KubeCon EU SIG-ContribX Deep Dive

Developer Guide

http://bit.ly/k8sdevguide

Problem Statement

- Developer guide today is extremely outdated (avg 3-4mo's ~= forever)
  - https://git.k8s.io/community/contributors/devel
  - https://github.com/kubernetes/community/issues/1919
- Lacks details of dev/build/test cycle
- Growing community of dev's need good info
- Tragedy of commons
- Need active/sustained volunteers...group ownership

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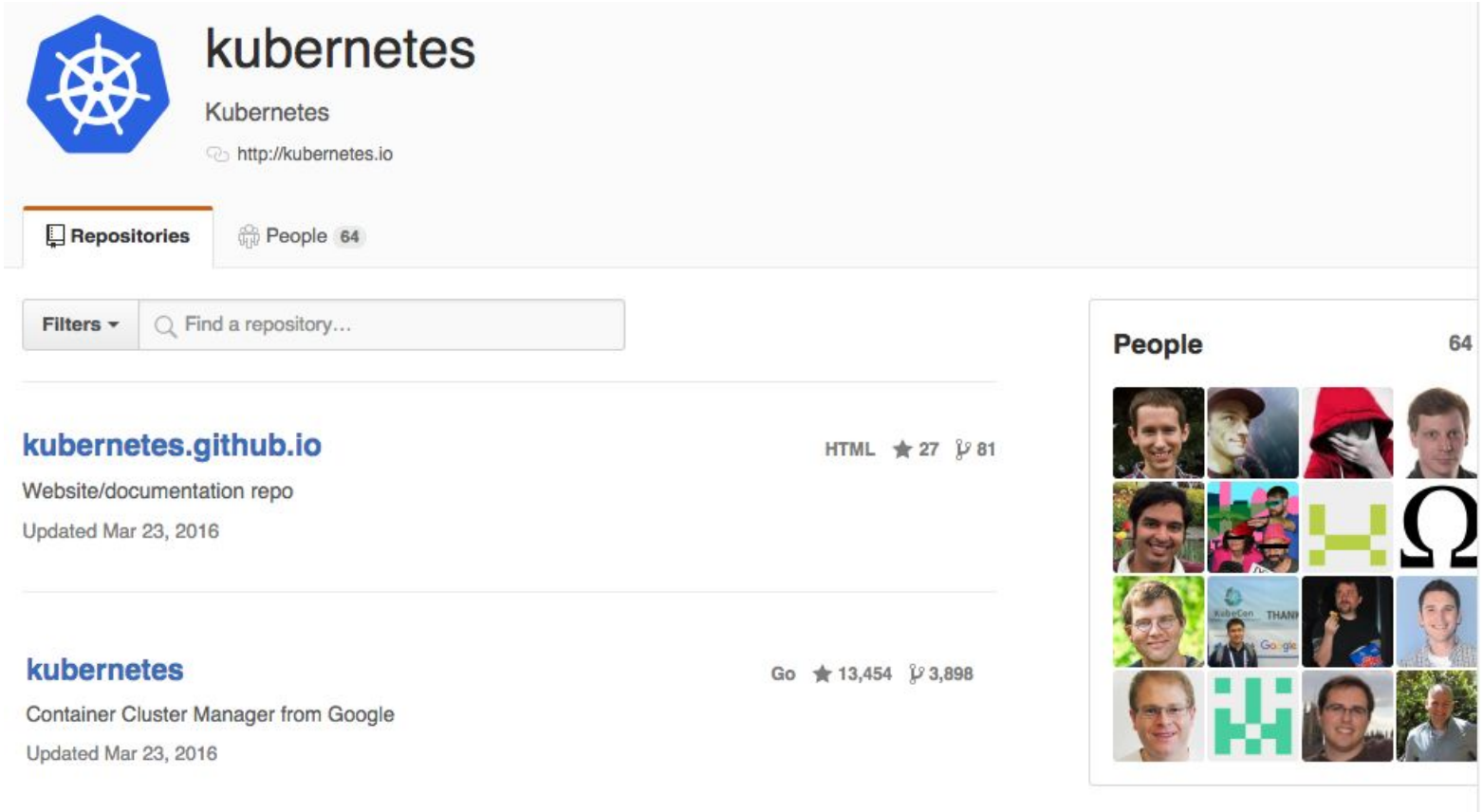
K8s 2016



