"Brownfield" Vibe Coding Activity

17-316/616 Fall 2025

AI Tools for Software Development
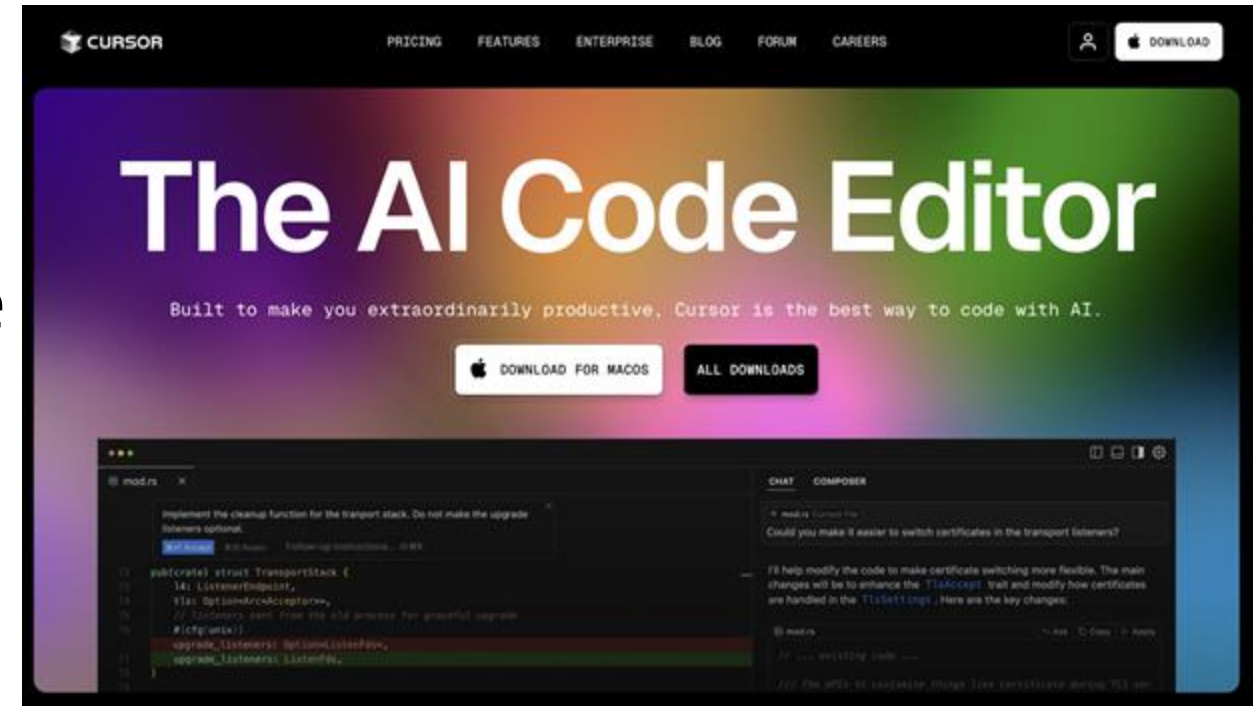
https://ai-developer-tools.github.io

