Syllabus and Projects

Embedded Interface Design

with **Bruce Montgomery**

Learning Objectives

Students will be able to…

- Understand the class mechanics
- Consider the class projects

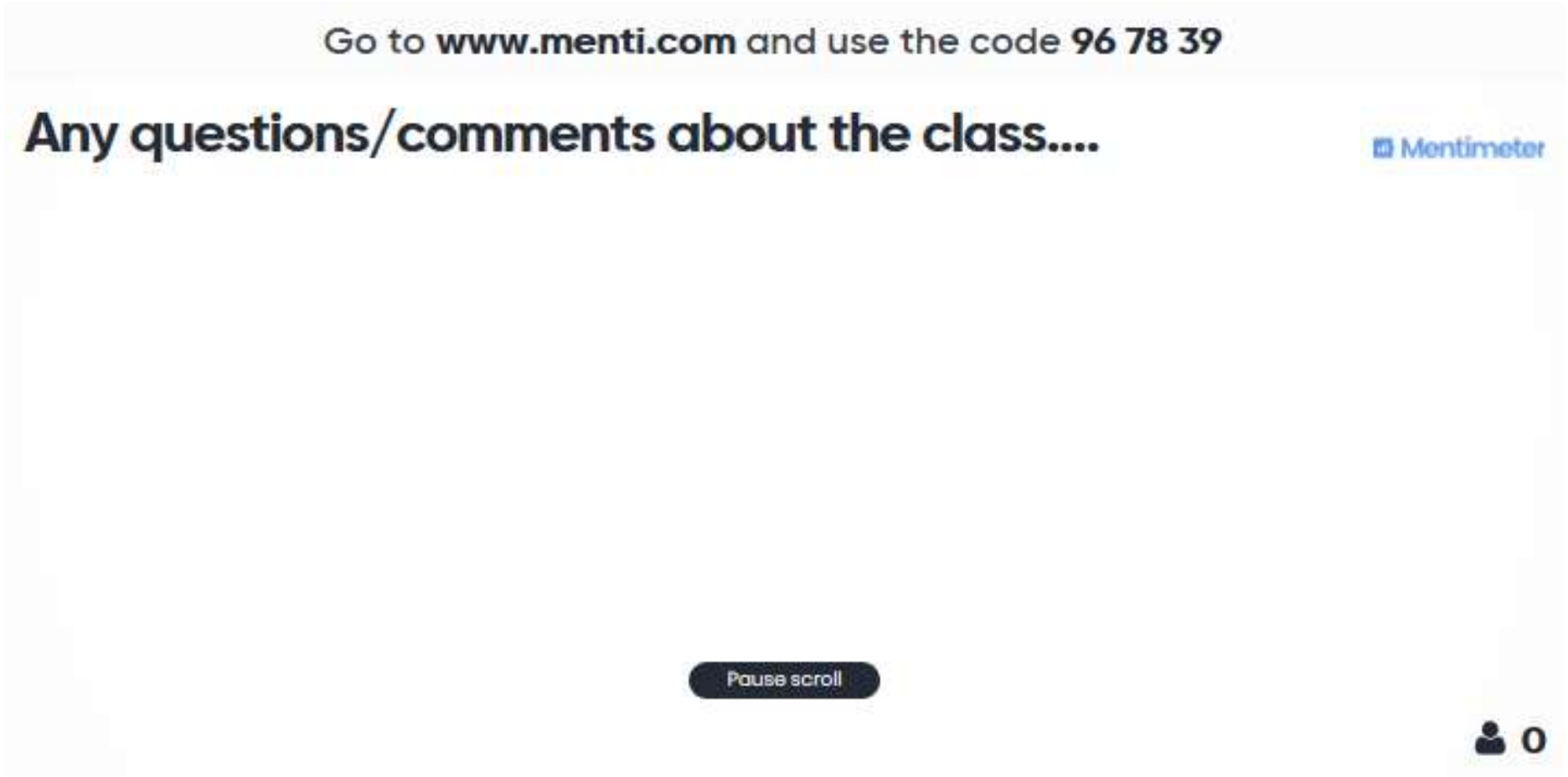
EID Student Assistants

Shubham Jaiswal

Sharanjeet Singh Mago

The SAs are here for you. You can ask them questions about anything class related, ask for help in the labs, etc. Don't hesitate to reach out if you need a hand.

Mentimeter - Interactive Presentations



Projects - General

- All projects in EID are intended to be done by two person teams. You can go solo if you'd rather, but I recommend having a teammate.
  - Finding your teammate is up to you (use Slack!)
- All projects in EID will require:
  - A Github source repository for code and readme documentation
    - We'll review Git in class if you're new to it
  - A demonstration to me or the TAs
  - Depending on the project, there may be more to submit
- I'll provide all hardware you need – Rasp Pi's, sensors, etc.