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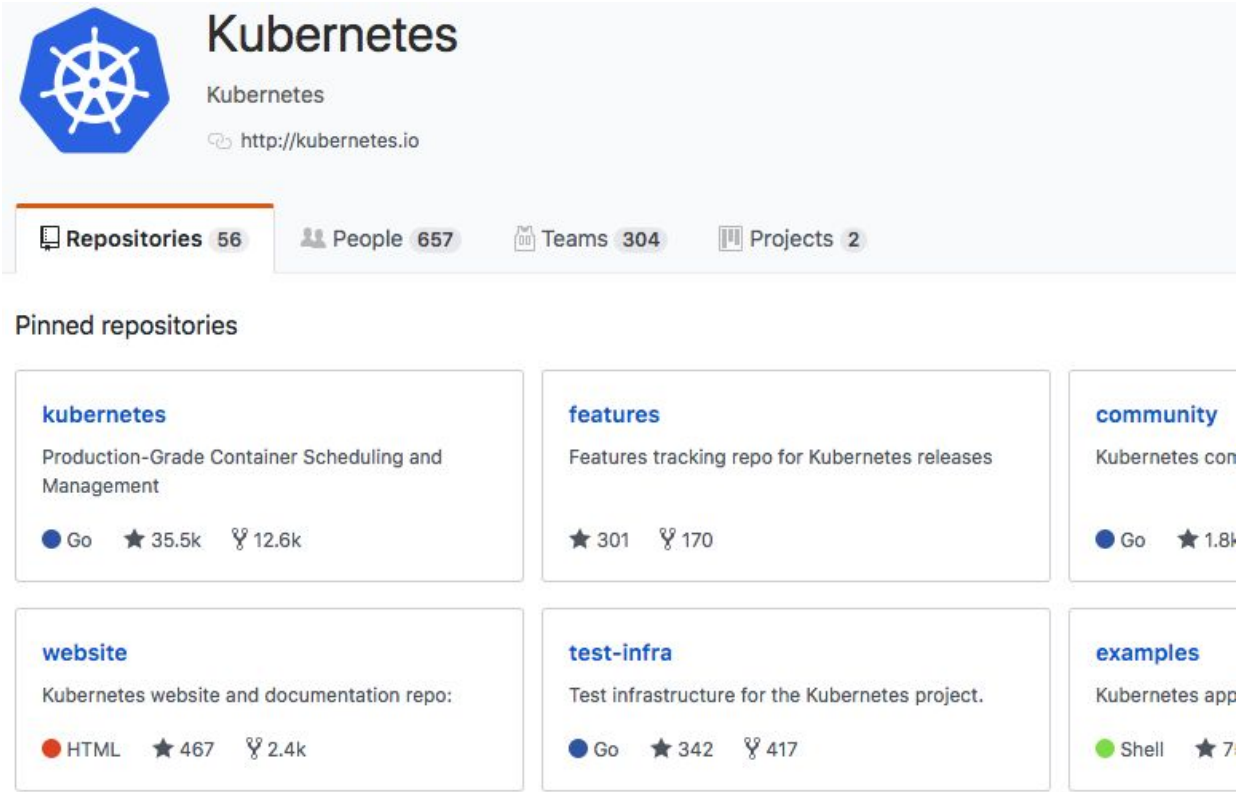
K8s 2018



