours only to find that the basic concept sucks. Develop something iterable. My favorite hobby software projects are the ones where the basic concept allows for later tinkering. Is your game like that? Can you ship something and then revisit it later and add cool stuff? Don't build an engine or a framework. You don't want an engine, you want a game. Don't worry about the framework-y, reusable bits until after your game is shipping. Once you start on the second game, then you can go back to your first and see if there's anything you could bring over. That's not to say that you shouldn't use sound software development praxis, but don't start by writing a Sprite class until you know what you need your sprites to do – you'd be surprised how little it'll turn out to be. Start with a Hero class, then a Monster class, and then – oh look! – there's some common stuff! Shipping is a feature. You're never going to finish your game, you're only going to abandon it. (= What is the minimum amount you can do before you're not completely embarrassed to show your game to someone else? Chances are, you can do less than that and still have a game to be proud of.

17.1.3 How Do You Prevent Inflation in a Virtual Economy?[4]

Question by Tetrad [**?**]

With your typical MMORPG, players can usually farm the world for raw materials essentially forever. Monsters/mineral veins/etc are usually on some respawn timer so, other than time, there really isn't a good way to limit the amount of new currency entering the system.

So that really only leaves money sinks to try to take money out of the system. What are some strategies to prevent inflation of the in-game currency?

Answer by beetlefeet [**?**]

Money sinks are I guess the only real answer. Which means items or currency

[4] http://gamedev.stackexchange.com/questions/1079

getting lost forever.

Eve Online blatantly has this through the mass destruction of items and ships through pvp (only partially replaced by insurance). Eve also has many other money sinks such as office rent, station fuels, ammunition etc.

Other games have similar consumables, either necessities like ammo or items that provide buffs etc. (food, potions, pet food, poisons etc.)

Many games (such as World of Warcraft) feature Bind on Pickup and Bind on Equip items. They are actually money sinks. You can enchant and add gems to your items but at some point you will upgrade it. So upgrading actually destroys the old item along with any value to added to it via enchanting etc. Or in some games you can 'recycle' it for less that the original value.

This is a nice sink because it doesn't negatively impact players.They only really notice it at the same time as they are cheering about their brand new shiny loot. Also, even if the item is never lost and just remains in a character's backpack it can be considered out of the economy because it will never pass to another player.

Which brings us to other utility money sinks like increased bank and inventory space.

Aesthetic upgrades are also a good way to introduce sinks without affecting the gameplay balance of your game. Things like clothing dye or vanity mounts and pets.

17.1.4 Game Architecture[5]

Question by Colin Gislason [?]

Are there any good resources for learning about game architectures? I am looking for high level overviews of different architectures. I tend to find information about the various pieces of a game such as entities, physics engines, scripting, etc but not about how to bring all of the pieces together.

As a bonus, how does the type of game influence this? For example, a platformer and an MMO would have differences.

Answer by matias.valdenegro [?]

[5] http://gamedev.stackexchange.com/questions/455

Game Engine Architecture by Jason Gregory is a good book in this topic. You can read it in Google Books before buying it.

17.1.5 Free Ebooks about Game Development[6]

Question by Matias [?]

Are there good free ebooks on game development? I don't care if they are theoretical or technology specific, I want to start reading one free book that worth it.

Answer by Sun [?]

Game Design

The Art of Computer Game Design by Chris Crawford (1984) [PDF] Balance of Power by Chris Crawford (1986) [TXT] The Complete Wargames Handbook (Second Edition) by James F. Dunnigan (1997) [HTML] Programming

GPU Gems (2004), GPU Gems 2 (2005), GPU Gems 3 (2007) [HTML] The Cg Tutorial by Randima Fernando and Mark J. Kilgard (2003) [HTML] Pangea Software's Ultimate Game Programming Guide for Mac OS X by Brian Greenstone (2004) [PDF] Invent Your Own Computer Games with Python by Al Sweigart (2010) [PDF] ShaderX2: Shader Programming Tips and Tricks with DirectX 9.0 by Wolfgang Engel (2003) [PDF] ShaderX2: Introductions and Tutorials with DirectX 9.0 by Wolfgang Engel (2003) [PDF] Direct3D ShaderX: Vertex and Pixel Shader Tips and Tricks by Wolfgang Engel (2002) [PDF] Michael Abrash's Graphics Programming Black Book by Michael Abrash (1997) [PDF] Action Arcade Adventure Set by Diana Gruber (1994) [HTML] Art

Designing Arcade Computer Game Graphics by Ari Feldman (2000) [PDF] Culture and Studies

ETC Press: ETC Press have been published plain text version of their books for free. Well Played 1.0 by Drew Davidson et al (2009) Beyond Fun: Serious Games and Media by Drew Davidson et al (2008) Ludoliteracy: Defining, Understanding, and Supporting Games Education by Jos P. Zagal

[6] http://gamedev.stackexchange.com/questions/355

(2010) Toward a Ludic Architecture: The Space of Play and Games by Steffen P. Walz (2010) Cross-Media Communications by Drew Davidson et al (2010)

Trigger Happy by Steven Poole (2001) [PDF] Gamer Theory 2.0 by McKenzie Wark (2007) [HTML] Playing to Win by David Sirlin (2006) [HTML] PSX: The Guide to the Sony Playstation By Kevin Bryan (2005) [PDF]

17.1.6 Game Development Blogs[7]

Question by lathomas64 [?]

What are good game development/design blogs to follow?

Please one blog per answer (make sure to provide a link) and give a brief summary as to the content of the blog posts.

If you can, pick a single article that shows high value and share a snippet of it.

Answer by lathomas64 [?]

Wolfire Blog

Wolfire blog is an example of one I already follow. They give many useful insights into the process they go through for the creation of their game, Overgrowth.

Example article: Linear Algebra for Game Programmers

17.1.7 What Are Good Games to "earn Your Wings" With?[8]

Question by Drew [?]

I believe that in order to become a good game developer, you need to make games.

From a programmer's perspective, what are some good entry level games to get your hands dirty? What skills and challenges do each of these games teach you?

[7] http://gamedev.stackexchange.com/questions/3223

[8] http://gamedev.stackexchange.com/questions/854

Answer by Dennis Munsie [?]

Breakout

Easy game since you don't have much state to worry about (it's an array of brick values – if you only have one brick color, it's an array of flags), there isn't any AI, and you get to do a little bit of physics to get the ball to bounce correctly.

Solitaire

The rules are a bit more complex than Breakout and the interface to it is a lot different. It forces you to think about different methods of implementing a game. i.e, what works in one game isn't necessarily what you would use in another.

Pac-Man

This one is nice because you get to work on a little bit of AI. Having the ghosts follow the player (but not too well - you want the player to have a chance) can be quickly implemented, and you will have a fun little game that you can tweak and show off to friends and family (positive feedback is always a good thing when you are starting out).

I find that if you look for inspiration in early video games, you can find tons of ideas that are relatively simple to implement. Plus, you can get away with super simple artwork and sounds because you're copying something so simple anyway. This allows you to focus on the basics first – getting your game loop up and running, figuring out how to get your pixels to the screen, playing a sound, keeping score, getting the player's input into the game.

It almost really doesn't matter which game you choose first – just make sure you pick something simple that you can get quick results with, that way you can move on the next day and make another one. And another. And another – the more you make, the more you'll push yourself, and eventually you'll be making complex games before you know it.

17.1.8 Where Can I Find Free Sprites & Images?[9]

Question by matias.valdenegro [?]

I need sprites and images, such as characters, landscapes and others. Where can I find them?

[9] http://gamedev.stackexchange.com/questions/20

Answer by Koonsolo [?]

Lost Garden has lots of free graphics that you can use in your games.

For RPG Games you have a cool 32x32 tileset and lots of free to use sprites, objects, icons, etc..

17.1.9 Game Dev Podcasts[10]

Question by Colin Gislason [?]

What are some good podcasts for game developers to listen to? This could include specific game dev, general dev or general game podcasts.

Please provide a brief description along with links.

Answer by Iain [?]

Another Castle - Professionals talk game design.

Game Developers Radio - Great guests, a different game or development platform discussed each week.

Brainy Gamer - Game design from designer, journalist, academic and player perspectives.

DigiPen - Professionals and educators talk games.

IndieGamePod Interviews with developers about their games.

A life well wasted Arty, philosophical trip around gaming culture.

[10] http://gamedev.stackexchange.com/questions/482

Chapter 18

Gamemasters & Players of Tabletop, Paper-and-Pencil Role-Playing Games

This chapter is shared and re-mixed from the Role-playing Games[1] Q&A site.

18.1 Miscellaneous

18.1.1 What Can I Do to Keep My Cool at the Table?[2]

Question by Brisbe42 [?]

I've had some problems in the last couple of weeks with getting on tilt when things start to go a bit downhill in the game.

In the first game, random effects converged in just such a fashion as to bloody my character with one random, unavoidable effect, and knock them to dying at the end of that same round.

In the second game, I suggested a course of action that the party ended up using–that was then criticized by the DM as a bad choice of tactics–and also was criticized by the DM and a fellow player for some of my strategy in battle.

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[1] http://rpg.stackexchange.com
[2] http://rpg.stackexchange.com/questions/1574

In the first game, I actually left the game because of my anger–and the second game, I did get a little upset and was near leaving, but stuck it out through. I don't want to be known as the 'angry' gamer–I like these people, but things just went south. What can I do to help keep my gamer-temper under control? What should I do when things turn negative?

Answer by Adam Dray [**?**]

Anger is a natural part of human existence, but most people learn to control it. You seem to be letting it get the best of you.

This sounds like a problem bigger than just gaming. If it is, there are actually anger management courses and, of course, therapy. If anger affects one of your favorite pastimes this way, it's probably also affecting the rest of your life adversely.

If it really is just a gaming problem, then figure out why you're getting angry. If you feel you're being treated unfairly, you need to communicate with your friends about it. When the dice fall against you, don't take it personally. Learn to let things go.

Most importantly, remember: it's a game.

Some specific advice:

Take a deep breath. Do it again. And one more time. Really, this helps. Take a break. Walk away from the table for a minute, but don't be a drama queen about it. Make yourself consider how things could be much worse. Give yourself some perspective. Tell your friends what's wrong and see if they can help. Find a way to make it funny. Laughter is the best medicine. Revel in losing. Some of the greatest stories are about dealing with failure. Remind yourself that it's a game, not the rest of your life.

18.1.2 Role-playing an Intelligent Character[3]

Question by user19 [**?**]

What are some strategies and techniques for role playing a character that is more intelligent than you actually are? It's pretty easy to pretend to be someone who is less intelligent, but the reverse seems very difficult.

[3] http://rpg.stackexchange.com/questions/71

Answer by AceCalhoon [?]

As a gamemaster: Cheat. Use out-of-character knowledge. If the players surprise you with a plan, have a contingency plan for the NPC materialize even though you hadn't actually thought about it beforehand. Just make sure that you hide the "seams" caused by these cheats, and that you don't make the NPC seem smarter than they're intended to be. As a player. Ask to roll for things. You can't come up with a plan better than a plan you can come up with. But the GM has a lot more information than you, and can MAKE plans successful. For the little things, "cheat." You totally knew that was going to happen, so you made sure to take some small precaution to help you. Just make sure the GM is okay with what you're doing.

18.1.3 Total Party Kill What Do I Do as a GM?[4]

Question by MadMAxJr [?]

Your party has had a streak of bad luck and/or made a poor choice and are now staring down death. The rules were followed to the letter and loss is assured. How do you handle this as a GM?

Does story trump rules? If you give them a means to pull out of the situation it could lead to the party feeling that nothing will ever beat them.

Do the rules trump the story? The party may feel cheated and may lose interest in making new characters.

Answer by bifflechips [?]

I think this all depends on your group(I'd say this is the biggest factor), the game you're playing, and the tone you've had since the beginning of the game.