Projects – Specific (subject to change)

1. Python/QT GUI on Raspberry Pi with Temp Sensor
2. Project 1 + HTML GUI/Node.JS/WebSockets with 2 Rasp Pi's
3. Project 2 + AWS IoT, MQTT, Message Queueing
4. Planning and UX/UI Design for SuperProject
5. Part 1 of SuperProject development – Interim report out
6. Part 2 of SuperProject development – Final submission

Projects will start in Week 3, I'll provide hardware

SuperProjects – do yours or mine

- Mine: “The Magic Wand” - Two Raspberry Pi’s, AWS, Camera, Speaker, Microphone
  - Take a picture of an object with a voice command
  - Figure out what it the object is
  - Tell the user using voice output
  - Maintain some statistics and history
  - Details tbd
- Yours: Anything you want to make
  - Must have: QT GUI, HTML GUI, AWS connection, three communication protocols, API development, two Rasp Pi’s
  - Details negotiable and tbd, examples to be provided

Syllabus

- You can find the Syllabus on the class Canvas site under Files, Class Files
- I'm going to walk you through the highlights, lets review it together…

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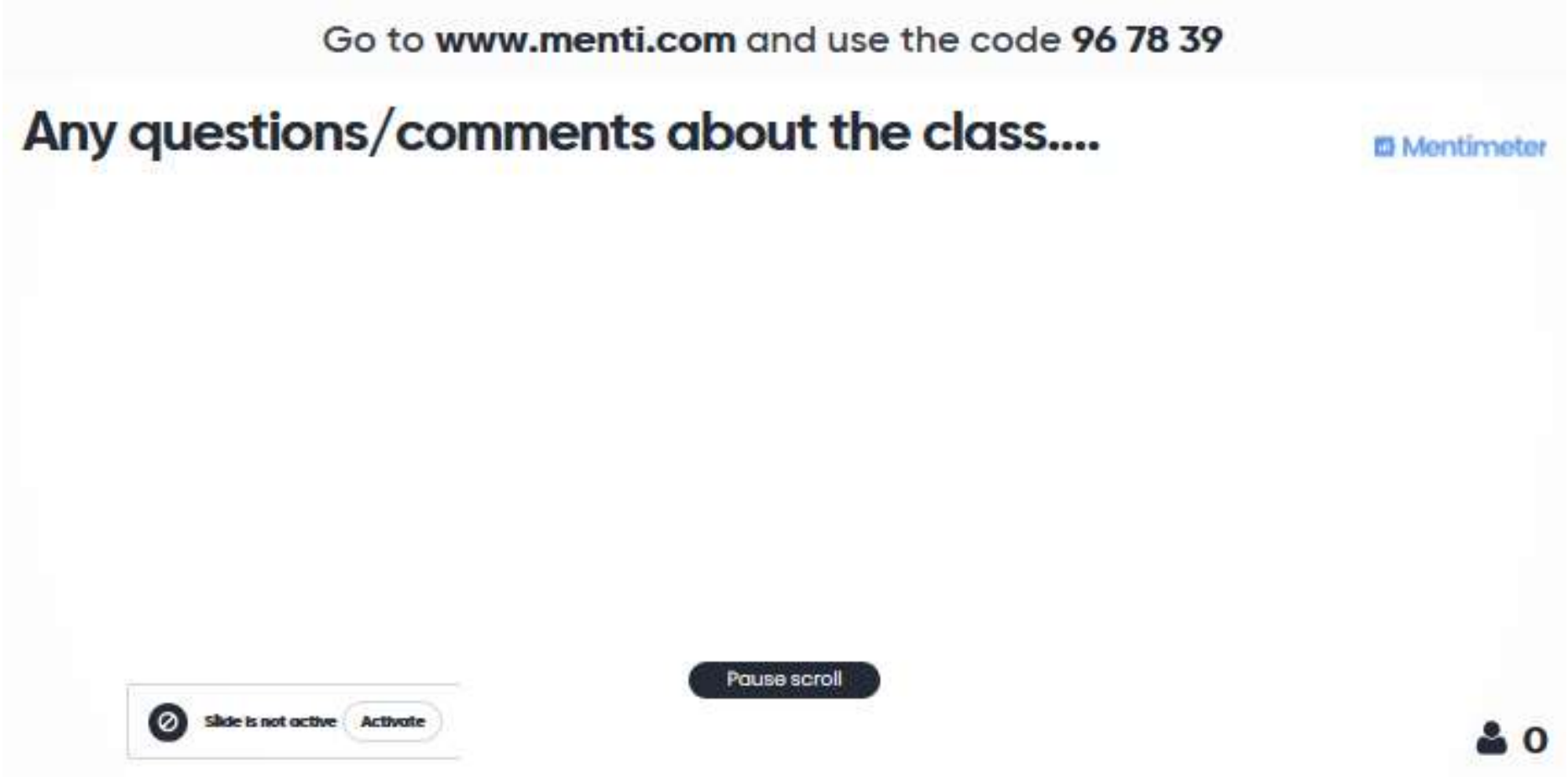

Next Steps

- If you're on the waitlist, and you want to join the class, keep attending and do all assignments - the waitlists are usually settled in the first two weeks.
  - See Adam Sadoff for questions, I have no control or influence over waitlists!
- Make sure you sign up for Slack and Canvas notifications
- If you're staying in the class, get the Buley and McElroy books
- Distance students staying in the class, contact me about hardware shipments or pickup
- No assignments this week
- Next class, Python, Node.JS, and an introduction to usability