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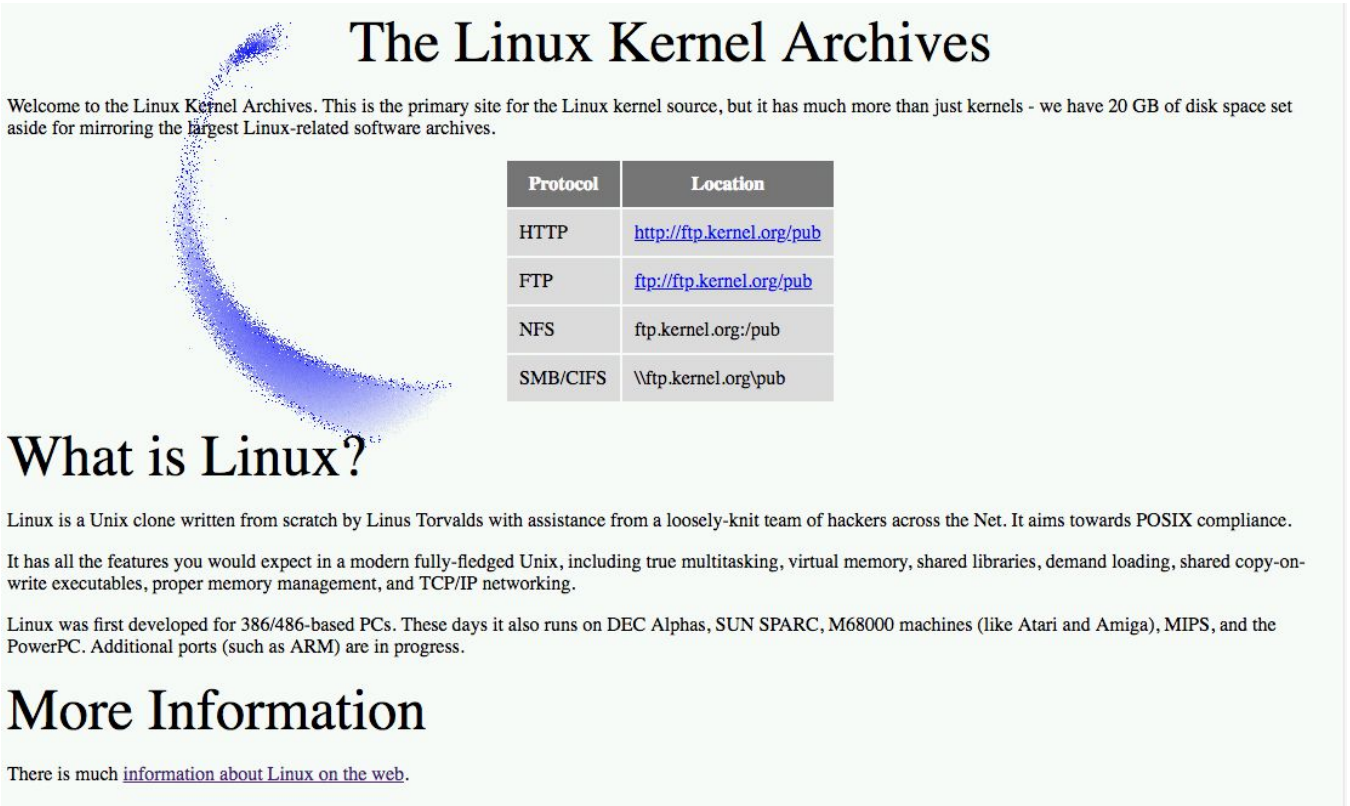
An analogy



The Linux Kernel Archives

Welcome to the Linux Kernel Archives. This is the primary site for the Linux kernel source, but it has much more than just kernels - we have 20 GB of disk space set aside for mirroring the largest Linux-related software archives.

Protocol	Location
HTTP	http://ftp.kernel.org/pub
FTP	ftp://ftp.kernel.org/pub
NFS	ftp.kernel.org:/pub
SMB/CIFS	\\ftp.kernel.org\pub

What is Linux?

Linux is a Unix clone written from scratch by Linus Torvalds with assistance from a loosely-knit team of hackers across the Net. It aims towards POSIX compliance.

It has all the features you would expect in a modern fully-fledged Unix, including true multitasking, virtual memory, shared libraries, demand loading, shared copy-on-write executables, proper memory management, and TCP/IP networking.

Linux was first developed for 386/486-based PCs. These days it also runs on DEC Alphas, SUN SPARC, M68000 machines (like Atari and Amiga), MIPS, and the PowerPC. Additional ports (such as ARM) are in progress.

More Information

There is much information about Linux on the web.

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An analogy

Cool Linux Sites

These are Linux sites maintained by people with lots of free time.