Group - I know the players in my group get very attached to their characters. Weeks of building personality and backstory, and then it can be gone because of a streak of bad rolls? All groups are different, so I think it's important to figure this out early on. Game - If you're playing D&D 4.0, it's already pretty hard for everyone to die. If you're playing shadowrun, it takes less than a few bad rolls for your character to be permanently erased. Tone -

[4] http://rpg.stackexchange.com/questions/933

If you've flat out told your group from the start that there's a possibility they might die, they probably need to be willing to accept it, or they shouldn't have joined the campaign. Depending on whether you're playing the game seriously or just for fun can affect how the party handles it, as well. This kind of ties in with 1. If your party's willing to accept a TPK, then you can either start a new campaign, have them roll up new characters that pick up where the group left off, or have them fight their way out of hell (if the game has it, or you want to make it up).

Otherwise, like Stefano said, you can say "it was all a dream". I read a blog post a while back (can't find the link) that described how he did this with his party, and they were actually playing in a "flashforward", so when the combat ended and they were all dead, the group was actually speaking with an oracle, and the oracle had been showing them what dangers lay ahead of them. The group then knew what kinds of things would show up in their next encounter, and be more prepared for it. Useful if you kill the party with an encounter you accidentally made too difficult.

Other options are having the combat get interrupted; having the attackers get distracted, allowing the party to flee. A TPK can really add a lot to your storyline. You could say some powerful magic user comes along and raises them, and the party is now in their debt. Where you go with it depends on your story.

18.1.4 I'm Creating an Original Setting for D&Dwhere Do I Start?[5]

Question by Adam Dray [?]

Creating a new fantasy setting for D&D is daunting but I don't want to use one of the published settings. I have a blank piece of paper in front of me and a whole world to create. My friends want to play as soon as possible. Where's the best place to start?

Answer by RS Conley [?]

I would do the following. Note this is also found on my blog here .

Using one page sketch a world or continent mapLabel important region-

[5] http://rpg.stackexchange.com/questions/1128

sWrite one page of background giving no more than a handful of sentences to each region.Pick an area roughly 200 miles by 150 milesGrab a 8.5 by 11 sheet of hex paper. The scale should be so that it represents a 200 by 150 mile regionDraw in mountainsDraw in riversDraw in hills using them to divide the region into distinct river valleyDraw in vegetation (swamps, forests, desert, etc)Decide to place Population Locales note their race this includes social monstersDecide to place Lairs (locales tht revolves around a home of monsters)Decide to place Ruins (locales that revolves around a site)Decide to place miscellaneous locales. (anything that doesn't fit a above.Name your geography (don't forget islands)Write a Half Page background describing the region and it's history.Write a paragraph describing each named geographyWrite a paragraph describing each Population LocaleWrite a paragraph describing each Lair (you could get away with a stat block)Write a paragraph describing each RuinLook at your notes and come up with two to four plots that ties one or more locales together. Write a paragraph or two on each.For each population locale come up with three to five encounters. They should be a sentence each.Come up with 6 to 12 general encounter for the region as a whole. Should usable in any area of the region. They are a sentence or two each.Pick the 4 or 6 most important Population locales and draw a quarter page sketch map of the settlement. Pick the starting population locale and draw a full page map of the settlement. This is the "Home Base" Use Medieval Demographics to get an a idea of how many shops are in the town. Pick or create 6 or 12 important buildings. Write a paragraph each. Scan your descriptions for NPCs or noted monsters. Write a two sentence about each. The first a one line with minimal stats the second one sentence. This is your roster. Pick the 12 most important NPC or MonstersWrite a paragraph describing each and fully stat them.Pick the most six common encounter type. (City Guard, Border Warders, Bloody Hand, Orcs) Write a paragraph and fully stat them.Scan your description for any regional organization and write a paragraph on them. Fully stat the most common encounters involved with them.Make up a rumor chart with 10 to 20 items that feeds the players into the encounter and plots you created in above.Identify major regions and create a random encounter chart for each (monsters, wildlife and NPCs) [Thanks Jeff I just plumb forgot] This will probably run to about 10,000 words. You can do this in about 2 weeks spending about 2 hours an evening at a 1,000 words a evening and time drawing maps. Or consider it about 24 hours of work.

This is being expanded in the following posts.

A Fantasy Sandbox in detail Part I covers Step 1 A Fantasy Sandbox in detail Part II covers Step 2,3, & 4 A Fantasy Sandbox in detail Part III covers Step 5,6,7,8,9, & 10 A Fantasy Sandbox in detail Part IV covers Step 11, 12, & 13. A Fantasy Sandbox in detail Part V covers Step 14, & 15. A Fantasy Sandbox in detail Part VI covers Step 16. A Fantasy Sandbox in detail Part VII covers Step 17. A Fantasy Sandbox in detail Part VIII covers Step 18, 19, & 20. A Fantasy Sandbox in detail Part IX covers Step 21 A Fantasy Sandbox in detail Part X covers Step 22 A Fantasy Sandbox in detail Part XI covers Step 23 A Fantasy Sandbox in detail Part XII covers part of Step 24 A Fantasy Sandbox in detail Part XIII covers part of Step 24 A Fantasy Sandbox in detail Part XIV covers part of Step 24 A Fantasy Sandbox in detail Part XV covers part of Step 24

Chapter 19

Users of Linux, FreeBSD & Other Un*x-like Operating Systems

This chapter is shared and re-mixed from the Unix amp; Linux[1] Q&A site.

19.1 Miscellaneous

19.1.1 Hacking into Linux Kernel[2]

Question by Appu [?]

I am trying to understand how a function, say mkdir works by looking at the kernel source. This is an attempt to understand the kernel internals and navigate between various functions. I know mkdir is defined in sys/stat.h. I found the prototype like,

/* Create a new directory named PATH, with permission bits MODE. */ extern int mkdir (__const char *__path, __mode_t __mode) __THROW __nonnull ((1));

Now I need to see on which C file this function is implemented. From the source directory, I tried

ack "int mkdir"

[1]http://unix.stackexchange.com

[2]http://unix.stackexchange.com/questions/797

which displayed

security/inode.c 103:static int mkdir(struct inode *dir, struct dentry *dentry, int mode)

tools/perf/util/util.c 4:int mkdir_p(char *path, mode_t mode)

tools/perf/util/util.h 259:int mkdir_p(char *path, mode_t mode);

But none of them matches the defnition in sys/stat.h.

Questions

Which file has mkdir implementation? With a function definition like the above, how can I find out which file has the implementation? Is there any pattern which kernel follows in defining and implementing methods? I am using this version of kernel.

Answer by Warren Young [**?**]

System calls aren't handled like regular function calls. It takes special code to make the transition from user space to kernel space, basically a bit of inline assembly code injected into your program at the call site. The kernel side code that "catches" the system call is also low-level stuff you probably don't need to understand deeply, at least at first.

In include/linux/syscalls.h under your kernel source directory, you find this:

asmlinkage long sys_mkdir(const char __user *pathname, int mode);

Then in /usr/include/asm*/unistd.h, you find this:

#define __NR_mkdir 83 __SYSCALL(__NR_mkdir, sys_mkdir)

This code is saying mkdir(2) is system call #83. That is to say, system calls are called by number, not by address as with normal functions, because it's not really a function in the way you understand it. The inline assembly glue code I mentioned above uses this to make the transition from user to kernel space, taking your parameters along with it. Another bit of evidence that things are a little weird here is that there isn't always a strict parameter list for system calls: open(2), for instance, can take either 2 or 3 parameters, a trick C++ knows how to do, but C doesn't, yet the syscall interface is nominally C-compatible.

To answer your first question, there is no single file where mkdir() exists. Linux supports many different file systems and each one has its own implementation of the "mkdir" operation. The abstraction layer that lets the kernel hide all that behind a single system call is called the VFS. So, you probably want to start digging in fs/namei.c, with vfs_mkdir(). The actual implementations of the low-level file system modifying code are elsewhere. For instance, the ext3 implementation is called ext3_mkdir(), defined in fs/ext3/namei.c.

As for your second question, yes there are patterns to all this, but not a single rule. What you actually need is a fairly broad understanding of how the kernel works in order to figure out where you should look for any particular system call. Not all system calls involve the VFS, so their kernel-side call chains don't all start in fs/namei.c. mmap(2), for instance, starts in mm/mmap.c, because it's part of the memory management (”mm”) subsystem of the kernel.

I recommend you get a copy of ”Understanding the Linux Kernel” by Bovet and Cesati.

19.1.2 How Do I Delete a File Whose Name Begins with ”–”?[3]

Question by Redbeard 0x0A [?]

How do you remove a file whose filename begins with ”–”? I'm ssh'd into a remote OSX server and I have this file in my directory:

tohru: $ ls -l total 8 -rw-r–r– 1 me staff 1352 Aug 18 14:33 –help ...

How in the world can I delete –help from a CLI? This issue is something that I come across in different forms on occasion, these files are easy to create, but hard to get rid of.

I have tried using backslash

rm help

I have tried quotes

rm ”–help”

Any ideas?

Answer by Vegar Nilsen [?]

Use ”–” to make rm stop parsing command line options, like this:

rm – –help

[3]http://unix.stackexchange.com/questions/1519

19.1.3 Keep SSH Sessions Running after Disconnection[4]

Question by Jonas Gorauskas [?]

I sometimes have long running processes that I want to kick off before going home, so I create a SSH session to the server to start the process, but then I want to close my laptop and go home and later, after dinner, I want to check on the process that I started before leaving work. How can I do that with SSH? My understanding is that if you break your SSH connection you will also break your login session on the server, therefore killing the long running process...

Answer by Sandy [?]

You want to be using GNU Screen. It is super awesome!

ssh me@myserver.com screen #start a screen session run-a-long-process

CTRL+a , d to detatch from your screen session

exit #disconnect from the server, while run-a-long-process continues

When you come back to your laptop:

ssh me@myserver.com screen -r #resume the screen session

Then check out the progress of your long-running process!

screen is a very comprehensive tool, and can do a lot more than what I've described. While in a screen session, try ctrl+a,? to learn a few common commands. Probably the most common are:

CTRL+a , c to create a new window CTRL+a , n to switch to the next window in your screen session CTRL+a , p to switch to the previous window in your screen session if you log in from a bunch of different systems, you may have accidentally left yourself attached to an active screen session on a different computer. for that reason, I always resume with screen -d -r to ensure that if another shell is attached to my screen session, it will be detached before I resume it on my current system.

[4]http://unix.stackexchange.com/questions/479

19.1.4 Is It Good to Make a Separate Partition for /boot?[5]

Question by Am1rr3zA [?]

I've seen some people make a separate partition for /boot. What is the benefit of doing this? What problems might I encounter in the future by doing this?

Also, except for /home and /boot, which partitions can be separated? Is it recommended?

Answer by dsp [?]

One reason for having a /boot partition is that it allows for things like encrypted /, where the kernel and initrd are loaded from an unencrypted partition and then used to mount the encrypted root partition containing the operating system. It shouldn't matter for general usage however.

19.1.5 Where Should I Put Software I Compile Myself?[6]

Question by theotherreceive [?]

I need to compile some software on my Fedora machine. Where's the best place to put it so not to interfere with the packaged software?

Answer by Sandy [?]

If you really don't want it to interfere at all, don't put it anywhere in your $PATH.

If you want it in $PATH, at least make sure not to install to /usr/local...I've found that a lot of software looks there even if it's installed by the distro into /usr.

My favorite way to install custom-compiled software is in my home directory. That way you don't have to use sudo for anything, and it's very nicely

[5] http://unix.stackexchange.com/questions/256
[6] http://unix.stackexchange.com/questions/30

separated from the rest of your system. For example:

mkdir /stage ./configure –prefix=/home/username/stage && make && make install

And if you want to, you can then add /home/username/stage/bin to your $PATH.

19.1.6 Where Did the "wheel" Group Get Its Name?[7]

Question by Michael Mrozek [?]

