

OBG Onboarding Week1

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Outline for today:

- Introductions
- Why are we here?
- Administrative stuff
- Overview of this course
- Week1 content

Introductions

3 things about yourself

Name? Grade? Why do you want to learn more about blockchains?

You should be here to learn!

Technology pipeline

Product ← Engineering ← Research

What I want you to do in this club

Don't spend all your time being consumers! Most interesting stuff in crypto is happening at the research level, if you don't dive deep all you will take away from OBG is niche knowledge and non-transferable skills.

The closer you are to the research the more valuable skills you will learn (by research I mean academic papers on websites like Arxiv and IACR)

Admin - General club stuff

- 1) Join the telegram: https://t.me/+fwBze7_w50U2N2Mx
- 2) Club overview, requirements, and structure

General meetings 6pm Tuesdays, Onboarding meetings 6pm Wednesdays, optional Dapp division meetings 6pm Thursdays.

Require members to do 1 deliverable per term (research article, twitter thread, deploying a smart contract, etc)

Want everyone to focus on research, but business/finance/econ people more useful towards building our investment fund and compsci/technical people more useful for building projects like the DAO.

Admin - Onboarding stuff

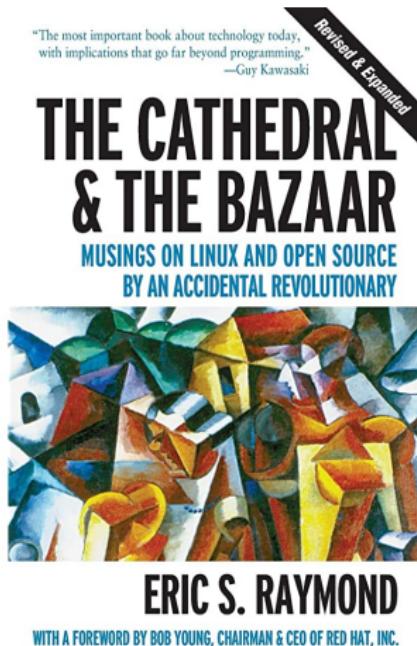
- 1) Syllabus
- 2) Structure: Meetings 6pm Wednesday, homework assigned after every meeting, deliverable due at the end of the course. All of you are going to present something at one of the general meetings.

Week1 Content

Lets get into week1 content!

Today is going to be about helping you build a mental model
about why blockchains are important

Week1 Content - Cathedral and Bazaar



Week1 Content - Cathedral and Bazaar

Very famous essay published in 1999, later turned into a book

Book is prefaced by a note about how many industries have been monopolized and are controlled by a couple of big companies

These monopolies have imposed legal restrictions to protect proprietary information (ie: trade secrets) and their businesses. This slows innovation and gives these companies a lot of control over their consumers.

This monopolization led to a movement out of the hacker community which created open-source software.

Week1 Content - Cathedral and Bazaar

Open-source software: Open-source software (OSS) is computer software that is released under a license in which the copyright holder grants users the rights to use, study, change, and distribute the software and its source code to anyone and for any purpose. Open-source software may be developed in a collaborative public manner. Open-source software is a prominent example of open collaboration, meaning any capable user is able to participate online in development, making the number of possible contributors indefinite. The ability to examine the code facilitates public trust in the software.

Typically licensed as Apache 2.0, GNU, MIT, CC0

Can think of OSS as software developed by the collective community

Week1 Content - Cathedral



Week1 Content - Cathedral

Book uses the metaphor of a cathedral to symbolize software developed by monopolies

This type of software is built top-down by a single team, how it was built is usually kept a secret.

Think about videogame studios, applications like facebook, operating systems like macintosh or windows. Developers who want to add to these things typically are not able to because the APIs are hidden or not available.

Week1 Content - Cathedral

Why is this bad?

Stifles innovation, doesn't allow collaboration or the ability for people to build on top of it as they don't know how it works, gives consumers very little power over the platforms they use.