Austin Henley and Andrew Begel

Reflection

- Sign up by TODAY!!!
- Due next Tuesday night
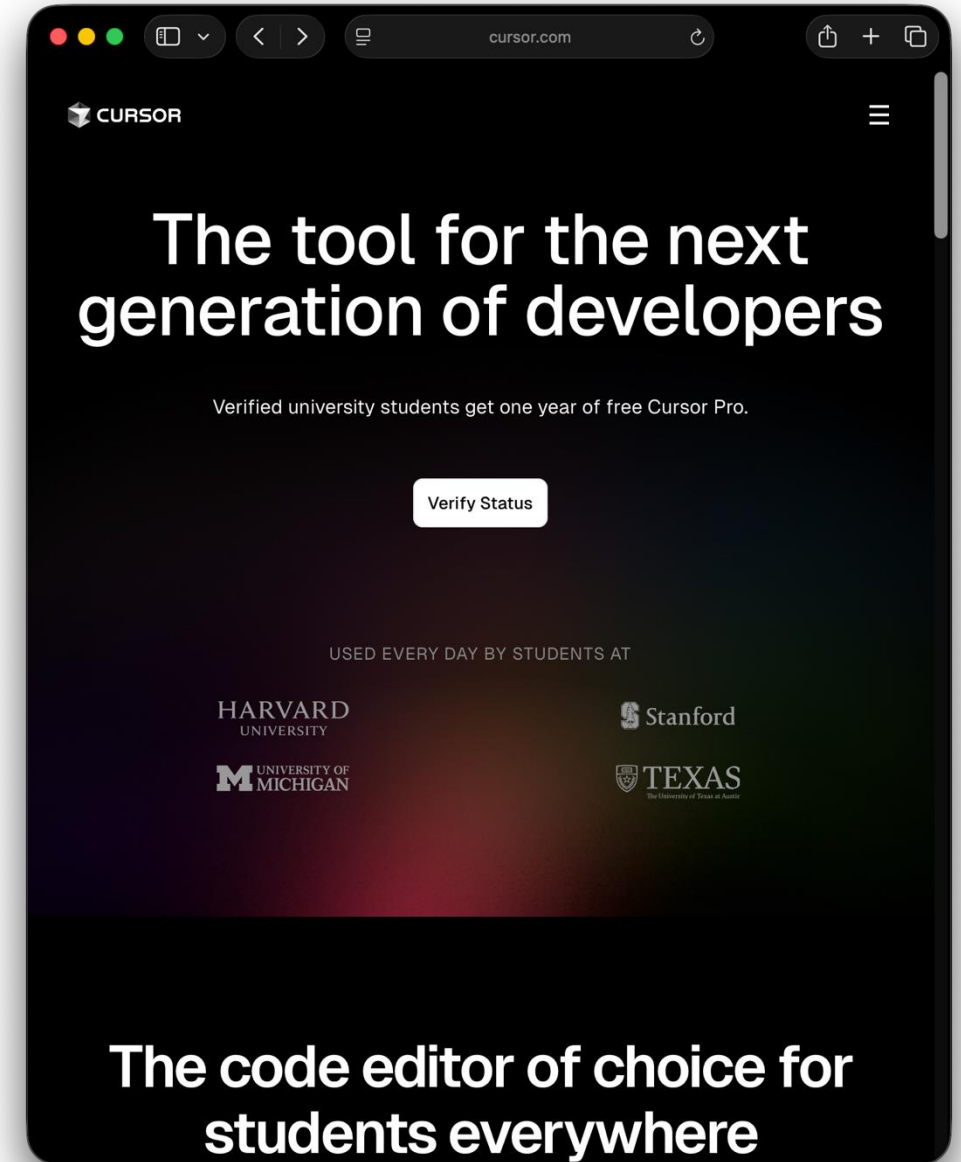
New students

- https://cursor.com
- Make a free Cursor account
- Download and install Cursor
- Also join Slack!
- Check out the course website
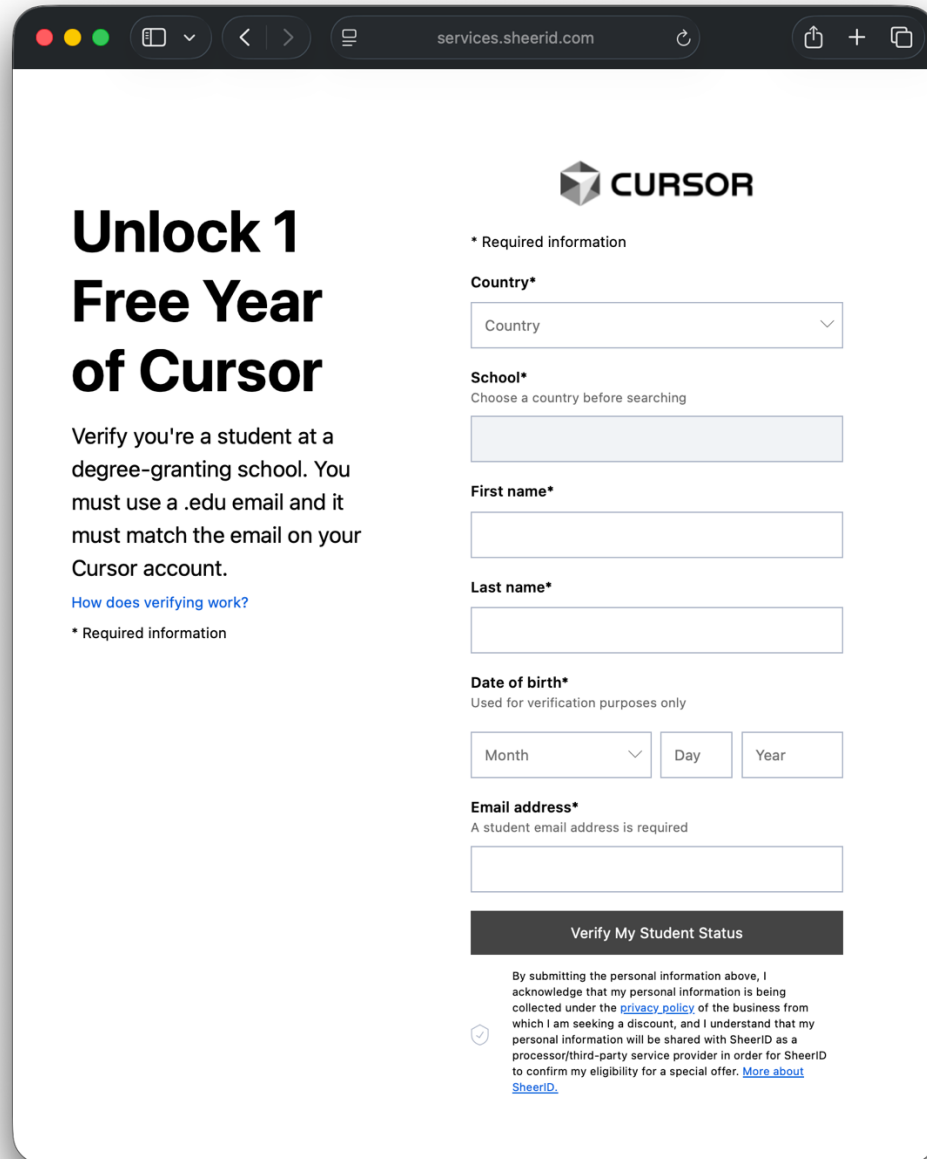
Cursor for students