The wheel group on *nix computers typically refers to the group with some sort of root-like access. I've heard that on some *nixes it's the group of users with the right to run su, but on Linux that seems to be anyone (although you need the root password, naturally). On Linux distros I've used it seems to be the group that by default has the right to use sudo; there's an entry in sudoers for them:

%wheel ALL=(ALL) ALL

But that's all tangential; my actual question is: Why is this group called wheel? I've heard miscellaneous explanations for it before, but don't know if any of them are correct. Does anyone know the actual history of the term?

Answer by Steven D [?]

The Jargon File has an answer which seems to agree with kmarsh.

wheel: n. [from slang big wheel for a powerful person] A person who has an active wheel bit...The traditional name of security group zero in BSD (to which the major system-internal users like root belong) is wheel...

A wheel bit is also helpfully defined:

A privilege bit that allows the possessor to perform some restricted operation on a timesharing system, such as read or write any file on the system regardless of protections, change or look at any address in the running monitor, crash or reload the system, and kill or create jobs and user accounts. The term was invented on the TENEX operating system, and carried over to TOPS-20, XEROX-IFS, and others. The state of being in a privileged logon is sometimes called wheel mode. This term entered the Unix culture from

[7] http://unix.stackexchange.com/questions/1262

TWENEX in the mid-1980s and has been gaining popularity there (esp. at university sites).

19.1.7 What Is the Benefit of Compiling Your Own Linux Kernel?[8]

Question by jjclarkson [?]

What benefit could I see by compiling a Linux kernel myself? Is there some efficiency you could create by customizing it to your hardware?

Answer by gabe. [?]

In my mind, the only benefit you really get from compiling your own linux kernel is:

You learn how to compile your own linux kernel.

It's not something you need to do for more speed / memory / xxx whatever. It is a valuable thing to do if that's the stage you feel you are at in your development. If you want to have a deeper understanding of what this whole "open source" thing is about, about how and what the different parts of the kernel are, then you should give it a go. If you are just looking to speed up your boot time by 3 seconds, then... what's the point... go buy an ssd. If you are curious, if you want to learn, then compiling your own kernel is a great idea and you will likely get a lot out of it.

19.1.8 What Are Your Favorite Command Line Features or Tricks?[9]

Question by Casey [?]

Share your command prompt features and tricks for Unix/Linux. Try to keep it shell/distro agnostic if possible. Interested in seeing aliases, one-liners, keyboard shortcuts, small shell scripts, etc.

[8]http://unix.stackexchange.com/questions/905
[9]http://unix.stackexchange.com/questions/6

Answer by Michael Mrozek [**?**]

This expands somewhat on the !! trick mentioned in this answer. There are actually a bunch of history-related commands that tend to get forgotten about (people tend to stab Up 100 times instead looking for a command they know they typed).

The history command will show a list of recently run commands with an event designator to the left Running !N will run the command associated with event designator N Running !-N will run the N th most recent command; e.g. !-1 will run the most recent command, !-2 the second most recent, etc. As mentioned in the other answer, !! is shorthand for !-1, to quickly run the last command again Running !string will run the most recent command that begins with string Running !?string? will run the most recent command that contains string Word designators can be added on to a ! history command to modify the results. A colon separates the event and word designators, e.g. !!:0. The event designator !! can be abbreviated to just ! when using a word designator, so !!:0 is equivalent to !:0.

!:0 will get the command that was executed !:1 will get the first argument (and !:2 the second, etc.) !:2-3 will get the second and third arguments !:îs another way to get the first argument. !:$ will get the last !:* will get all arguments (but not the command) Modifiers can also be appended to a ! history command, each prefixed by a colon. Any number can be stacked on (e.g. !:t:r:p).

h – Line up to the base filename t – Only the base filename r – Line up to the filename extension e – Only the filename extension s/search/replacement – Replace the first occurrence of search with replacement gs/search/replacement – Replace all occurrences of search with replacement

Chapter 20

People Who Want to Be Financially Literate

This chapter is shared and re-mixed from the Personal Finance amp; Money[1] Q&A site.

20.1 Miscellaneous

20.1.1 Let's List the Best Software for Personal Finance?[2]

Question by O Engenheiro [?]

Put here the softwares that you like and why.

Answer by brainimus [?]

Mint.comEasy solution to provide insight into finances.

Pros:

Web based Automatically updates all accounts Free Works in plain english Clear spending reports help you balance your budget and identify areas to trim spending. Cons:

[1] http://money.stackexchange.com

[2] http://money.stackexchange.com/questions/2301

Can not perform transactions though it - you can only view transactions Can not track cash efficiently. Web based - they store a copy of your credentials and transactions until you delete your account Accounts often fail to update causing much frustration Only works in the USA

20.1.2 Stockmarket: Why Is the "open" Never the Same as Previous Day's "close"?[3]

Question by Stocknoob [**?**]

Hi all,

this is something that is mindboggling to me and it is particularly obvious in the candlestick graphs : why is the open value never, ever, the same as the previous day's close value?

This is something I just don't get: on all the candlestick graphs, you can see that it is very often very close, but never exactly the same value.

How comes?

What are the movements happening between one day's "close" and the next day's "open"?

And who's "playing" on that?

Answer by NimChimpsky [**?**]

from here : http://money.howstuffworks.com/nasdaq-opening-closing-cross1.htm

" NASDAQ has come up with an auction approach called the opening cross. Here's how it works. In the morning, a computer program looks at all the orders that have come in overnight in each different stock. Based on those orders, the program picks a price level that would be the best opening price. However, it also looks to see if there's a trade imbalance. For example, if a company announced bad news after the market closed, there might be 10 times more sell orders than buy orders.

NASDAQ then broadcasts the price and imbalance information to its network of dealers with the goal of offsetting the imbalance. It then lets dealers place orders. This all happens very quickly, in a time window of two minutes or so, right before the market opens. Dealers can place orders, and those orders are factored into the opening price"

[3]http://money.stackexchange.com/questions/3765

and further reading here : Opening Price calculation

20.1.3 Should I Finance a New Home Theater at 0% Even Though I Have the Cash for It?[4]

Question by gabeanderson [?]

My wife and I are considering buying a home theater - plasma TV & new stereo - on Black Friday this year.

We do have the cash for it, but Best Buy is offering 0% financing for up to 3 years on its store credit card. We both have excellent credit and 0% financing is almost like free money since money today is worth more than money tomorrow (and we can continue to earn interest in our savings account on the money we'd otherwise use for the purchase).

We have no consumer credit card debt and like it that way, so I'm not too attached to the idea of a monthly payment, but 0% financing offers are almost too good to pass up (plus, we could always pay off the balance whenever we want).

Thoughts? Cash purchase or 0% financing?

Answer by Scott W. [?]

Be very careful with this. When we tried this with furniture, they charged an "administrative" fee to setup the account. I believe it was about $75. So if you defer interest for one year on a $1000 purchase and pay a $75 administrative fee, it's 7.5% interest.

Also, they don't always send you a bill when it's due, they just let you go over the date when you could have paid it without paying interest, and then you owe interest from the date of purchase. These plans are slimy. Be careful.

[4] http://money.stackexchange.com/questions/299

20.1.4 Where Can I Park My Rainy-Day / Emergency Fund? Savings Accounts Don't Generate Much Interest[5]

Question by S. Chang [?]

Savings accounts don't seem to generate much interest. What other options do I have for my emergency fund?

Answer by TaxQueries.com [?]

Opinions vary but I've always thought that an "emergency fund" is just that... for emergencies... NOT investment.

While it "hurts" not to have your emergency money making more money... its MORE IMPORTANT to have quick access to it.

As long as the interest rate keeps up with the rate of inflation leave it alone. Fill up your emergency fund with 3-6 mos salary and then INVEST your money beyond that however you see fit.

Dave Ramsey's "Financial Peace University" is a very good audiobook and I would recommend it to anyone asking questions such as this one.

[5]http://money.stackexchange.com/questions/921

Chapter 21

Electronics & Robotics Hardware Hacking Enthusiasts

This chapter is shared and re-mixed from the Electronics amp; Robotics[1] Q&A site.

21.1 Miscellaneous

21.1.1 Beginner's Logic Analyzer?[2]

Question by Joby Taffey [**?**]

Can anyone recommend a low cost or DIY buildable logic analyzer?

Mostly, it would be for debugging serial protocols (SPI, I2C, RS232) at low voltages.

Answer by Adam Davis [**?**]

The Bus Pirate is probably your best bet - open source software and hardware, easy to build if you don't mind SMT, cheap if you buy it assembled ($30 shipped worldwide).

http://code.google.com/p/the-bus-pirate/

Lots of variants, with a lot of people supporting it:

[1] http://electronics.stackexchange.com
[2] http://electronics.stackexchange.com/questions/2036

http://www.google.com/search?q=bus+pirate

The bus pirate is mostly useful for serial work, though it can do some small amount of simple logic analyzer functions. If you need to do a lot of logic analyzer work, this product looks very nice:

http://dangerousprototypes.com/open-logic-sniffer/

Open source, but has very good capabilities. Pre-ordering right now, so it's not immediately available. Very inexpensive, though.

21.1.2 Good Book for Non-Beginner Firmware Development[3]

Question by Seidleroni [?]

I do a lot of firmware work at my job, but I'm looking for more advanced books on the topic. Things not like the basics of "what is an interrupt". I'm reading the O'Reilly book on embedded systems development which is OK, but not advanced enough. For instance, its rare for books to discuss things like Flash pages (which can be really useful), how to put a section of code in a specific area of memory.

Perhaps something with some tips and tricks. I do primarily PIC programming.

Answer by Clint Lawrence [?]

Jack Ganssle's The Firmware Handbook has some good bits and pieces. Best of all you can find a lot of the good parts from the book (and more) on his website.

21.1.3 Personal Electronics Tool Kit[4]

Question by mad_z [?]

What are the items you have in your personal electronics tool kit?

[3] http://electronics.stackexchange.com/questions/632
[4] http://electronics.stackexchange.com/questions/869

Answer by wackyvorlon [?]

Most important tool: A quality soldering iron. Mine's a Weller. Those Radio Shack pencil irons are useless, and will only make life more difficult. I have both desoldering braid and a solder sucker. Plenty of 60/40 solder, the silver bearing stuff doesn't flow nearly as well. A well stocked junkbox is extremely important. The more components you have to hand, the faster you can work.

A good digital multimeter, I love my Fluke. Add to that a good analog multimeter, digital meters offer no sense of change over time. A dual channel 100MHz oscilloscope(mine's a tektronix mainframe that I scavenged). Good lighting! A third-hand rig or similar to hold parts and boards that are being soldered. A spectrum analyzer is very useful for radio work. Also a function generator. A sharp pair of flush cutting nippers, several spools of different coloured 20 gauge hookup wire. Some people keep flux to hand, but I've never found I needed it. Assorted scraps of printed circuit board, or strip board - breadboards are very finicky and can add circuit-killing parasitic capacitance. The absolute best tool I've found for cutting PCB is a jeweler's saw. You can buy them from Contenti, and aren't very expensive. I've never seen anything use produce a better or faster cut.

A wet sponge for cleaning the iron tip, several tips for the iron. I think that covers the bulk of it, it may seem like a lot of stuff but it's mostly small stuff. An LCR meter is handy, too. I have a foredom flexshaft, it's kind of like a dremel but more powerful and higher quality. They're not cheap machines, but are a real life saver for modifying circuit boards.

21.1.4 Electronics Blogs & Podcasts[5]

Question by Shawn J. Goff [?]

There are some great blogs out there for programmers (Joel on Software, Paul Graham's Essays, etc.). I would love to know about any similar quality content for electronics. Do you have any great blogs or podcasts you love?

(submit one answer for each blog)

Answer by Shawn J. Goff [?]

[5] http://electronics.stackexchange.com/questions/952

Electronics Engineering Video Blog Podcast(eevblog)

21.1.5 Basic Electronics Book[6]

Question by Nathan [?]