Ex: Content creators are subject to tiktok/youtube/etc policies, revenue sharing strategies, and censorship/platform risk.

Cathedral technology is very asymmetric between its creators and consumers

So what's the alternative?

Week1 Content - Bazaar



Week1 Content - Bazaar

Book uses the metaphor of a Bazaar to symbolize collaborative software development (made possible by open source software)

A bazaar/marketplace is not planned out, vendors come and compete against each other for spots. The existence of these vendors allows restaurants to exist nearby, which promotes more activity, etc etc

With regards to software, this style of development allows applications to develop more organically and in theory, produce a better and more equitable product than cathedral development.

How come this bazaar style development isn't more popular?

Week1 Content - Bazaar

Problems with the Bazaar

Incentivizing collaborative/distributed/decentralized software development is really hard! Proprietary software is really easy to monetize. Bazaar approach is not. Requires a different business model.

Platform risk. No one wants to build on top of another piece of software if there is a risk of their work being censored or shut down. Ex: people trying to build 3rd party applications on top of apps like twitter and getting shutdown, cease and desist letters, and lawsuits.

There is a risk of using open-source developer tooling if people stop maintaining it. A single downstream dependency could ruin your project.

Week1 Content - Problems with the Bazaar

TheVerge / Tech / Reviews / Science / Entertainment / More +

TWITTER / TECH / EDITORIAL

The third-party apps Twitter just killed made the site what it is today



A surprising amount of the Twitter experience came from alternative apps – and now they're gone.

The Verge

By MITCHELL CLARK
Jan 22, 2023, 8:00 AM PST | □ 62 Comments / 52 New

Illustration by Alex Castro / The Verge

The age of great third-party Twitter clients may be over. After Twitter cut off their API access and changed its rules to bar apps that compete

