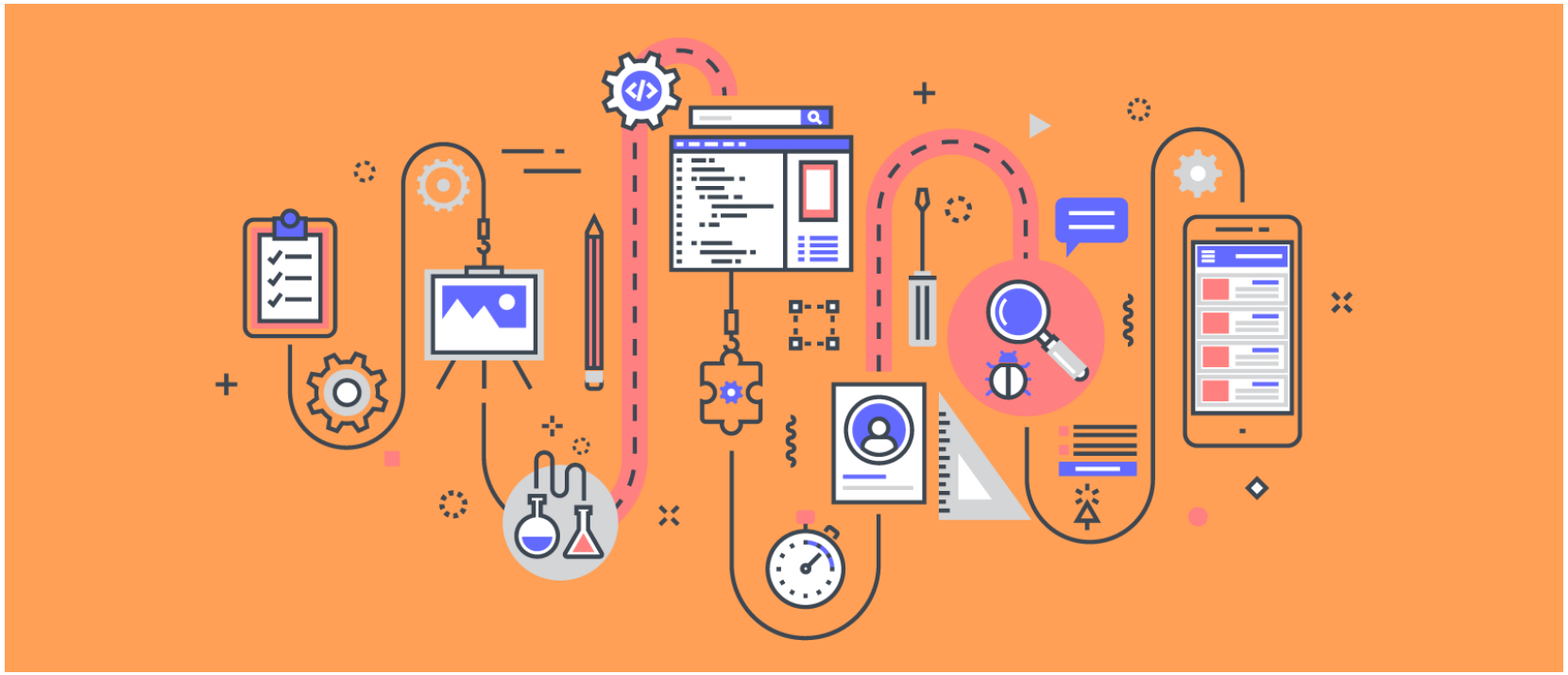
Design Documentation



SWEN-261
Introduction to Software Engineering

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Design documentation can be a valuable communication tool.

A design document is a way for you to communicate to others what your design decisions are and why your decisions are good decisions.

From How to Write an Effective Design Document by Scott Hackett

- Design documentation should be short and easy to read.
- It should communicate key architecture and design decisions.
- It should generally move from high-level to low-level.
- It should provide justification for design decisions.

We recommend a simple design document structure.

- Executive Summary
  - ***Purpose***
  - ***Glossary and Acronyms***
- Requirements
  - ***Definition of MVP/MVP Features***
  - ***Roadmap of Enhancements***
- Application Domain
  - ***Overview of Major Domain Areas***
  - ***Domain Area Detail***
- Architecture and Design
  - ***Summary***
  - ***Overview of User Interface***
  - ***Tier Designs (Model-View-ViewModel)***
    - Summary
    - Static Models (e.g. UML Class Diagrams)
    - Dynamic Models (e.g. UML Sequence Diagrams)

These general tips for effective writing apply to your design documentation too.

- Create a narrative to engage the reader.
- Writing a spec is like writing code for a brain to execute.
- Write as simply as possible.
  - ***Use the active voice.***
  - ***Use short, declarative statements.***
- Review and reread several times.
- Balance text with diagrams.
  - ***Don't have long stretches of text.***

You should follow these tips to maximize the effectiveness and professionalism of your models.

- Define a purpose for each model/diagram and use a level of abstraction appropriate for the purpose.
- Use standard modeling techniques (ie, UML).
- Use non-standard models when they are clearer than the alternatives.
- Use a professional modeling tool.
- Create a layout that is easy to comprehend.
- Use color, fonts and styles that enhance understanding (high-light important elements)
- *BUT...* do not use such stylistic frills for solely aesthetic purposes.

The software design is just one aspect of a project that can be documented.

- Others include:
  - ***Setup guide***
  - ***UI and UX design and style guide***
  - ***Acceptance test suite***
  - ***Online and in-system help docs***
  - ***Training docs and video tutorials***
- Project documents must *live*:
  - ***Use collaborative, version-able documentation tools.***

Keeping your design documentation up-to-date must continue to be part of your standard workflow.