Hi All,

I need basic electronics book (diodes,transistors,current..etc) as i am just starting out with electronics and want to have something to read over the holiday.

Any suggestions of good beginners books?

Cheers

Nathan

Answer by Justblair [?]

The Art of Electronics:Paul Horowitz and Winfield Hill

Often described as the Bible of Electronics. Its fair to say that if you buy this one, you wont need another for a while!

Contents:

Foundations

voltage and current; passive components; signals; complex analysis made simple.

Transistors

an easy-to-use transistor model extensive discussion of useful subcircuits, such as followers, switches, current sources, current mirrors, differential amplifiers, push-pull, cascode.

Field Effect Transistors

JFETs and MOSFETs: types and properties; low-level and power applications; FET vs bipolar transistors; ESD. how to design amplifiers, buffers, current sources, gain controls, and logic switches. everything you wanted to know about analog switching – feedthrough and crosstalk, bandwidth and speed, charge injection, nonlinearities, capacitance and on-resistance, latchup.

Feedback and Operational Amplifiers

[6] http://electronics.stackexchange.com/questions/616

"golden rules" for simple design, followed by in-depth treatment of real op-amp properties. circuit smorgasbord; design tradeoffs and cautions. easy to understand discussion of single-supply op-amp design and op-amp frequency compensation. special topics such as active rectifiers, logarithmic converters, peak detectors, dielectric absorption.

Active Filters and Oscillators

simplified design of active filters, with tables and graphs. design of constant-Q and constant-BW filters, switched-capacitor filters, zero-offset LPFs, single-control tunable notch. oscillators: relaxation, VCO, RF VCO, quadrature, switched-capacitor, function generator, lookup table, state-variable, Wein bridge, LC, parasitic, quartz crystal, ovenized.

Voltage Regulators and Power Circuits

discrete and integrated regulators, current sources and current sensing, crowbars, ground meccas. power design: parallel operation of bipolar and MOSFET transistors, SOA, thermal design and heatsinking. voltage references: bandgap/zener: stability and noise; integrated/discrete. all about switching supplies: configurations, design, and examples. flying-capacitor, high-voltage, low-power, and ultra stable power supplies. full analysis of a commercial line-powered switcher.

Precision Cicruits and Low-Noise Techniques

an easy-to-use section on precision linear design. a section on noise, shielding, and grounding. a unique graphical method for streamlined low-noise amplifier analysis. autonulling amplifiers, instrumentation amplifiers, isolation amplifiers.

Digital Electronics

combinational and sequential design with standard ICs, and with PLDs. all you wanted to know about timing, logic races, runt pulses, clocking skew, and metastable states. monostable multivibrators and their idiosyncrasies. a collection of digital logic pathology, and what to do about it.

Digital Meets Analog

an extensive discussion of interfacing between logic families, and between logic and the outside world. a detailed discussion of A/D and D/A conversion techniques. digital noise generation. an easy-to-understand discussion of phase-locked loops, with design examples and applications. optoelectronics: emitters, detectors, couplers, displays, fiber optics. driving buses, capacitive loads, cables, and the outside world.

Microcomputers

IBM PC and Intel family: assembly language, bus signals, interfacing (with many examples). programmed I/O, interrupts, status registers, DMA. RS-232 cables that really work. serial ports, ASCII, and modems. SCSI, IPI, GPIB, parallel ports. local-area networks.

Microprocessors

68000 family: actual design examples and discussion – how to design them into instruments, and how to make them do what you want. complete general-purpose instrument design, with programming. peripheral LSI chips; serial and parallel ports; D/A and A/D converters. memory: how to choose it, how to use it.

Electronic Construction Techniques

prototyping methods. printed-circuit and wire-wrap design, both manual and CAD. instrument construction: motherboards, enclosures, controls, wiring, accessibility, cooling. electrical and construction hints.

High-Frequency and High-Speed Techniques

transistor high-frequency design made simple. modular RF components – amplifiers, mixers, hybrids, etc. modulation and detection. simplified design of high-speed switching circuits.

Low-Power Design

extensive discussion of batteries, solar cells, and "signal-current" power sources. micropower references and regulators. low-power analog circuits – discrete and integrated. low-power digital circuits, microprocessors, and conversion techniques.

Measurements and Signal Processing

what you can measure and how accurately, and what to do with the data. bandwidth-narrowing methods made clear: signal averaging, multichannel scaling, lock-in amplifiers, and pulse-height analysis.

It takes a bit of a commitment to read it all, but it is the sort of book that you can pick from. Not to heavy on the maths.

Chapter 22

User Interface Researchers & Experts

This chapter is shared and re-mixed from the User Interface[1] Q&A site.

22.1 Miscellaneous

22.1.1 Adding USA at the Top of Dropdown List of countries. OK Practice or Not?[2]

Question by Tony_Henrich [?]

Some web sites have a country dropdownlist where USA and Canada are listed at the top of the list (as well in their normal positions). I read once that this was insulting to non US/Canada users. The reason they are at the top is to make it easier for the US users to pick their country instead of scrolling down.

Most shoppers in US based sites are from the US.

Do you consider this UI feature as being insensitive to non US/Canada users? Should it be stopped? Or is a non issue?

Answer by Max Steenbergen [?]

[1] http://ui.stackexchange.com
[2] http://ui.stackexchange.com/questions/1022

Most times, with a bit of engineering, you can already determine the user's location through his IP or other means. So why not use that process and make its result the default choice? One action less for the user!

22.1.2 For Websites, Is It Better to Have a Variable Width Layout or a Fixed Width Layout?[3]

Question by txwikinger [?]

Due to different screen resolutions, the user experience browsing a website might be different. Is it better to layout the website with a fixed width, and if so should there be different static widths for standart resolutions? Or should a website always be laid out in variable width?

Answer by LoganGoesPlaces [?]

The problem with using 100% variable width is that it really does not display well for users with the smallest and largest screens. I will generally design my main content section for the norm by setting a min/max width and then I will center the important (fixed) content. You can then have variable width design elements (since they are not as important) that stretch/shrink to fill the screen.

This way the important information always(hopefully) displays correctly while looking good in many resolutions.

22.1.3 Must-read User Interface Book?[4]

Question by zazk [?]

I'm looking for a book that explains the basics of user interfaces and user experiences. I read Beautiful Visualization and Designing Interfaces from O'Reilly and I think they are very good. Can you recommend another one? Why?

[3] http://ui.stackexchange.com/questions/21
[4] http://ui.stackexchange.com/questions/74

Answer by Jin [?]

Don't Make Me Think by Steve Krug. The book is written in the way it preaches: very simple and easy to understand. The book covers a wide range of user experience topics. It's a must-read.

22.1.4 OK/Cancel on left/right?[5]

Question by Art [?]

Should OK button be on left of Cancel button or vice versa?

Are there any studies confirming either of the solutions?

Answer by Rahul [?]

As with everything: user test! Thankfully, usability hero Jakob Nielsen jumps to the rescue here in his Alertbox article about OK/Cancel buttons:

Should the OK button come before or after the Cancel button? Following platform conventions is more important than suboptimizing an individual dialog box.

Kostya was right on the mark in advising adherence to platform guidelines. But what about web-based platforms?

If you're designing a Web-based application, the decision is harder, but you should probably go with the platform preferred by most of your users. Your server logs will show you the percentage of Windows vs. Mac users for your specific website or intranet. Of course, Windows generally has many more users, so if you can't be bothered to check the logs, then the guideline that will apply to most situations is OK first, Cancel last.

He also mentions two additional important guidelines you might consider when creating OK/Cancel buttons:

It's often better to name a button to explain what it does than to use a generic label (like "OK"). An explicit label serves as "just-in-time help," giving users more confidence in selecting the correct action. Make the most commonly selected button the default and highlight it (except if its action is particularly dangerous; in those cases, you want users to explicitly select the button rather than accidentally activating it by hitting Enter).

[5]http://ui.stackexchange.com/questions/1072

22.1.5 How Do I Get Users to Read Error Messages?[6]

Question by iconiK [?]

If your intended audience is nontechnical you find yourself at a severe risk that your users will plain ignore the carefully worded error messages, either staring in shock at them, calling and yelling at your support staff or simply ignore and/or close them.

I'm wondering what good practices you recommend for getting the users to actually read your error messages instead of disposing of them. Now I know some basics such as:

Short precise wording, possibly with a link or button to a detailed explanation. Provide an example of what to do to rectify the error (e.g. "Unable to connect to the server. Please check your Internet connection.").

Answer by Aaron Lerch [?]

The book About Face 3 has some good advice. The paramount of which is to design the software to eliminate the need for error dialogs. In cases where that isn't possible, the authors recommend:

Make an error dialog polite, illuminating, and helpful. (Remember that the error message is actually the software reporting it's inability to perform, not the user's inability to enter valid data, for example) Illuminate the problem, giving relevant information the user needs to make a plan to solve the program's problem Offer to implement at least one suggested solution (my perspective: on Windows, take advantage of the built-in Windows Troubleshooting Platform, even though implementing it can be maddening :)) By far, the biggest take-away is to work very hard to avoid error messages altogether. Whether that's by implementing an Undo feature, or by offering alternative UI or inputs when an error condition occurs, or something else altogether.

[6] http://ui.stackexchange.com/questions/393

22.1.6 Hover over a Disabled Item to Know Why It's disabled. What Do You Think?[7]

Question by Tony_Henrich [?]

How many times did you use a desktop app or an online page and you come across one or more menu items which are disabled and you have no idea why its disabled. Using help or documentation is of no use. It gets frustrating because it's stopping you from moving forward.

I have NEVER seen this usability practice used. Hover over the disabled item and a tooltip lists you the reasons and you go "Oh.. ok. now I know". Your other option is you have to contact support or post in a forum, explain what you were doing. Wait for what possibly be days tell you get an answer, if any. This is the difference between black & white. Getting instant help by a simple hover or get frustrated and wait for hours.

If you are the one developing the app, you know exactly why an item is disabled because you disabled it in your code. So it's not hard to show the reasons to the user. Is it?

This little tip could have saved thousands of tech support calls. There are millions of posts on the web of Why something is disabled or grayed out.

Answer by Glen Lipka [?]

I generally have found that users don't read anything. Especially tool-tips. It would help the power user, but I really don't think "thousands of tech support calls" would be saved.

With that said...it doesn't hurt. Why not? For the few customers who appreciate it and read it would have a very nice friendly impact.

22.1.7 Is a "repeat Password" Field Necessary in a Signup Page?[8]

Question by Franz [?]

When designing a new and simplified signup page I got into an argument

[7] http://ui.stackexchange.com/questions/922
[8] http://ui.stackexchange.com/questions/484

with a colleague about the necessity of the "repeat password" field.

We designed the signup process in such a way that the user will be logged in automatically after completing the email verification process. So, at least initially there will be no need for the user to enter their password. Therefore the user will only 'verify' the password when logging in the second time in case we omit the "repeat password" field.

We do have a "recover password" option so in the worst case the user could go through that process in case they mis-typed the password when signing up. But then again, how often do you mis-type your password?

Even the big players don't seem to agree on which way is the best...

Don't need to re-type the password: Twitter Facebook (although wants you to re-type your email)

Need to re-type the password: Yahoo reddit

What's your opinion on this?

Answer by orj [?]

I'm no UI expert but I think in many cases it is unnecessary. Certainly in my own experience it is rare for me to enter a password incorrectly. A better solution is to not have a password at all. Use one of the growing number of authentication providers (e.g., OpenId, Google, Facebook, Twitter, etc). Why does the user need another password for your app or site?

The technical users of your app will use a password generator and/or storage mechanism. The non-technical users will use one of the favourite throwaway passwords that they use for many different sites/apps. Better to just integrate with an authentication system they already use. There may also be other knock on benefits for your application such as integration into Google Apps if you use Google's auth.

