



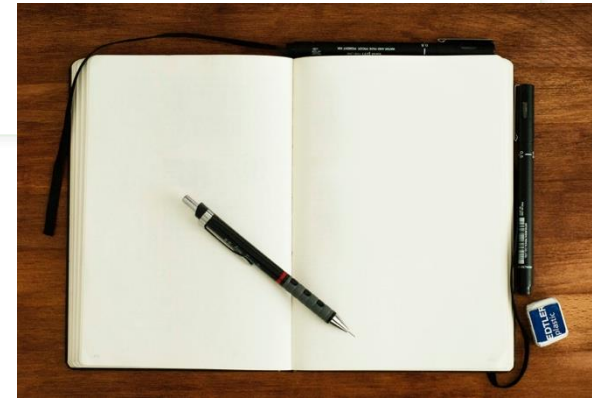
A Friendly Introduction to Software Documentation

Recap and Concluding Thoughts

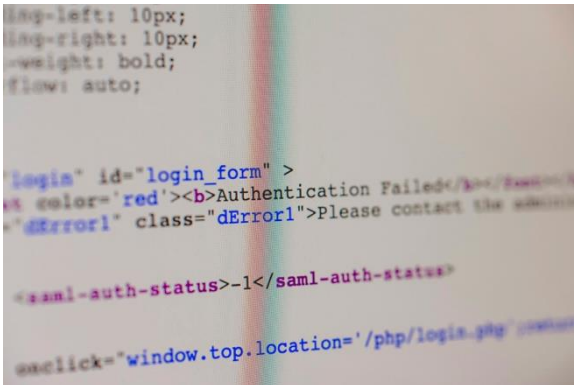
By Arist Bravo

What is Documentation?

- Any item which conveys information about software
- 2 types: technical docs (for SWEs) and user manuals (for users)
- Our focus: technical docs
- EX of technical docs:



List of Specifications



Source Code

```
// Output the tickets  
System.out.println(ticket_string);
```

Comments and
READMEs

Flight
flightNumber : Integer departureTime : Date flightDuration : Minutes
delayFlight (numberOfMinutes : int) : Date getArrivalTime () : Date

Diagrams and Code for Classes

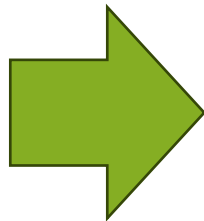
Why is Documentation Important?

- Researchers found:
- Documentation gives key info about the projects you code
- OOP developers look at source code, comments, classes, etc. for help as they program
- 61.5% of surveyed developers saw documentation as moderately important (Plösch et al.)

Flight

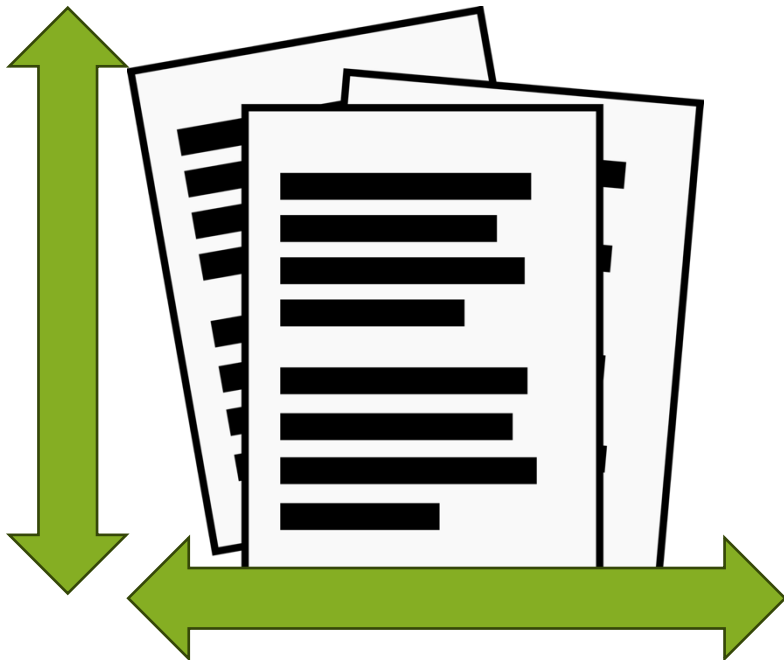
```
flightNumber : Integer  
departureTime : Date  
flightDuration : Minutes
```

```
delayFlight ( numberOfMinutes : int ) : Date  
getArrivalTime ( ) : Date
```