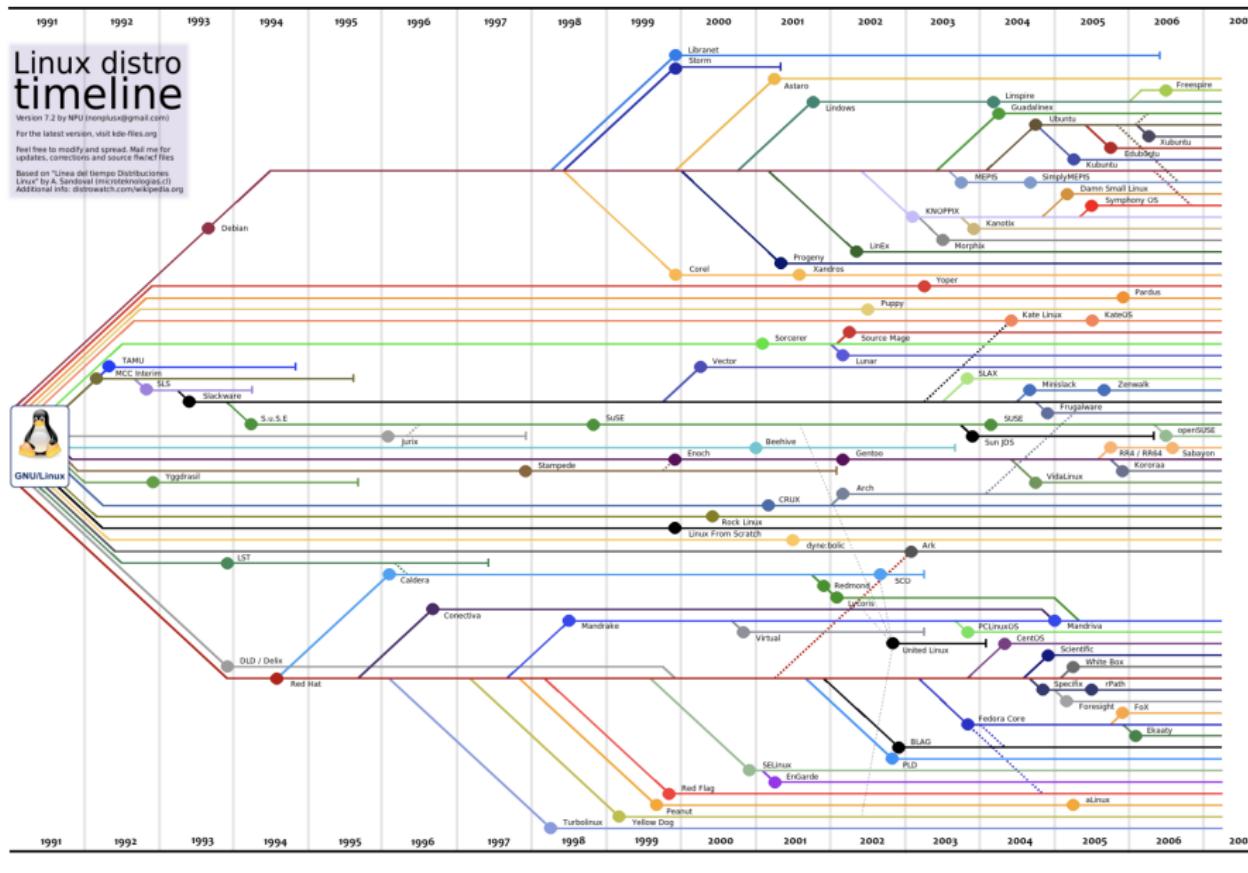
Week1 Content - Bazaar

For bazaar style development to be successful it requires a special set of conditions.

Not all software development will necessarily be better in the bazaar. Oftentimes proprietary licensing is necessary to encourage engineers to take on long-term projects due to the amount of risk they take on.

Historically we have seen the bazaar approach struggle due to misaligned incentives (ex: twitter killing third-party apps and adding it themselves). Most consumer tech we use is cathedral style, for the bazaar to succeed we need a base layer platform that encourages collaborative development.

Week1 Content - Bazaar



Week1 Content - Blockchains

Blockchains can solve these problems!

Need a software platform that is community owned, censorship-resistant, and provides guarantees that applications you build on top will continue running forever.

Turns out blockchains are perfect for this! Only software platform that anyone can add data, but no one can remove or change data without consent of the ENTIRE community. No platform/censorship risk!

It's the only database that isn't controlled by a single corporation or entity. Blockchains are also very robust networks and can tolerate many different type of failures. State is synchronized across all nodes even in the face of adversarial behavior (state-level attacks!).

Week1 Content - Blockchains

What does all of this mean?

Blockchains are the ultimate software development platform for applications that thrive in a bottom-up development environment.

If you believe that collaboration is the best way to solve problems, blockchains are software's best bet.

Why do we care about software?

"Software is eating the world" - Marc Andreessen, founder of A16Z, 35B AUM

ChatGPT, applications on your phone, key infrastructure for businesses, almost everything in the tech industry is software!

Week1 Content - Blockchains

Why do blockchains have such good immutability and censorship guarantees?

That is next week's topic! Going to have to take my word for now.

From OSS definition: "The ability to examine the code facilitates public trust in the software". Core concept to blockchains! To access the blockchain as a first-class citizen you have to run a node, which has a built in function that examines the blockchain to make sure it hasn't been tampered with. This builds trust in the blockchain!

Week1 Content - Blockchains

Week2

Important: Blockchains make tradeoffs in performance and scalability for their censorship-resistant properties. Many software applications that will always be better on traditional client-server models. Blockchain scaling is a trillion dollar problem!

Although in theory blockchains are great for bazaar style applications to live on, still requires a culture of people open-sourcing and peer-reviewing each others work. Contract data on blockchains is public, however without the source code (code that hasn't been compiled to bytecode) its impossible to tell what the application does or whether it's safe to use.

Homework: Read Pet3rpan before bitcoin series (will post the link in the telegram chat)