If you do choose to require the user to provide a new password to your application then at least don't clear the password field on form entry error. Nothing is more infuriating than having a password field get cleared because you make an error in some other part of the form. You fix the error resubmit and then there is an error again because the password is missing. This drives me nuts. If you are concerned about echoing the user's password back in the HTML, don't. There are many other options. Encrypt it in the form, remember it in session state, use a dumby password in the HTML. Whatever, just don't force the user to enter it again!

Chapter 23

Professional Photographers, Photo Editors & Serious Enthusiasts

This chapter is shared and re-mixed from the Photography[1] Q&A site.

23.1 Miscellaneous

23.1.1 Good Examples of RAW's Advantages over JPEG?[2]

Question by Nick Bedford [?]

I'm curious to see some real examples of where simply capturing the same photo in RAW (and being processed by someone who can do it justice) has significantly improved the photo at the end of the process.

I understand what RAW is and why you might want to use it over JPEG, however, I'd like to actually see some examples where it has allowed for a better result. More control over tone, conversion from the more detailed data to 8-bit RGB etc.

Does anyone have or know of some processed RAW+JPEG shots for exact comparison?

[1] http://photo.stackexchange.com
[2] http://photo.stackexchange.com/questions/2627

Thanks.

Answer by jrista [?]

I think you may be misunderstanding the value of RAW. In the grand scheme of things, from seeing a scene with your eye to printing it, the best you get is what the printer you printed with is capable of, and that tends to be considerably less than what you see, or your camera or your computer is capable of representing.

The value of RAW is not really in the end result, although it is possible for the end result created with a RAW image to be better than that created with a JPEG. The reason for this has to do with the workflow between snapping a shot and saving or printing a final image. RAW gives you headroom that JPEG can't come close to offering. You have the ability to recover highlights and shadows, apply alternative tone curves, rework old RAW images with newer RAW processing algorithms to get better results, etc.

You are basically asking what is the value of an original film negative or slide, over a final scanned JPEG copy of that film negative/slide. With the original film, you have plenty of capability to rework and improve, use different printing techniques, etc...where as with the final JPEG, you got what you got, and not a whole lot more.

EXAMPLE:

An original JPEG of Lower Yellowstone Falls. The sky was completely blown out, as this was one of the very first few photos I took over a year ago when I first got into photography. I had researched RAW, along with most other camera theory, long before I ever purchased a camera, so I had RAW+JPEG enabled at the time:

Below is the reworked version from a RAW file. Because of RAW's considerable headroom, I was able to nearly fully recover the horrendously blown out sky, retone the whole image, and generate three alternative exposures (-1.5 EV, Original EV, +1.5 EV) using Lightroom to create a far sharper, clearer, and richer HDR image:

It was largely because of the radical improvements I was able to make to this image that I rarely ever shoot in JPEG anymore. I opt for RAW the vast majority of the time, and as I am still a student of the artistic aspects of photography, I appreciate the headroom that RAW offers. Most of the time, the final image saved from a RAW file is very similar to that of a JPEG...its the times when you botched it big and need to massively rework an image that RAW's advantages over JPEG really start to shine. Its all in the workflow, rather than the destination. ;)

DETAILED EXAMPLE:

Mark took the time to rework the JPEG sample I posted, to demonstrate what can be done with a JPEG. I think its important to note that a JPEG is not completely unworkable once it is taken...I may have lead to that belief in my comments above. JPEG images do have some room to be reworked, if needed, however it is more limited than RAW. Marks reworked copy of the JPEG sample is here:

A couple things should be noted. For one, he was able to retone the image decently, and it looks similar to the retoned RAW example I posted. The retoning, caused the unrecoverable parts of the sky to become yellowed, which I would consider an undesirable outcome. Depending on the software used, that may or may not happen. Something also not visible in the very small JPEG examples are compression artifacts, which have a tendency to become more pronounced as you rework an image, limiting your options.

Something else that I was able to recover from was a severe degree of softness, caused by the 18mm extreme of the cheap EF-S 18-55mm lens I used when I took this shot. I have some crops below that demonstrate the original image, a sharpened copy of the JPEG using a technique explained by @Guffa here on Photo.SE, and an HDR version that was only possible because with RAW, I could use Lightroom to export two additional alternative exposures 1.5EV from the original. Even using Guffa's excellent sharpening technique, the JPEG can't compare to the ability to create an HDR image from a single poorly-shot RAW image (these images are about 1/3 of their full resolution):

And another example:

The HDR examples were not sharpened using any normal sharpening technique...the added sharpness was the result of Photoshop's image alignment during Merge to HDR.

23.1.2 How & Why Do You Use an Image Histogram?[3]

Question by heavilyinvolved [**?**]

I realize that an image histogram is a graphical display of an images tonal distribution (i.e. horizontal darks to lights, vertical pixel distribution), but

[3]http://photo.stackexchange.com/questions/450

how do YOU really use it and why? I mean, can't you determine everything you need just by looking at the image? I imagine there is no right answer, but I'm interested to hear how others use it (or don't) and why...

Answer by jrista [**?**]

While there may not be a "right" answer to this question, there are "correct" answers. A histogram is a powerful tool, and when you understand how to use it effectively, it can greatly help your photography.

As you mentioned, a histogram is a representation of tonal range and distribution in a photo. The basic mechanics are as such:

A histogram represents tonal range from left to right, with blacks and shades to the left, progressing through midtones in the middle, to highlights on the right. The "volume" of any given tone is represented by the height of the vertical line that represents that tone. A vertical line at the very left end is indicative of the volume of total black tones A vertical line at the very right end is indicative of the volume of total highlight tones A vertical line in the very center is indicative of the volume of 18% gray tones

The tones for an image are taken from the intensity of each pixel (chroma, or hue, is ignored, and only brightness/lightness/luminosity is measured) The total number of tones in an image is dependent upon the bit depth of the image An 8-bpp (24-bit) image has a total of 256 distinct tones A 12-bpp (36-bit) RAW image has a total of 4,096 distinct tones A 14-bpp (42-bit) RAW image has a total of 16,384 distinct tones A 16-bpp (48-bit) RAW image has a total of 65,536 distinct tones A 32-bpp (96-bit) HDR image is effectively able to represent infinite tonal range As a real (float) number, its values range from 1.0 x 10ˆ-37 through 1.0 x 10ˆ38 In more real-world numbers, tonal range from black, through very dim starlight (0.00001), through indoor lighting (1-10), through the sunlit outdoors (1,000,000), to the brightness of the sun itself (100,000,000) and well beyond can be represented in a single HDR image

There is no technical limit to the height of a histogram. Unless you have a very low-bit image, a single histogram is generally incapable of representing every single individual tone in an image, so each vertical line tends to represent a small range of similar tones. A color histogram can represent a much greater range of information than a pure tonal histogram in the same space. Given these facts about a histogram, there is a wide variety of information you can gleen from one:

Contrast Contrast is the measure of difference between the brightest tones and the darkest tones. The more range a histogram covers between its left and right edges, the greater the contrast of an image.

Key Key is the rough measure of brightness in an image, with high-key being brighter, and low-key being darker If the histogram is bunched up in the highlights, you have a high-key image If the histogram is bunched up in the shades and shadows, you have a low-key image

White Balance When using a colored histogram, the convergence of red, green, and blue peaks is an indication of white balance In particular, the offset of major blue peaks can be a strong indicator of the warmth or coolness of a photo

Tonal Range The balance and height of peaks in a histogram is an indication of tonal range and tonal balance Parts of the histogram that are very low (valleys) indicate very low volume for those tones Parts of the histogram that are very high (peaks) indicate very high volume for those tones

Color Volume A basic colored histogram will often show gray, red, blue, and green A more advanced colored histogram may also show yellow, magenta, cyan Colored peaks are an indication of the volume of those given primary colors The horizontal position of a colored peak is an indication of the tone of colors of that particular primary or primaries Gray indicates a balance of primary colors at those tones Off-primary color peaks (or partial height lines), such as yellow, magenta, and cyan, indicate a blend of two primary colors at those tones

EDIT:

As mentioned by Jordan H., there is a trick called "expose to the right" (or ETTR) that can be useful to get you the optimal RAW data. When shooting a scene, particularly those that have a broad range of contrast that may be on the border of, or possibly slightly beyond, the 5-6 stop dynamic range of a digital camera, capturing enough tonal range in the shadows can be difficult. This is due to the the limitations of most current digital sensors, and how they are more sensitive to highlights than shadows. "Exposing to the Right", which is a technique where you slightly overexpose your shots by 1/3 to 1/2 of a stop (which, in turn, shifts your histogram to the right...toward highlights), can help mitigate these limitations. Exposing to the right can also help alleviate noise problems in the shadier parts of your images. It should be noted that exposing to the right requires that you use RAW format, as only with raw are you saving enough information to correct your overexposure during post-processing to bring your image back into normal range. The benefit of this technique is that it allows you to capture detail that would otherwise be lost, without the need to resort to ND grad filters or other more extreme measures.

This guideline is just that, a guideline. With newer camera sensors, dynamic range is improving, and capturing a greater range of contrast in a scene with a single shot is easier. However, even as digital sensor dynamic range improves, there will always be times when we need to shoot "on the edge" or what is possible, and tricks like shooting to the right will always be useful.

23.1.3 Is Watermarking worth It?[4]

Question by Rowland Shaw [?]

I've recently become aware that one of my photos has been used by a national newspaper beyond its licensing terms (cc-by-sa-2.5, used without the required credit), and whilst I can pursue them for some compensation, I was wondering about how effective watermarking is as a deterrent for the future? After all, if somebody has little regard for copyright, what's to stop them cropping a watermark out?

Answer by Reid Priedhorsky [?]

I think probably they do deter misuse. Psychologically, using an plain image without credit is a different beast than using one with COPYRIGHT ROLAND SHAW staring you in the face (or taking active steps to remove the watermark). Also, there's more opportunities for people in the chain who might not otherwise think of it to say "hey, do we have permission for that image?", and I think there's a good chance the situation you describe is due to ignorance rather than active malice ("all images on the Internet are free, aren't they?"). And if there's no watermark, it's easier to rationalize, e.g. "we'll talk to him later" and then forget about it.

On the other hand, I've never seen a watermark that didn't look awful, detracting significantly from the image. Perhaps it can be done "tastefully and artfully", but I've never seen it. So it's a tradeoff.

[4]http://photo.stackexchange.com/questions/856

Chapter 24

Power Users of Apple Hardware & Software

This chapter is shared and re-mixed from the Apple[1] Q&A site.

24.1 Miscellaneous

24.1.1 How Do I Get Rid of the Start up Sound My Mac Makes?[2]

Question by nvoyageur [?]

Everytime I turn on my Macbook Pro it makes a start up noise. This is annoying since there is no volume or ability to turn it off. I just don't want the sound to play at all.

How do I disable this startup sound?

Answer by Adam Dempsey [?]

You can use StartSound.PrefPane which basically just sets the volume to 0 when you shutdown and then turns it back up after login.

[1] http://apple.stackexchange.com
[2] http://apple.stackexchange.com/questions/11

24.1.2 Is There a Quick Way to Lock My Mac?[3]

Question by longda [?]

For instance, on Windows you can hit the Windows+L to lock your computer if you walk away.

Edit: this is for my mac book pro and right now I just close the lid. :) Edit: also, I forgot to mention I don't want to log out... this would just be for stepping out for lunch or a smoke break.

Answer by Loc Wolff [?]

From my answer in Super User.

Using Keychain Access's Lock Screen menubar.

Activate it here, in Keychain Access.app's Preferences:

Then lock.

24.1.3 OS X Applications You Can't Live without[4]

Question by Josh K [?]

Agreed, subjective, but also a decent question for people either new to Apple or simply don't know what's out there.

Rules

Before doing anything else, make sure your answer has not already been posted Limit to one application per answer. Add a short description for the application Add a link to the website in the name of the application, if possible (no direct downloads). Use ## [appName](link) when citing the application name. Only Mac OS X (not iOS) applications

Answer by Loc Wolff [?]