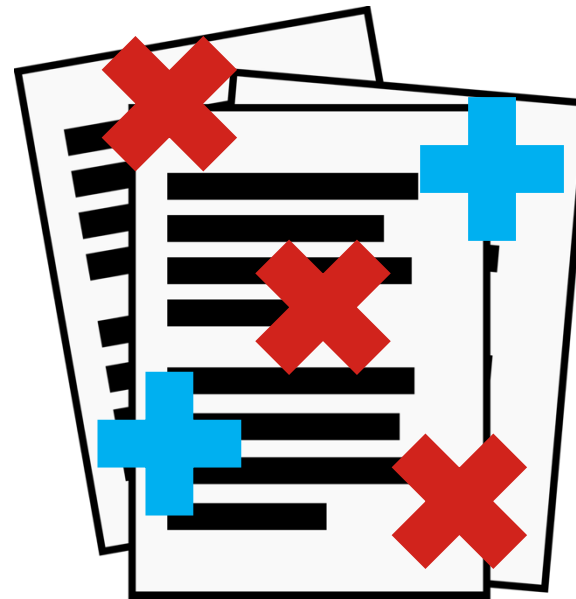


Defining "Good Documentation"

- There are different approaches or theories which define "good documentation"
- Broadly 2 types of theories:
 - How to *design* docs
 - How to *assess* docs



VS



Our Dimension-Based Framework, ACCEU

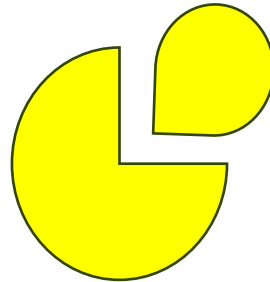
- We choose the dimension-based framework since it is commonly used (see references) and provides rules-of-thumb for "good documentation"
- After all: most documentation is written without standards!
- We study five (unordered) qualities/dimensions based on common use:



Accuracy



Clarity



Completeness



Ease-of-use



Up-to-dateness

ACCEU's Components



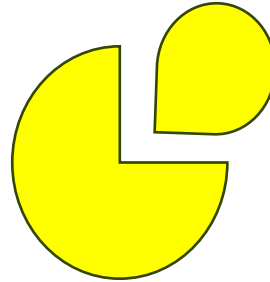
Accuracy

True and
relevant



Clarity

Only
interpreted
one way



Completeness

Provides all info
on how the code
works



Ease-of-use

Easily find the
info you need

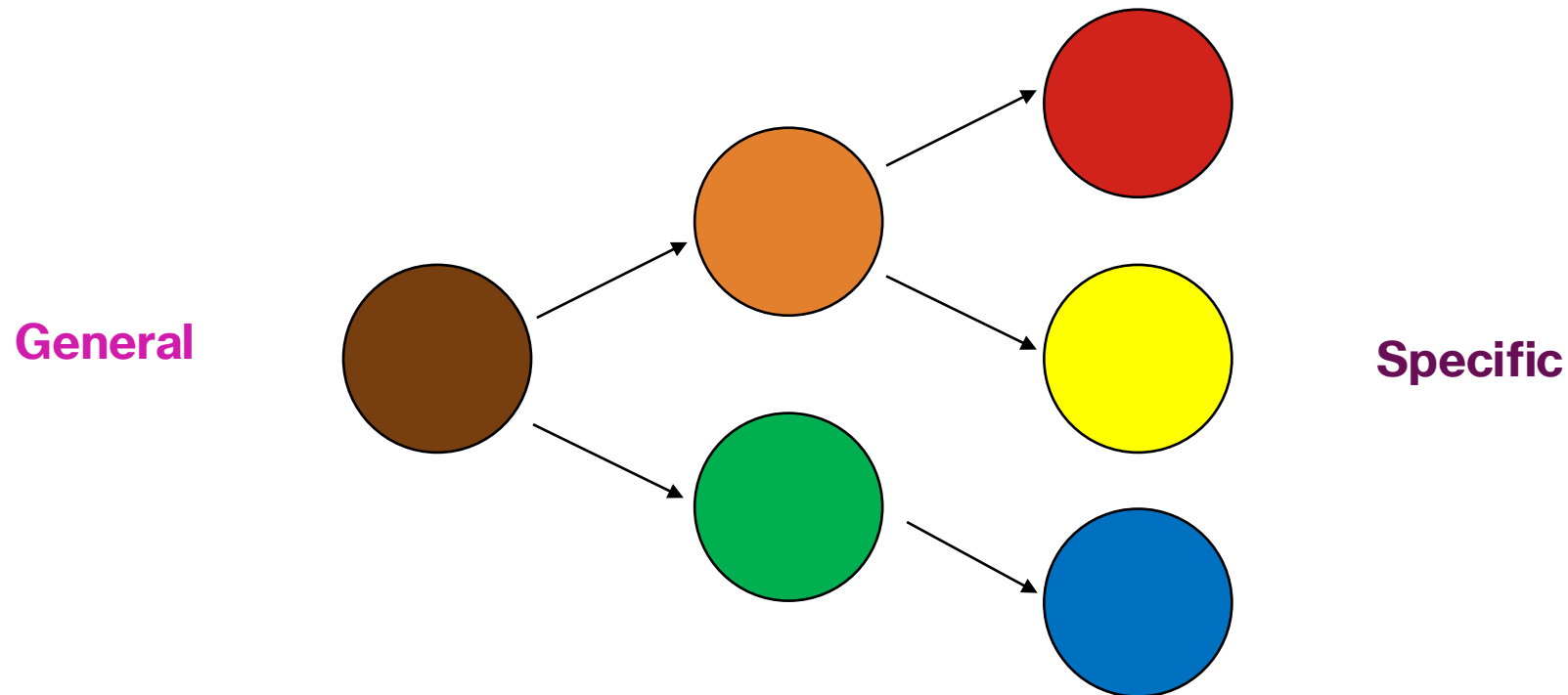


Up-to-dateness

Docs stay
accurate as code
is updated

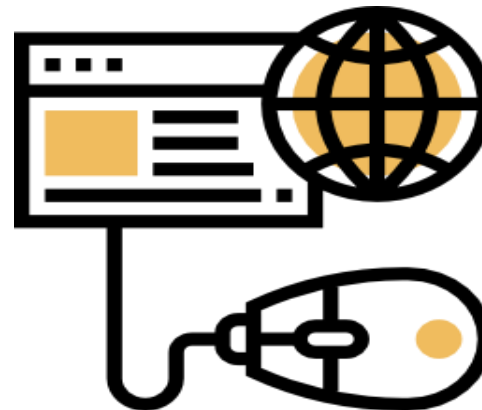
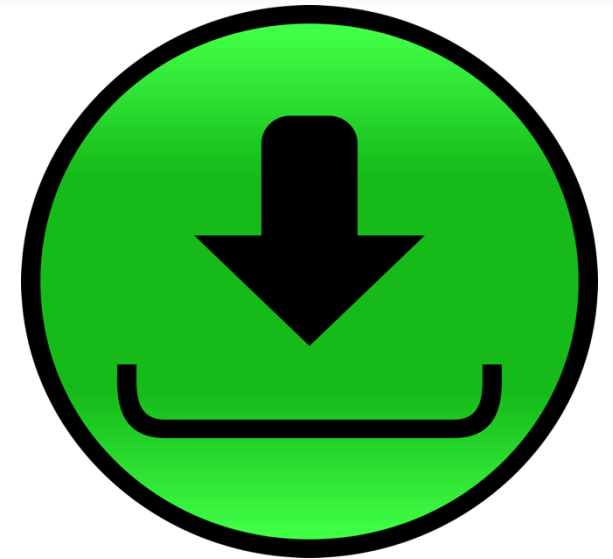
ACCEU and Higher-Level Views

- Key: high-level documentation links to/references other files (i.e. "graph of files")
- High-level docs must be complete (covering all related items), easy to use (in an obvious place), and consistent (with other files' documentation)



Possible Sections of a GitHub README

- Title, authors, and short description of the repo or project's purpose
- Table of contents
- Features (what the code can do)
- Installation instructions
- Usage (how to use the project, with examples)
- License (how others can use your code)
- Feedback and Contributions (how others can give feedback or help)



Final Thoughts

"The faintest ink is more powerful than the strongest memory."

- Chinese proverb

Best of luck with your software projects!

