Frontend Discussion

CS 485/698: AI-Assisted SE

Class Status

- We’re now effectively one lecture behind schedule
  - Today we’re mostly going to discuss your A3 essays

Class Status

- We’re now effectively one lecture behind schedule
  - Today we’re mostly going to discuss your A3 essays
- Two options:
  - Give up the “class’ choice” lecture currently scheduled for 4/27 and move all lectures back by one class
  - Compress “backend” unit to three lectures

Class Status

- We're now effectively one lecture behind schedule
  - Today we're mostly going to discuss your A3 essays
- Two options:
  - Give up the "class' choice" lecture currently scheduled for 4/27 and move all lectures back by one class
  - Compress "backend" unit to three lectures
- Spring break is coming up, and I don't want to split a "sprint" unit across the boundary
  - As a result, I'm choosing the second option

Today’s Agenda

- Team meeting (~15 minutes)
  - Sprint retro for P3 and sprint planning for P4:
    - What went well in this sprint? What did you struggle with?
    - Did you over- or under-estimate any tasks?
    - What do you want to do during the next sprint?
- A3 discussion (rest of class)
  - with new format!

A3 discussion

- On the next slide, there is a list of groups. Sit with your group near the big number
- Each group has ***at most one*** person who picked each reflection question
- We'll discuss the questions in order:
  - Discuss with your group for ~5 minutes
  - Share anything particularly interesting with the whole class
- We'll save a few minutes at the end for feedback on the discussion format. Is this a better format than the panels we used for A2?

A3 discussion: groups

Group 1	**Group 2**	**Group 3**	**Group 4**	**Group 5**	**Group 6**

Question 1

How hard is it for LLMs to enhance an existing frontend user interface? How much context do you need to provide for LLMs to maintain consistency with the current design?

Question 2

Discuss the challenges of getting the LLM to create a multi-part frontend design or implementation. Describe the difficulties in ensuring consistency across the parts and that the results match your intentions. Tell us how you would test, validate, and refine the outputs.

Question 3

Are LLMs better at designing a frontend or actually implementing something that you design (by writing the code)? Discuss the strengths and weaknesses of LLMs for design tasks. Are there categories of design tasks where LLMs are more or less trustworthy?

Question 4

How important is the "design taste" of the human operating the LLM in controlling the quality of the LLM's UI design? Can a human operator without any training in design (e.g., because they are trained as a software engineer and not as a designer) use an LLM to generate a user interface that users would consider intuitive? Why or why not?

Question 5

How do you test LLM-generated frontend implementations? When the frontend interacts with the backend, how do you verify that the LLM-generated code behaves as requested? Is automated testing necessary for LLM-generated frontend code, or is testing by hand sufficient? Why or why not?

Question 6

Discuss the legal and ethical implications of an LLM inadvertently helping you to design a UI that looks like a clone of another application. Has this happened to you before? Have you heard of this happening to others? What would you do if you got an email from the originator of your project's startup saying they saw your clone?

Question 7

Are LLMs better or worse at generating code for different frontend frameworks (e.g., React or Svelte)? What factors influence the LLM's ability to generate high-quality frontend code in a particular framework? Are there framework idioms that the LLM struggles with more or less than humans?

Wrapup and Reminders

- Discussion: how did this go?
- Sign up for A4 before end of class on Wednesday