Linux Documentation Project
: The canonical set of Linux online and printed documentation.

linux.org
: Linux information

uk.linux.org
: Linux information from Great Britain (very good!)

Linux International
: An organization for promoting the use of Linux.

Linux v2 Information Headquarters
: Linux 2.0 upgrade information and patches, along with other info.

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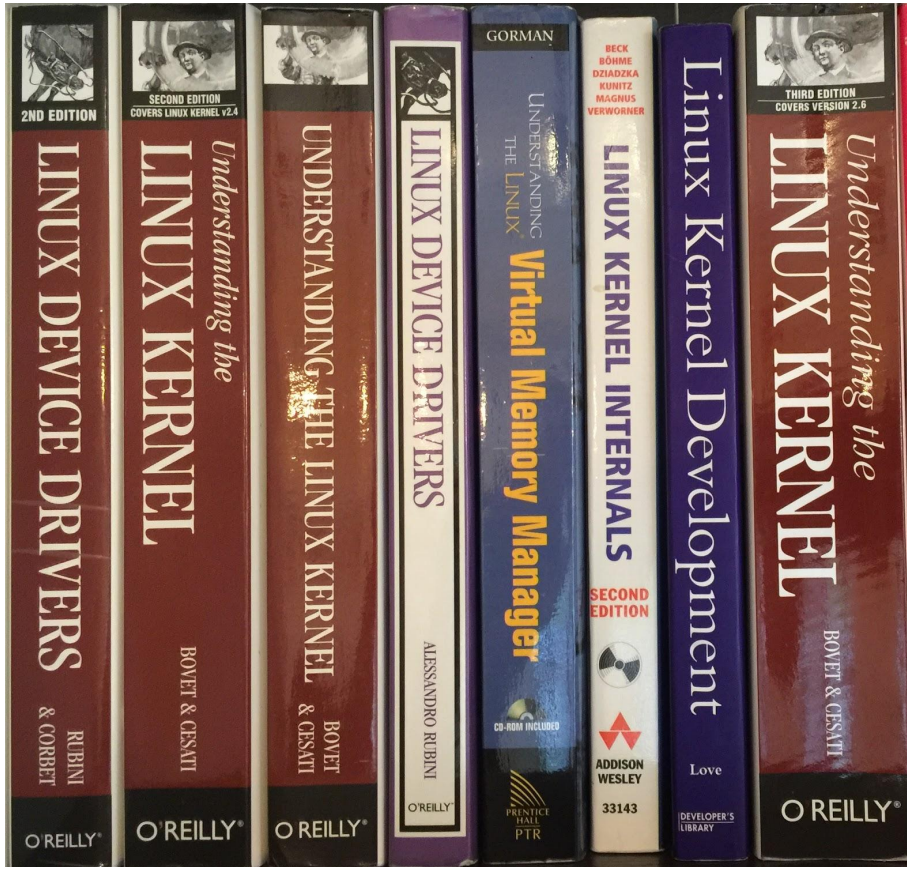
An analogy