Dropbox

Put your files into your Dropbox on one computer, and they'll be instantly available on any of your other computers that you've installed Dropbox on.

[3]http://apple.stackexchange.com/questions/64
[4]http://apple.stackexchange.com/questions/82

24.1.4 How Can I Revert the Appearance of the Close, Minimize & Zoom Buttons with iTunes 10?[5]

Question by Chealion [?]

The new vertical layout is causing me all sorts of grief - is there any way to revert this back to the normal horizontal orientation of the close, minimize and zoom buttons of every other Mac OS X window?

Answer by nanda [?]

Do this on Terminal:

defaults write com.apple.iTunes full-window -int -1

24.1.5 Mac OS X Hidden Features & Nice Tips & Tricks[6]

Question by Am1rr3zA [?]

Do you know any hidden or little-known nice feature of Mac OS X? It doesn't matter what it ismaybe just a short terminal command. Share your experiences on hidden OS X features here.

Please post one tip per answer. Also provide details on how to achieve that feature, and if possible, include a relevant image too!

Answer by phsr [?]

I love the fact that OS X will scroll the window that the mouse is hovering over, even if another application has focus. That way I can scroll an example that I am coding in TextMate without having to lose keyboard control on TM

[5] http://apple.stackexchange.com/questions/1041

[6] http://apple.stackexchange.com/questions/400

24.1.6 Can I Safely Charge My iPhone 4, Regularly, Overnight?[7]

Question by Donnniegoat [?]

First time caller, long time listener: I've seen this question asked on a few other sites but with no "definitive" answers.

The Apple website on iPhone batteries is ambiguous, at best, and the closest it comes to answering the question is saying that a monthly deep cycle is a good idea. (reference: http://www.apple.com/batteries/iphone.html)

So, what do you think – is there an adverse impact from repeated, overnight charging of your iPhone 4? Does this negatively affect battery performance over the long term? Or is there some chip/ software that acts to shut off the charging once the battery is topped off, thereby protecting your hermetically sealed little power source?

Answer by Nippysaurus [?]

All this hype about how to charge your batteries is blown out of proportion.

Although some batteries (I forget which types exactly) can have longer lives if charged at "optimal" rates and temperatures, the reality seems to be that it does not extend the life by much. One of the research papers I read concluded something like if you charge your device at around 17 degrees from 0% until 75% full you can extend the lifespan by about 1/5 of the total life span.

I have charged my devices for days at a time, and my iPod Nano has been plugged in for months, and holds a charge the same as my other nano (I have two) which almost never gets used and only charged ocasionally.

In conclusion, just do whatever is convenient for you.

EDIT: Here are some links to the apple pages related to their iPhone batteries:

Batteries - iPhone iPhone Battery Replacement Service: Frequently Asked Questions

[7] http://apple.stackexchange.com/questions/893

Chapter 25

Entrepreneurs Looking to Start or Run a New Business

This chapter is shared and re-mixed from the OnStartups[1] Q&A site.

25.1 Miscellaneous

25.1.1 What Mistakes Have You Made Trying to "save Money"?[2]

Question by Jason Cianchette [?]

I "SAVED" the $40 per month in fees for a payroll service by doing everything myself.

Even though I spent quite a bit of time dealing with tax forms instead of my product, I still made some mistakes and had to pay an accountant $400 to clean things up and $1,000 in fines to the Federal Government.

What lessons have you all learned trying to save money?

Answer by Guillaume Justier [?]

Here is one way to look at it:

Say you work 40 hours a week, and you are the one bringing the business

[1]http://answers.onstartups.com
[2]http://answers.onstartups.com/questions/4755

to your company. Now say you bring on average $2000 a week in sales: That's $50 per hour. That's what you are worth to the company.

So now, any job in your company that can be done by someone else for less than $50/hour, you outsource or recruit someone. Can you find a cleaner for less than $50/hour? If yes, take one (I made that mistake: spent years cleaning the office myself!). Can you find a bookkeeper for less than $50/hour? If yes, take one. Etc...

So instead of spending one hour cleaning, spend one hour on marketing, on sales, it's worth $50.

Looking at things this way, you will grow your business quicker, and the $50 of your worth will become $60, then $90, etc... and then you can outsource more roles (or take on staff).

The key is focus on what adds value to your business and not the roles that are a necessity (cleaning is a necessity but doesn't add value. Neither does accounting. Preparing your marketing material adds value).

25.1.2 What Are Some of the Most Successful Low Budget Startup Marketing Campaigns You've Seen?[3]

Question by randfish [?]

I'm curious if anyone has great examples to share of their own startups or others achieving highly successful and visible media attention, customer attraction or general brand awareness. A few that have impressed me over the years include:

Sean Tevis' Campaign Fundraiser Cartoon Series OK Cupid's Series of Online Dating Data Analyses The Million Dollar Homepage Hoping to get inspired!

Answer by Jason [?]

Peldi from Balsamiq Studios got 100 product reviews in under a year and tons of press in the first six weeks of life.

He also generously wrote a detailed post on how he did it, including even the email templates he used for bloggers.

[3]http://answers.onstartups.com/questions/844

Almost a year later he updated all the points in that post with what he's learned in the meantime in this interview I did recently.

25.1.3 W

hy Is There so Little Voting on This Site?][meta] Why Is There so Little Voting on This Site?[4]

Question by Denis Hennessy [**?**]

I was one of the early users of Stack Overflow (the granddaddy of the software that runs this site) and one of the things I notice here is that many people are contributing answers (which is good) but people don't seem to be voting for them (which is bad).

Let's encourage more participation by rewarding people who take the time to write good answers. Click that vote button!

Answer by dharmesh [**?**]

Sorry folks. I don't agree with the 15 rep points to vote on things, but that's the default in the software and there's no way to change it.

So, it'll take a little while for enough people to accrue sufficient rep points (and thereby cause others to get the needed points too). The site's only two days old – so hopefully within a few days, we'll be at a decent level of momentum.

[4] http://answers.onstartups.com/questions/745

Chapter 26

People Studying Math at Any Level & Professionals in Related Fields

This chapter is shared and re-mixed from the Mathematics[1] Q&A site.

26.1 Miscellaneous

26.1.1 Hyperbolic Critters Studying Euclidean Geometry[2]

Question by Zach Conn [**?**]

You've spent your whole life in the hyperbolic plane. It's second nature to you that the area of a triangle depends only on its angles, and it seems absurd to suggest that it could ever be otherwise.

But recently a good friend named Euclid has raised doubts about the fifth postulate of Poincar's Elements. This postulate is the obvious statement that given a line L and a point p not on L there are at least two lines through p that do not meet L. Your friend wonders what it would be like if this assertion were replaced with the following: given a line L and a point p not on L, there is exactly one line through p that does not meet L.

[1] http://math.stackexchange.com
[2] http://math.stackexchange.com/questions/1347

You begin investigating this Euclidean geometry, but you find it utterly impossible to visualize intrinsically. You decide your only hope is to find a model of this geometry within your familiar hyperbolic plane.

What model do you build?

I do not know if there's a satisfying answer to this question, but maybe it's entertaining to try to imagine. For clarity, we Euclidean creatures have built models like the upper-half plane model or the unit-disc model to visualize hyperbolic geometry within a Euclidean domain. I'm wondering what the reverse would be.

Answer by Charles Siegel [?]

Here's another version of Doug Chatham's answer, but with details.

If you lived in Hyperbolic space, then Euclidean geometry would be natural to you as well. The reason is that you can take what is called a horosphere (in the half-space model for us, this is just a hyperplane which is parallel to our limiting hyperplane) and this surface actually has a Euclidean geometry on it!

So unlike for us, where the hyperbolic plane cannot be embedded into Euclidean 3-space, the opposite is true: the Euclidean plane can be embedded into hyperbolic 3-space! So this is analogous to our understanding of spherical geometry. It's no surprise the spherical geometry is slightly different, however, it fits nicely into our Euclidean view of things, because spherical geometry is somewhat contained in three-dimensional geometry because of the embedding.

26.1.2 A Challenge by R. P. Feynman: Give Counter-Intuitive Theorems That Can Be Translated into Everyday Language[3]

Question by AgCl [?]

The following is a quote from Surely you're joking, Mr. Feynman . The question is: are there any interesting theorems that you think would be a good example to tell Richard Feynman, as an answer to his challenge? Theorems

[3]http://math.stackexchange.com/questions/250

should be totally counter-intuitive, and be easily translatable to everyday language. (Apparently Banach-Tarski paradox was not a good example.)

Then I got an idea. I challenged them: "I bet there isn't a single theorem that you can tell me - what the assumptions are and what the theorem is in terms I can understand - where I can't tell you right away whether it's true or false."

It often went like this: They would explain to me, "You've got an orange, OK? Now you cut the orange into a finite number of pieces, put it back together, and it's as big as the sun. True or false?"

"No holes."

"Impossible!

"Ha! Everybody gather around! It's So-and-so's theorem of immeasurable measure!"

Just when they think they've got me, I remind them, "But you said an orange! You can't cut the orange peel any thinner than the atoms."

"But we have the condition of continuity: We can keep on cutting!"

"No, you said an orange, so I assumed that you meant a real orange."

So I always won. If I guessed it right, great. If I guessed it wrong, there was always something I could find in their simplification that they left out.

Answer by AgCl [**?**]

Every simple closed curve that you can draw by hand will pass through the corners of some square. The question was asked by Toeplitz in 1911, and has only been partially answered in 1989 by Stromquist. As of now, the answer is only known to be positive, for the curves that can be drawn by hand. (i.e. the curves that are piecewise the graph of a continuous function)

I find the result beyond my intuition.

For details, see http://www.webpages.uidaho.edu/ markn/squares/ (the figure is also borrowed from this site)

26.1.3 Why Does the Mandelbrot Set Contain (slightly deformed) Copies of Itself?[4]

Question by muad [?]

The Mandelbrot set is the set of points of the complex plane whos orbits do not diverge. An point c's orbit is defined as the sequence $z\_0 = c$, $z\_n + 1 = z\_n^2 + c$.

The shape of this set is well known, why is it that if you zoom into parts of the filaments you will find slightly deformed copies of the original shape, for example:

I measured some points on the Mandelbrot, and the corresponding points from one of these smaller Mu-molecules. Comparing the orbit sequences it was possible to find points on each sequence which were very close - but this experiment did not really help me to understand anything new.

Answer by Sam Nead [?]

I really like this question! I can't yet upvote, so I'll offer an answer instead. This is only a partial answer, as I don't fully understand this material myself.

Suppose that f is a quadratic polynomial. Suppose that there is an integer n and a domain $U \subset \mathbb{C}$ so that the n-th iterate, f^n, restricted to U is a "quadratic-like map." Then we'll call f renormalizable. (See Chapter 7 of McMullen's book "Complex dynamics and renormalization" for more precise definitions.) Now renormalization preserves the property of having a connected Julia set. Also the parameter space of "quadratic-like maps" is basically a copy of $\mathbb{C}$.

So, fix a quadratic polynomial f and suppose that it renormalizes. Then, in the generic situation, all g close to f also renormalize using the same n and almost the same U. This gives a map from a small region about f to the space of quadratic-like maps. This gives a partial map from the small region to the Mandelbrot set and so explains the "local" self-similarity.

To sum up: all of the quadratic polynomials in a baby Mandelbrot set renormalize and all renormalize in essentially the same way. (I believe that there are issues as you approach the place where the baby is attached to the parent.) Thus renormalization explains why the baby Mandelbrot set

[4]http://math.stackexchange.com/questions/2710

appears.

Chapter 27

People Who Build & Repair Bicycles, People Who Train Cycling, or Commute on Bicycles

This chapter is shared and re-mixed from the Bicycles[1] Q&A site.

27.1 Miscellaneous

27.1.1 What Do You Wish Someone Had Told You before Your First Commute?[2]

Question by Gary.Ray [?]

