**Dreaming in Code Questions**

**Overarching Themes**

**Pay attention / record** the various roles that software engineers have on the Chandler Project.

**Pay attention / record** the many scheduling issues related to Chandler Project.

**Chapter 0**

1. Who wrote “software is hard?” Who is that guy?
   1. Donald Knuth the author of the programming field's most respected textbooks.
2. Programmers start counting at what number?
   1. Zero.
3. What was the original sense of a “hacker?”
   1. An obsessive programming tinkerer.
4. According to a 2002 NIST study what % of software came in significantly late, over budget, or was canceled?
   1. 66.67%
5. Who wrote the 1987 essay entitled “No Silver Bullet?”
   1. Frederick P. Brooks Jr. The expert who in many ways founded the modern field of software studies.

**Chapter 1**

1. What roles in the Chandler project did Michael Toy, John Anderson, Ted Burgess, Mitchell Kapor, and Lou Montulli hold.
   1. Toy was the manager.
   2. Anderson was the systems architect and projects leader. He has also written for Macintosh and has been a manager for Steve Jobs.
   3. Burgess was a young programmer at the time.
   4. Kapor was the father of Chandler and the found and funder of the Open Source Application Foundation.
   5. Montulli wrote key parts of the Netscape browser.
2. What is “[Bugzilla](http://www.bugzilla.org/)?”
   1. A program that holds lists of bugs and used to track all programming tasks that must be completed before the project can be released.
3. What is [OSAF](http://www.osafoundation.org/)?
   1. Open Sources Application Foundation.
4. What is the projects name?
   1. Chandler
5. What will the software do?
   1. Will be a Personal Information Manager (PIM). It will store calendars, emails, and to-do lists.
6. What is Toy’s keyword for “black hole” bugs?
   1. "Scary."
7. What scared Toy so much about Bug 44?
   1. The impossibility of knowing how long it would take to fix.
8. What did Toy refer to as a “snake?”
   1. A difficult and important problem that we don’t have a consensus on how to attack.
9. In the software world, what does “slippage” mean?
   1. The peculiar resistance of software projects to routine scheduling.
10. Fredrick Brooks was a programming manager for what software project?
    1. The creation of the operating system for the IBM system 360
11. What is [Brooks's Law](http://scottberkun.com/2006/exceptions-to-brooks-law/)?
    1. That adding manpower to a late software project makes it even later.
12. Brooks found what % of project time was spent writing code?
    1. 16.67%
13. Brooks found what % of project time was for testing and fixing bugs?
    1. 50%
14. Brooks observed that the unit of effort named “man-month” only applied under what conditions?
    1. He observed that men and months are interchangeable commodities only when a task can be partitioned among many workers with no communication among them and that they provide equal quality work.
15. What is the difference between source code and the program you install (.exe) on your computer?
    1. Commercial programs are typically binary. Companies do this to protect their secrets.
    2. Source code is actual human written code that you can look at, copy, and build on top of.
16. What is the one “article of faith” that all “open source” or “free” software advocates share?
    1. That software anyone can tinker with is bound to improve over time in ways that "closed" software can't match.
17. What is the difference between a “good” programmer and a “great” programmer?
    1. Good programmers know what write, great programmers know what to rewrite.
18. Eric Raymond’s book “[The Cathedral and the Bazaar](http://www.catb.org/esr/writings/cathedral-bazaar/)” made a distinction between two important project development ideas, briefly contrast them.
    1. Raymond believed that there needed to be structure, peace, serenity, time, and a few good men to have an outstanding project development.
    2. Whereas Torvald's project development relied on being open, releasing early and releasing often.
19. Has “open source” software project development refuted Brooks’s “mythical man-month” concerns?
    1. Yes, but only to an extent. It will only work with cheap and widespread access to a network with reliable communication among developers. In addition, it would need storage of common knowledge and code with a rise of a cooperative group ethos built around a leadership style.
20. What was [Andy Hertzfeld](http://andy.hertzfeld.usesthis.com/)’s input when the Chandler project appeared to have stalled?
    1. That they need to get going and modify later. He believes the key is getting exciting work going and the rest will follow.

**Chapter 2**

1. What was the lifetime as a supported product, of Lotus 123? When did Kapor walk away from it? Why did he walk away from it?
   1. Lotus was built for IBM pc in 1982. It was a spreadsheet to show the speed and power of the machine. Kapor walked away in July 1986 because he didn’t like his own success. He felt his success was overwhelming on a personal level.
2. What does it mean for a program to “fork?”
   1. Means to respond to technical disagreements by splitting into rival camps.
3. Linus Torvalds used a “science” and “witchcraft” analogy referring to software, explain.
   1. It's a metaphor. Science (open source) is when you learn, build on top of, and can look at other results. Witchcraft (traditional software) is when someone has a secret and guards it. Like in history witchcraft dies out.
4. Who, where, when demonstrated one of the first PIM software programs?
   1. Douglas Engelbart in1968 at the San Francisco convention center.
5. People often refer to starting their computer as “booting” their computer. What was the origin of this term?
   1. From the term pulling oneself up by the bootstraps.
6. Where was the graphical user interface (GUI) developed?
   1. At the Xerox research center in Palo Alto.
7. List three software project “train wrecks.”
   1. Trilogy (FBI)
   2. IRS system upgrade
   3. Pentagon's "Future Combat System"