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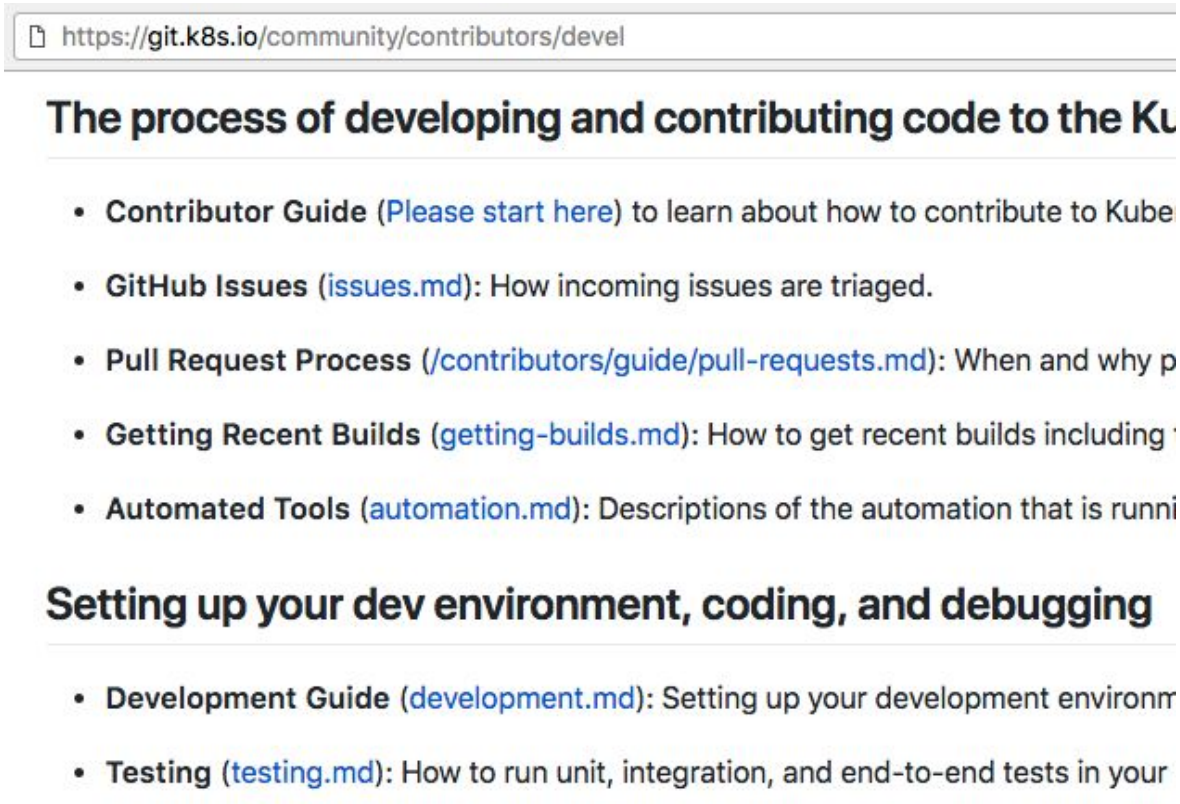
K8s Internals Developer Online Docs Today



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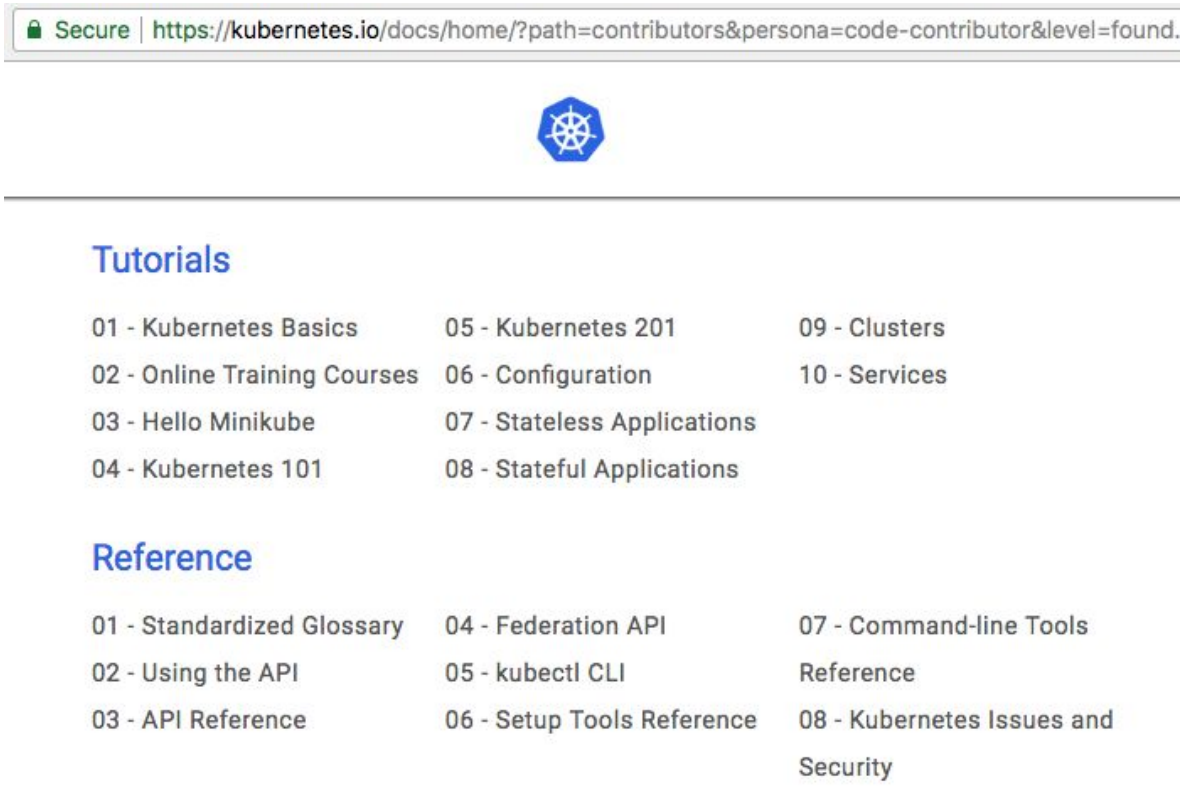
K8s Internals Developer Online Docs Today