- Free "pro" Cursor account for students
- https://cursor.com/students

Also requires photo of your student id...

Shall we play a game?
https://hextris.io

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Activity: Vibe coding new features for an existing project

- We are going to use Cursor to "vibe code"
- Work individually (feel free to talk or ask questions)

- **<u>Rely on the AI as much as possible</u>**

- Don't write any code yourself… that is what the AI is for!

- We also want to understand how it works this time

- Cursor can help you setup your dev environment too

Task #1: Understanding the existing codebase

- Use Cursor to understand how Hextris works
- Ask it to generate documentation or diagrams

- Explain it to another student near you using the docs
- Is it good? Correct? Useful? Comprehensive?
- Now swap and let them explain to you
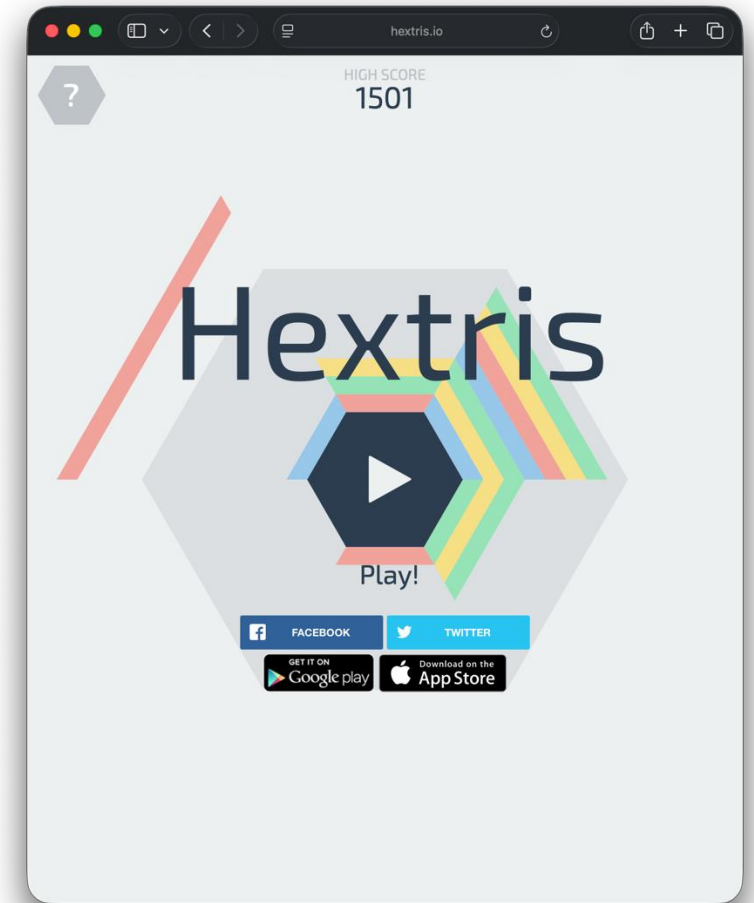
Task #2: Add another color block

- The game is too easy... another color will increase the difficulty

- Can you understand the change?

- Test it... did it work correctly?

Logistics

- No class Monday
- Reflection due Tuesday

Task #3: What to add next?!

- Discuss with a partner what features we should add next

- We will share ideas and vote

- Ideas:

Names	Idea	Votes
	Adding lives	0
	Add bombs (3) press space to launch a bomb on a side to clear the blocks on the side	3
	Rainbow block to match all colors	7
	Multiplayer to compete side by side	1
	Collaborative mode two people control the hex turning	0
	Center hex rotates on its own faster and faster	2
	Each block is a different speed (random)	2
	Difficulty level (speed)	

Show and tell next Wednesday

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Task #4: Add a "ghost block" that adds to the bottom of the stack

- Make a block that gets added to the bottom
- It should look visually different
- Do you understand how it works?
- How did you test it? Any bugs? How confident are you?

Task #5: Add automated testing

- Brainstorm with Cursor how to add automated testing
- Add unit tests to the project
- How do you run the tests?
- Are they passing or failing?
- How many did you add? Where?

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Task #6: Add local multiplayer

- Add local multiplayer that shows you and another player side by side while playing

- Left player uses WASD, right player uses arrow keys

- Continues until both players lose then show both scores