Development Specs

17-316/616 Fall 2025

AI Tools for Software Development

https://ai-developer-tools.github.io

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Today's Class

- Sign up for Reflections! https://bit.ly/reflection-week-3
- Team Meeting (20 min)
  - Work on user discovery and user stories.
- Use an LLM to turn Wednesday's user stories into development specifications.
  - Mobbing + Notetaking

Next Class: Reflections

- Simpler process for Wednesday.

- Pedagogy: Engage with the reflection concepts to understand how to best take advantage of LLMs and how LLMs need to be improved.

- 5 min: Group up with those who picked the same reflection.
  - Discuss your answers with one another.

- 5 Reflection Discussions
  - Each discussion 15 minutes.
  - 5 min: Class pairs up to discuss their thoughts on the reflection question.
  - 10 min: Discussion leads ask class for their thoughts on the reflection question.
    - Leads respond with how their own thoughts relate to what each class member said.

Team Meeting

- Spend the next 20 minutes to meet with your team.
- Work on P1: Requirements Engineering

Development Specifications

- We need to turn our user stories into features we can code into our app.

- Those features need to be connected by a software architecture.

- Every feature is described by a development specification.

- A developer can be guided by a dev spec to build exactly what is necessary to make the feature work.

- Let's figure out how to get an LLM to help us write these.

How to turn a user story into a dev spec?

- User story answers **<u>why</u>**

- Dev spec answers **<u>*how*</u>**

- Pair together and think about what details you would include for a dev spec for this user story (2 minutes!)

- User story: *As a user, I want to view and restore earlier versions of my document so that I can undo mistakes or corruption.*

- Could a dev build it for you now? Anything missing?

Components of a Development Spec
(see handout)

1. Header
2. Architecture Diagram
3. Class Diagram
4. List of Classes
5. State Diagrams
6. Flow Chart
7. Development Risks and Failures

8. Technology Stack
9. APIs
10. Public Interfaces
11. Data Schemas
12. Security and Privacy
13. Risks to Completion

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Mobbing Activity

- Let's get the LLM to make the dev spec for Google Docs.
- Everyone take your user stories from Monday's class and copy their text into the #mobbing channel.
- Mobber will come to the hot seat.
- Notetaker sits in the front of the class with their laptop to take notes in the #mobbing channel.
- Which user story shall we specify today?
- Now, everyone tell the mobber what to say to ChatGPT to get it to create our dev spec, section by section.

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Mobbing Activity (2)

- Let's swap the mobber and notetaker.
- Let's focus now on threat modeling.
- What are the technical risks we should worry about in our spec?
- What are the privacy risks?
- What are the security risks?
- What are the risks that could prevent us from completing this feature?

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