Four times a year I teach a workshop called "Be a Bike Commuter" for the local university's community education program. It's mostly based on my experience and information from the League of American Bicyclists. I am looking at making some changes for the next session and am wondering, from other experienced commuters, what things you wish someone would have told you that would have made your first few commutes more successful and/or

[1] http://bicycles.stackexchange.com
[2] http://bicycles.stackexchange.com/questions/1073

enjoyable.

Answer by Murph [?]

My suggestion would be:

Scout and rehearse your route before you start.

This is really an exercise in two parts:

First part is to determine what your initial routes from home to work and from work to home (not necessarily the same, certainly not in detail) are going to be. And to work out where you're going to secure your bike for the day. Second part is to ride the route with no time pressure "off peak" (ideal is probably on a Sunday) so that you know where you're going and you don't get surprised (lost!) when you're riding to arrive on time - it should also enable you clear up any grey areas on your planned route. As importantly, this will give you an indication of how how long you should allow for the journey. If you know where you're going and how long its going to take you're going to be more able to focus your attention on riding safely and less distracted by navigation and time concerns. Once your commute is established I'd suggest that fairly regularly you allow yourself a bit more time (much easier going home!) to explore alternative routes - especially for urban commuters. The most obvious routes are not always the best, you may find shortcuts that are faster or routes that are prettier or have less traffic or smoother surfaces or that you simply like better (or that are not really very different but allow you to vary your route from time to time "just because").

27.1.2 How Long Should a Road Tyre Hold Its Pressure?[3]

Question by Will [?]

How long should a road tyre be able to maintain a pressure of around 100psi, and what factors are likely to reduce this time?

Background:

My tyre pressures are consistently dropping to around 60psi after about a week (three commutes, total 50 miles), which makes the bike feel sluggish and less responsive.

[3] http://bicycles.stackexchange.com/questions/1147

I've only recently got a road bike, but I've always had mountain bikes - they've always held around 30 psi for weeks and weeks with no problems. I'm wondering if it's the higher pressure that's causing my tyres to need inflating more frequently, or something else?

This answer to another question, and some other answers I've seen suggest that you should check your tyre pressure every day, but is this to be cautious or are you likely to actually have to inflate your tyres every day?

Answer by tplunket [**?**]

Do yourself a huge favor, inflate them daily.

As they are high pressure and low volume they tend to lose air quicker than that of a tube that is low pressure and high volume (MTB).

With daily inflation checks you will vastly reduce the instances of pinch flats, which imo are typically the result of too low pressure. Butyl tubes, the typical tube, retain their pressure better than their Latex counterpart but still ... check regularly.

http://bicycles.stackexchange.com/questions/731/is-there-a-difference-in-having-tires-filled-with-co-vs-air This touches on why your tyres leak down (solubility etc).

27.1.3 How to Store a Bike outside & Still Avoid Rapid Decay?[4]

Question by Dimitri C. [**?**]

I've got insufficient space to store my bike inside. I fear however that it will rust away within a few years. My question is twofold:

A) Will this be a problem? B) What can I do to prevent this (and possibly other types of decay)?

Answer by Ian [**?**]

A small shed seems like the best option if you have space, some insulation inside the shed would help stop condensation.

[4]http://bicycles.stackexchange.com/questions/1120

A bike kept outside will rust given enough time, its gears etc will also not like being wet all the time. Just as importantly is more likely to get stolen if it is just left outside and I would always rather get on a dry bike then a wet/cold bike.

27.1.4 How to Clean up at Work after a Commute?[5]

Question by neilfein [?]

I would like to bicycle commute to work, but we don't have showers or any place I can change. How can I clean up and carry clothing? My office is business casual, but I need to look neat and presentable.

Answer by curtismchale [?]

I use a Chrome Metropolis messenger bag (waterproof) to carry my stuff. Lots of room to carry a laptop, shoes, clothes...If you can leave a pair of shoes at the office under your desk. I've known a few people with no shower to just use some baby wipes in the bathroom and get the essentials freshened up. Also leave deodorant at work and put it on.

27.1.5 How to Store Bikes inside a House or Unit with Limited Internal Space?[6]

Question by deemar [?]

Between my girlfriend and myself, we have 5 bikes of which 3 would ideally be stored inside (the two road bikes and my duallie). However, my house is a relatively small terrace house which doesn't have huge spare rooms on the ground floor for bike storage.

What is the best storage solution you've seen for keeping the bikes inside that:

Is compact and keeps the bikes relatively out of the way, Allows the bikes to be easily accessed for going on rides, Preferrably doesn't involve permanent fixtures on the wall, and Looks good?

[5] http://bicycles.stackexchange.com/questions/308
[6] http://bicycles.stackexchange.com/questions/1376

Answer by zigdon [**?**]

Friends of mine use a Two-Bike Gravity Stand, and are really happy with it. It doesn't require any modifications to your apartment, and does a pretty good job at keeping the bikes out of the way. For myself, I installed a pulley system, but that does involve drilling in the ceiling.

Chapter 28

Contractors & Serious DIYers

This chapter is shared and re-mixed from the Home Improvement[1] Q&A site.

28.1 Miscellaneous

28.1.1 Tools That Every Do-it-Yourselfer Must Own[2]

Question by Mike Sherov [?]

What are the tools that every DIY'er should have? This is a community wiki as there is no one right answer.

Instructions:

One item per answer (so they can be voted on - answers with multiple items will be voted down) Clear formatting like this:[ITEM NAME] [Reason why item is essential/useful/good] [Photo / other info]

Answer by Doresoom [?]

A cordless drill No doubt about it. I bought a DeWalt 14.4V three years ago, and it's been invaluable to me.

I'm not trying to promote any particular stores, but right now Lowe's has it on sale for $80 less than I bought mine for: DeWalt 14.4V Drill/Driver

[1] http://diy.stackexchange.com
[2] http://diy.stackexchange.com/questions/53

(Almost 1/2 off!)

28.1.2 What "code" Applies to Projects That I Do in My Own Home?[3]

Question by Portman [?]

A good portion of the answers and discussion on this site references "code".

What does a DIY-er need to know about code as it relates to project in their own home? Most of what I can find online either refers to commercial projects or third-party projects.

Also, which code applies? For example, I live in Fairfax County, Virginia, in the USA. It would seem that there are at least 3 levels of code that might apply:

Fairfax County Home Improvement Code State of Virginia Residential Code International Residential Code

Answer by Vebjorn Ljosa [?]

You need to contact your local building department. In the U.S., most of the residential building regulations exist at the state level, but in many states the codes can be amended by counties and even individual towns.

The International Residential Code and its competitors are "model codes." States often adopt model codes (with local modifications) to avoid the cost and hassle of writing their own codes from scratch, and also because it is beneficial for codes to be harmonized so that the same building materials can be used in different locations.

28.1.3 Is Flushing a Waterheater a Good Idea?[4]

Question by retracile [?]

I've been told that water-heaters build up sediment at the bottom over time, and should be flushed out (ie. drained, then allowed to refill). Is there value

[3] http://diy.stackexchange.com/questions/906
[4] http://diy.stackexchange.com/questions/1364

in this exercise? Does that value exceed the cost of the hot water lost in the process?

Answer by Niall C. [?]

It's part of the recommended maintenance for the heater, so there's definitely value in it. No matter how clean your water supply, there's always going to be some amount of sediment getting through, sand and grit or dissolved minerals. As the water sits in the heater's tank, that can settle out and build up on the bottom of the tank.

How much does it cost to heat a 50gal water tank from the temperature the of the water mains? 50gal = 50*3.785 = 189.25 L. Specific heat of water is 4.186 J/g/C, so it will take 4.186 * 1000 * 189.25 = 792.2 kJ to raise all the water in the tank by 1C. Assume the water comes in at 50F/10C and your water heater is set for 150F/66C, so you need 792.2 * 56 = 44.363 MJ. One unit or kWh of electricity has 3.6 MJ and electric water heaters are around 90% efficient these days, so you need about 13.5 kWh to heat the water to your set point.

In my area, electricity costs are about 10/kWh, so it would cost about $1.35 to flush and reheat the water tank. You only need to do it about once a year (and you could maybe get away with doing it less often if you had very clean water and lived in a soft-water area). Over the life of a water heater, you're looking at less than $20; compare that with the $100s that a new water heater costs.

Besides, won't you feel better knowing you don't have all that gunk in the bottom of your water heater? :)

28.1.4 Why Would You Use Copper over CPVC or PEX?[5]

Question by jlpp [?]

Are there any advantages to using copper rather than CPVC or PEX?

Answer by gregmac [?]

[5] http://diy.stackexchange.com/questions/1331

Copper has a well-proven track record Copper parts are more readily-available and it's easier to repair (eg, don't need the expensive crimping tool like with PEX) Safer during fires since it is much more resistant to heat and giving off fumes That said, I am a huge fan of PEX. It's been around for quite a few years now (though obviously nowhere near as long as copper), and for the most part is proven.

Pex is cheaper (in both material and labor costs), Pex is easier to install, with many less connections required (eg, try doing a long straight run through a wall or perpendicular through joists - PEX slides right in, copper requires a ton of little segmented pieces and couplers) Pex can look better when properly installed (when not properly secured, it sags, and because of the forgiving nature, you can have crooked lines and non-right angles).

28.1.5 Is It Worthwhile to Have Ductwork Cleaned?[6]

Question by Eric Petroelje [?]

Was rearranging some ductwork in my basement, and noticed that the stuff I took down was pretty filthy inside (especially the return air ducts).

Is it worthwhile to have ductwork cleaned out? What kind of (if any) efficiency benefits do you get out of it?

Answer by Rom [?]

It's not the efficiency which you get – it's less dust in the air. Less dust equals better health in the long run.

Lots of dust in the ducts is an indication of a bad air filter and/or leaks around the filter or in places where ducts join/turn. I'd look for that as well.

[6] http://diy.stackexchange.com/questions/439

28.1.6 It Takes a Minute or More for the Water to Become Hot from Any of the Faucets in My House – How Can I Speed This Up?[7]

Question by arathorn [?]

Our water heater (gas) is located in the garage, and is located 25-30ft from the closest faucet, which I'm guessing is the main reason for the delay. All the faucets in the house seem take take about the same amount of time to get fully hot water – at least a minute, sometimes more.

What are my options for reducing the time it takes to get hot water?

Answer by JD Long [?]

The best way to speed up hot water to the tap is through the use of a booster heater also known as a "point of use" hot water heater. This is a small (4 gallon) hot water heater installed very near the sink. If you need a lot of hot water but you want it to start fast you can install the hot water line as the supply for the point of use heater. That way you will have 4 gallons for immediate use and if you use that up you will be drawing hot water from your main hot water heater. If you don't need more than 4 gallons of hot water at the sink you can just use cold water as the supply. Here's an example of a point of use water heater for sale at Amazon.com.

[7] http://diy.stackexchange.com/questions/584

Chapter 29

Theoretical Computer Scientists & Researchers in Related Fields

This chapter is shared and re-mixed from the Theoretical Computer Science[1] Q&A site.

29.1 Miscellaneous

29.1.1 Major Unsolved Problems in Theoretical Computer Science?[2]

Question by Shane [?]

Wikipedia only lists two problems under "unsolved problems in computer science":

P = NP? The existence of one-way functions What are other major problems that should be added to this list?

Rules:

Only one problem per answer Provide a brief description and any relevant links

[1]http://cstheory.stackexchange.com
[2]http://cstheory.stackexchange.com/questions/174

Answer by Andrs Salamon [?]

Can multiplication of n by n matrices be done in $O(n^2)$ operations?

The exponent of the best known upper bound even has a special symbol, ω. Currently ω is approximately 2.376, by the Coppersmith-Winograd algorithm. A nice overview of the state of the art is Sara Robinson, Toward an Optimal Algorithm for Matrix Multiplication, SIAM News, 38(9), 2005.

29.1.2 Positive Topological Ordering[3]

Question by David Eppstein [?]

