User Discovery

17-316/616 Fall 2025

AI Tools for Software Development

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

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Form Project Teams (20 min)

- Talk to classmates and form 2-3 person teams
  - There will be a max of 6 project teams.
  - Get to know one another.
- Register your team at *https://bit.ly/cmu-team-signup*.

- Your project is to replicate the entire software stack for a popular tech startup over the next 10 weeks.

Pick a startup for your team project

- **Instagram/Tiktok**

- **Reddit**
  - AI bots have to talk to one another to generate content

- **Uber/Lyft**
  - Must simulate many, many concurrent users

- **X/Twitter/Bluesky/Mastadon**
  - Use federation to post into real social media channels

- **Canva**

- **Figma**

- **Desktop Email client**
  - Pick a real one to copy: Thunderbird, Outlook, Apple Mail, Proton Mail

- **Trello/Asana/Jira**
  - AI bots have to create a project with user stories and work items

- **Slack/Discord**
  - AI bots have to talk to one another to generate content

- **Zoom**

- **Google Docs**

- **Cursor.AI**

Each team must pick their own startup from the list. No duplicates.

S3D

Carnegie
Mellon
University

Using LLMs for customer discovery

- Can we use LLMs that pretend to be customers?

- Persona alignment covers various aspects of how a human customer would respond to questions: is the customer collaborative or combative?

- Are the customer's responses to questions clear and concise, or are they vague and incomplete, requiring follow-up questions?

- Inspired by research: https://arxiv.org/html/2503.07800v2

From the remaining startups

- We will choose 1 startup for the remainder of class.
  - Google Docs in the year 2005.
- Sit with your project team.
- First, decide what the startup's app is about
  - Note, not your team's project startup).
- Identify the problems you think the app is trying to solve for its users.
- Discuss for 5 minutes and decide on the top features of the startup's application that solve those problems.

For 10 minutes

- Create a list of 10 questions that help you learn about problems that your persona/LLMs have in your product's area.
  - Your first few questions need to identify whether this persona/LLM is interested in solving the pain points you are addressing in your product. If not, move on to the next persona.
- Develop these questions into a script for a semi-structured interview.
  - Be sure to introduce yourselves and the big idea of the product you're trying to "sell."
  - If you don't get a response you want, try altering the questions on the fly.

S3D

Round 1: Interview the persona

As a team, interview the persona at this link.

http://bit.ly/45SiuL8

Whole Class Discussion

- What problems did your persona have?

- How did it solve them?

- What wasn't a problem?

- Summarize what you learned from your discovery conversations.

- What might this mean for your product/focus area/problem of choice?

- Describe one mistake you made during your discovery conversations and one exchange that went well (and why).

Round 2: Each team interviews one of these personas

1. http://bit.ly/3V6OC7G
2. http://bit.ly/3VKIqTX
3. http://bit.ly/41LwfsC
4. http://bit.ly/42kzE1w
5. http://bit.ly/4nqjMD3
6. http://bit.ly/46stmiU

Whole Class Discussion

- How was this persona different than the first?
- Was this easier or harder to get good responses from?
- What did you have to change in your questions?

S3D

Sign up for Reflection Questions

- https://bit.ly/reflection-week-3

S3D

Wednesday's Class

- Turn user discovery into user stories, integrate needs and feedback into user story, develop a storyboard to communicate ideas

- Mobbing session

- Team Meeting

- Marylee will be taking pictures for SCS News. If you don't want your picture taken, let me know.