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K8s Internals Developer Bookshelf Today

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K8s Internals Developer Bookshelf Today ...is not

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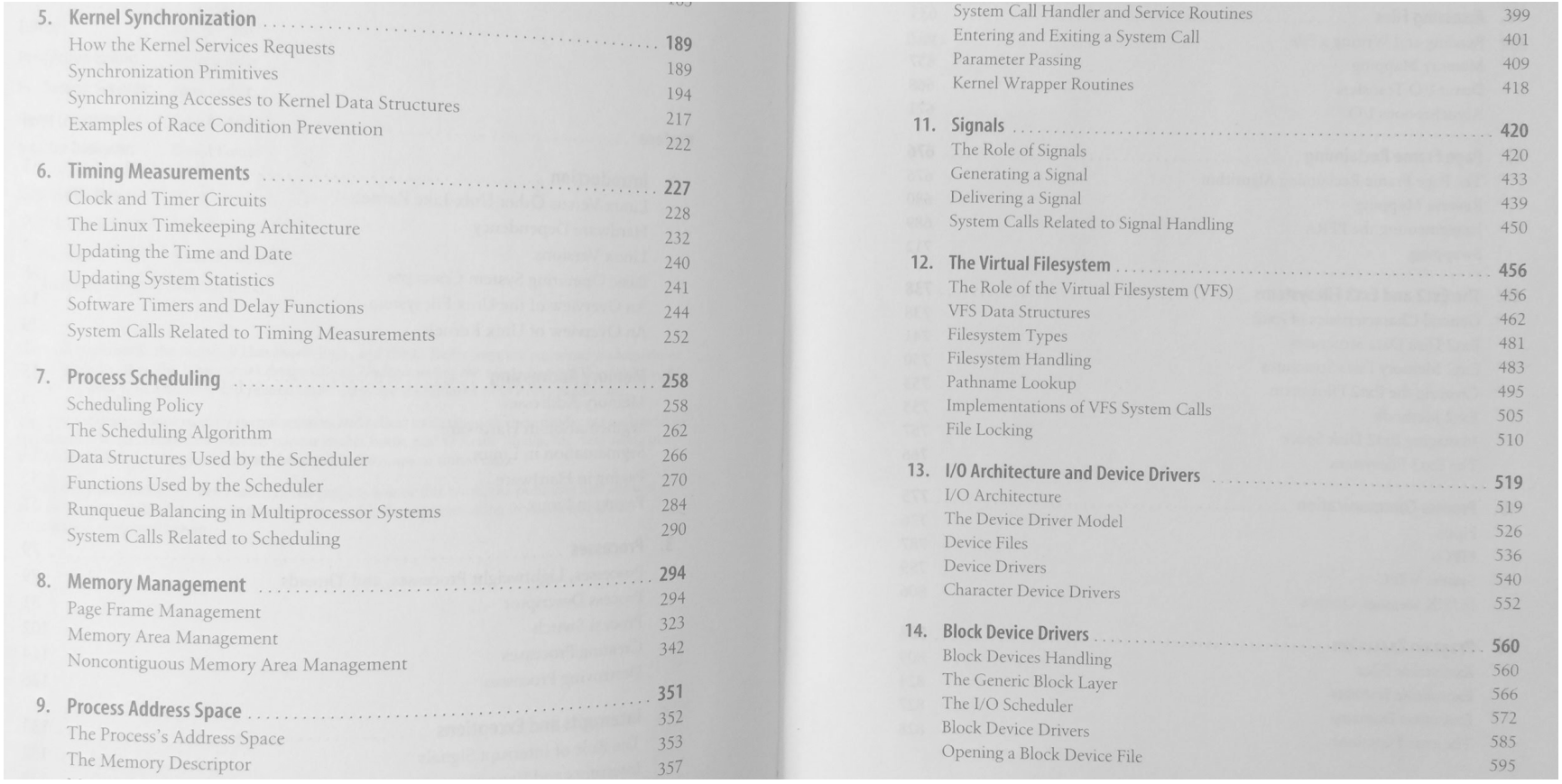
How do we get to:



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What's missing

Comprehensive

- architectural big picture
- core component list
- per component details

Not too hard to draft at high level, but details take time and needs active volunteers.

Curating sufficiently detailed yet abstract text (to minimize ongoing maintenance requirement) is a challenge.

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This could just be Subprojects List

https://git.k8s.io/community/sigs.yaml

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This could just be Subprojects List

...that's a yaml file

Yaml is not for humans.

Need us humans to build from this things that are human consumable:

Contrib-X → automate yaml to web listing ToC?

→ new repo requires SIG update their subprojects/repos list

→ survey subprojects → do they have a README?

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This could be community/contributors/devel

Today that is a tragedy of the commons.

Incomplete. Out of date. Even irrelevant. No organization

adding-an-APIGroup.md	removed autogenerated munge analytics from files	6 months ago
api-conventions.md	fix a bad punctuation	3 months ago
api_changes.md	Add the requirement that GA/stable APIs must have conformance tests, ...	3 months ago
arch-roadmap-1.png	Added architectural layers diagram, placeholder for Summary section.	6 months ago
architectural-roadmap.md	Use git.k8s.io for links	4 months ago
automation.md	Use git.k8s.io for links	4 months ago
bazel.md	Use git.k8s.io for links	4 months ago
cherry-picks.md	simplify the cherry pick process documentation	13 days ago
client-libraries.md	removed autogenerated munge analytics from files	6 months ago
collab.md	removed unnecessary link from guide README, also removed duplicate te...	4 months ago

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This could be community/contributors/devel

carlpett commented on Mar 21

As a wishlist for how the docs could have been structured in a way that I would have found intuitive, something like this (sort of a step-by-step style):

- Prerequisites: Getting the code and development tools (not necessarily covering the "running" part here, just what you'll need to compile it)
- Navigating the code base (what components live where, the gotcha regarding k8s.io/vendoring, ...)
- Making a small change (some simple demonstration about what is required to do some typical first change)
- Building your change (could have this before the change part, but since just compiling your change will take ~10-15 minutes, there's a high risk of losing people if they have to do it twice..)
- Running your changed Kubernetes (might be merged with the previous one? Will get long, though...)
- Adding a test
- Making a PR
- (Quick start: Alternative route for the impatient/short summary for reference - commands required to get up and running, etc)

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community/contributors/devel

This needs:

- Active owners overall for the guide
- Group consensus on the main top level ToC items that are needed
  - Do we top down this? With a list of ToC items we think are the most important?
  - Do we bottom up this? SIGs docs, if existing, link into some ToC?
- Incentives for content creation from SME's
- Incentives for review from SME's

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Call to action

We've had a lot of talk on the basic idea

We don't have a set of people working on it

If you have opinions on this, share them with is PLEASE

- Are there docs you know need help/moved: open an issue..right now
- Do you disagree, think it's mostly good...come up here and share your screen and talk us through it
- Do you have automation ideas?
- Umbrella issue: https://github.com/kubernetes/community/issues/1919

If you have a vision for what it should look like? Get involved in improving it:

- SIG-ContribX -> Subproject Devel Guide

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Timeline?

What's realistic?

Swarm on it the next 3 months?