Suppose I have a directed acyclic graph with real-number weights on its vertices. I want to find a topological ordering of the DAG in which, for every prefix of the topological ordering, the sum of the weights is non-negative. Or if you prefer order-theoretic terminology, I have a weighted partial order and I want a linear extension such that each prefix has non-negative weight. What is known about this problem? Is it NP-complete or solvable in polynomial time?

Answer by mhum [?]

This problem appears to be very similar to SEQUENCING TO MINIMIZE MAXIMUM CUMULATIVE COST, problem [SS7] in Garey & Johnson. To wit:

INSTANCE: Set T of tasks, partial order $\prec$ on T, a "cost" $c(t) \in Z$ for each $t \in T$ (if $c(t) < 0$, it can be viewed as a "profit"), and a constant $K \in Z$.

QUESTION: Is there a one-processor schedule σ for T that obeys the precedence constraints and which has the property that, for every task $t \in T$, the sum of the costs for all tasks t' with $\sigma(t') \leq \sigma(t)$ is at most K?

I am uncertain whether the problem remains NP-complete when K is fixed to 0. G&J mention that the problem remains NP-complete if $c(t) \in \{-1, 0, 1\}$ for all $t \in T$.

[3]http://cstheory.stackexchange.com/questions/1346

29.1.3 Multiplying N Polynomials of Degree 1[4]

Question by Mihai [**?**]

The problem is to compute the polynomial $(a\_1x + b\_1) \times \cdots \times (a\_nx + b\_n)$. Assume that all coefficients fit in a machine word, i.e. can be manipulated in unit time.

You can do $O(n \log^2 n)$ time by applying FFT in a tree fashion. Can you do $O(n \log n)$?

Answer by Per Vognsen [**?**]

Warning: This is not yet a complete answer. If plausibility arguments make you uncomfortable, stop reading.

I will consider a variant where we want to multiply (x - a_1) ... (x - a_n) over the complex numbers.

The problem is dual to evaluating a polynomial at n points. We know this can be done cleverly in O(n log n) time when the points happen to be nth roots of unity. This takes essential advantage of the symmetries of regular polygons that underlie the Fast Fourier Transform. That transform comes in two forms, conventionally called decimation-in-time and decimation-in-frequency. In radix two they rely on a dual pair of symmetries of even-sided regular polygons: the interlocking symmetry (a regular hexagon consists of two interlocking equilateral triangles) and the fan unfolding symmetry (cut a regular hexagon in half and unfold the pieces like fans into equilateral triangles).

From this perspective, it seems highly implausible that an O(n log n) algorithm would exist for an arbitrary set of n points without special symmetries. It would imply that there is nothing algorithmically exceptional about regular polygons as compared to random sets of points in the complex plane.

[4] http://cstheory.stackexchange.com/questions/681

Bibliography

[1] Redbeard 0x0A. http://unix.stackexchange.com/users/361.

[2] a paid nerd. http://gaming.stackexchange.com/users/1437.

[3] Aaronut. http://cooking.stackexchange.com/users/41.

[4] AceCalhoon. http://rpg.stackexchange.com/users/77.

[5] AgCl. http://math.stackexchange.com/users/145.

[6] ajray. http://tex.stackexchange.com/users/39.

[7] AlexanderJohannesen. http://stackoverflow.com/users/45944.

[8] alexanderpas. http://gaming.stackexchange.com/users/29.

[9] Ben Alpert. http://tex.stackexchange.com/users/9.

[10] Am1rr3zA. http://apple.stackexchange.com/users/15.

[11] Am1rr3zA. http://unix.stackexchange.com/users/184.

[12] Ami. http://english.stackexchange.com/users/177.

[13] Evan Anderson. http://serverfault.com/users/7200.

[14] Appu. http://unix.stackexchange.com/users/515.

[15] Amir Arad. http://serverfault.com/users/135.

[16] arathorn. http://diy.stackexchange.com/users/177.

[17] Art. http://ui.stackexchange.com/users/1109.

[18] Jeff Atwood. http://android.stackexchange.com/users/85.

[19] Jeff Atwood. http://superuser.com/users/1.

[20] Jeff Atwood. http://webmasters.stackexchange.com/users/3.

[21] Alex B. http://webapps.stackexchange.com/users/1435.

[22] Jon B. http://cooking.stackexchange.com/users/73.

[23] Bara. http://webapps.stackexchange.com/users/1432.

[24] Michael Barth. http://gamedev.stackexchange.com/users/13.

[25] Nick Bedford. http://photo.stackexchange.com/users/609.

[26] beetlefeet. http://gamedev.stackexchange.com/users/581.

[27] Jason Berg. http://serverfault.com/users/33118.

[28] bifflechips. http://rpg.stackexchange.com/users/12.

[29] bigown. http://programmers.stackexchange.com/users/389.

[30] John P Bloch. http://wordpress.stackexchange.com/users/11.

[31] Andreas Bonini. http://stackoverflow.com/users/95135.

[32] Andreas Bonini. http://webmasters.stackexchange.com/users/141.

[33] brainimus. http://money.stackexchange.com/users/878.

[34] Brisbe42. http://rpg.stackexchange.com/users/153.

[35] Simon Brown. http://programmers.stackexchange.com/users/40.

[36] Simon Brown. http://webapps.stackexchange.com/users/20.

[37] Bryan. http://stackoverflow.com/users/72162.

[38] bryn. http://cooking.stackexchange.com/users/686.

[39] Bryson. http://superuser.com/users/83.

[40] Dimitri C. http://bicycles.stackexchange.com/users/480.

[41] Niall C. http://diy.stackexchange.com/users/22.

[42] Carlos. http://programmers.stackexchange.com/users/837.

[43] Casebash. http://wordpress.stackexchange.com/users/313.

[44] Casey. http://unix.stackexchange.com/users/17.

[45] S. Chang. http://money.stackexchange.com/users/5.

[46] ChaosPandion. http://programmers.stackexchange.com/users/712.

[47] Chealion. http://apple.stackexchange.com/users/17.

[48] Chris_O. http://wordpress.stackexchange.com/users/251.

[49] Jason Cianchette. http://answers.onstartups.com/users/277.

[50] cletus. http://serverfault.com/users/1232.

[51] RS Conley. http://rpg.stackexchange.com/users/93.

[52] Zach Conn. http://math.stackexchange.com/users/251.

[53] Crispy. http://cooking.stackexchange.com/users/114.

[54] Cristi. http://android.stackexchange.com/users/37.

[55] curtismchale. http://bicycles.stackexchange.com/users/30.

[56] Steven D. http://unix.stackexchange.com/users/1207.

[57] Geoff Dalgas. http://webmasters.stackexchange.com/users/2.

[58] Damo. http://webapps.stackexchange.com/users/98.

[59] Damovisa. http://wordpress.stackexchange.com/users/116.

[60] danivovich. http://android.stackexchange.com/users/30.

[61] Adam Davis. http://electronics.stackexchange.com/users/161.

[62] deemar. http://bicycles.stackexchange.com/users/350.

[63] Adam Dempsey. http://apple.stackexchange.com/users/22.

[64] Bryan Denny. http://android.stackexchange.com/users/10.

[65] dharmesh. http://answers.onstartups.com/users/4.

[66] Donnniegoat. http://apple.stackexchange.com/users/590.

[67] Donut. http://cooking.stackexchange.com/users/17.

[68] Doresoom. http://diy.stackexchange.com/users/20.

[69] Drake. http://wordpress.stackexchange.com/users/36.

[70] Adam Dray. http://rpg.stackexchange.com/users/254.

[71] Raven Dreamer. http://gaming.stackexchange.com/users/336.

[72] Drew. http://gamedev.stackexchange.com/users/277.

[73] dsp. http://unix.stackexchange.com/users/263.

[74] Chris Dwyer. http://english.stackexchange.com/users/61.

[75] EAMann. http://wordpress.stackexchange.com/users/46.

[76] Eddie. http://serverfault.com/users/808.

[77] O Engenheiro. http://money.stackexchange.com/users/845.

[78] David Eppstein. http://cstheory.stackexchange.com/users/95.

[79] Farseeker. http://webmasters.stackexchange.com/users/138.

[80] Fernando. http://gaming.stackexchange.com/users/2361.

[81] finnw. http://programmers.stackexchange.com/users/113.

[82] Fishtoaster. http://programmers.stackexchange.com/users/6.

[83] Ivo Flipse. http://webapps.stackexchange.com/users/17.

[84] fmark. http://gis.stackexchange.com/users/145.

[85] Franz. http://ui.stackexchange.com/users/526.

[86] gabe. http://unix.stackexchange.com/users/298.

[87] gabeanderson. http://money.stackexchange.com/users/92.

[88] Gary.Ray. http://bicycles.stackexchange.com/users/213.

[89] Marius Gedminas. http://ubuntu.stackexchange.com/users/136.

[90] GeekPunk. http://www.geekpunk.com.au/.

[91] George. http://gis.stackexchange.com/users/5.

[92] Andy Giesler. http://gaming.stackexchange.com/users/862.

[93] Colin Gislason. http://gamedev.stackexchange.com/users/8.

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[115] iconiK. http://ui.stackexchange.com/users/271.

[116] ilhan. http://webmasters.stackexchange.com/users/23.

[117] Jason. http://answers.onstartups.com/users/2.

[118] Jason. http://serverfault.com/users/4600.

[119] Jason. http://webmasters.stackexchange.com/users/15.

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[124] Jin. http://ui.stackexchange.com/users/4.

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[127] jmb. http://webmasters.stackexchange.com/users/1979.

[128] Joey. http://superuser.com/users/2054.

[129] Johnson-Leung. http://tex.stackexchange.com/users/200.

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[131] Ray J.Stomach. http://english.stackexchange.com/users/229.

[132] jtimberman. http://superuser.com/users/90.

[133] Justblair. http://electronics.stackexchange.com/users/312.

[134] Guillaume Justier. http://answers.onstartups.com/users/1636.

[135] Josh K. http://apple.stackexchange.com/users/10.

[136] kajdehoop. http://superuser.com/users/8273.

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[138] kevin42. http://gamedev.stackexchange.com/users/204.

[139] killown. http://programmers.stackexchange.com/users/2369.

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[144] kristof. http://superuser.com/users/2267.

[145] lala. http://programmers.stackexchange.com/users/1984.

[146] lathomas64. http://gamedev.stackexchange.com/users/1477.

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[152] lomaxx. http://cooking.stackexchange.com/users/125.

[153] JD Long. http://diy.stackexchange.com/users/193.

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[188] Grace Note. http://gaming.stackexchange.com/users/85.

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[191] Jeff O. http://programmers.stackexchange.com/users/855.

[192] orj. http://ui.stackexchange.com/users/539.

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[194] papin. http://cooking.stackexchange.com/users/183.

[195] pelms. http://webapps.stackexchange.com/users/213.

[196] Eric Petroelje. http://diy.stackexchange.com/users/44.

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[213] retracile. http://diy.stackexchange.com/users/372.

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[216] robin girard. http://stats.stackexchange.com/users/223.

[217] Rom. http://diy.stackexchange.com/users/162.

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[221] Chris S. http://android.stackexchange.com/users/46.

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[223] saimas. http://stats.stackexchange.com/users/83.

[224] Andrs Salamon. http://cstheory.stackexchange.com/users/109.

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[227] Seidleroni. http://electronics.stackexchange.com/users/107.

[228] Senseful. http://webapps.stackexchange.com/users/207.

[229] Shane. http://cstheory.stackexchange.com/users/7.

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[251] TaxQueries.com. http://money.stackexchange.com/users/251.

[252] Tetrad. http://gamedev.stackexchange.com/users/51.

[253] theotherreceive. http://unix.stackexchange.com/users/62.

[254] TheSteve0. http://gis.stackexchange.com/users/57.

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[261] txwikinger. http://ui.stackexchange.com/users/27.

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[267] Ravi Vyas. http://android.stackexchange.com/users/17.

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