

Building Interactive Systems

HACK 4

Professor Bilge Mutlu | Spring 2023

HACK 4: Conversational Interaction

HACK Goal: *Explore conversational interaction as a paradigm for human-computer interaction*

1. **Step 1:** Reimagine user interaction in the form of a conversation
2. **Step 2:** Devise system model to realize the new interaction
3. **Step 3:** Design dialogue mechanisms
4. **Step 4:** Implement conversational capabilities
5. **Step 5:** Demo your prototype

Step 1: Reimagine User Interaction¹

Reimagine aspects of interaction with your system as a conversation.

CUSTOMER JOURNEY MAP Shopping for a New Car

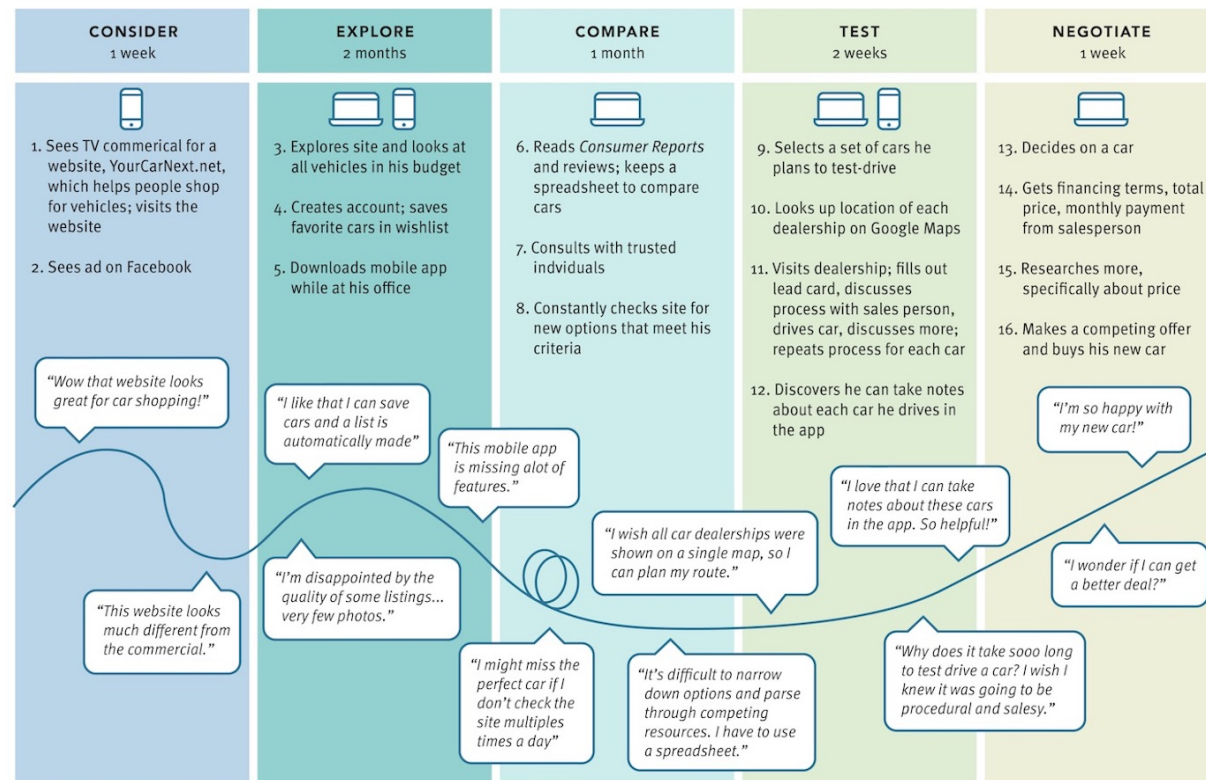


EMOTIONAL ERIC

Eric is an emotional car buyer. He purchases based on aesthetics and status.
Scenario: Eric recently moved to the area. He is shopping for a car that is fun to drive and dependable enough for use for everyday commuting.

EXPECTATIONS

- Ability to compare cars and their breakdowns
- Good photography with closeups, inside and out
- Video overview of car with demonstrations



NNGROUP.COM NN/g

STORYBOARD



- MAKES NOTE OF SUPPLIES NEEDED ON CLIPBOARD
- PHYSICAL INVENTORY

PERSONA:

CORPORATE BUYER,
JAMES



- SELECTS ITEMS FROM FAVORITES LIST
- USES DESKTOP + SUPPLY LIST AS TOOL

SCENARIO:

REPLENISH OFFICE SUPPLIES

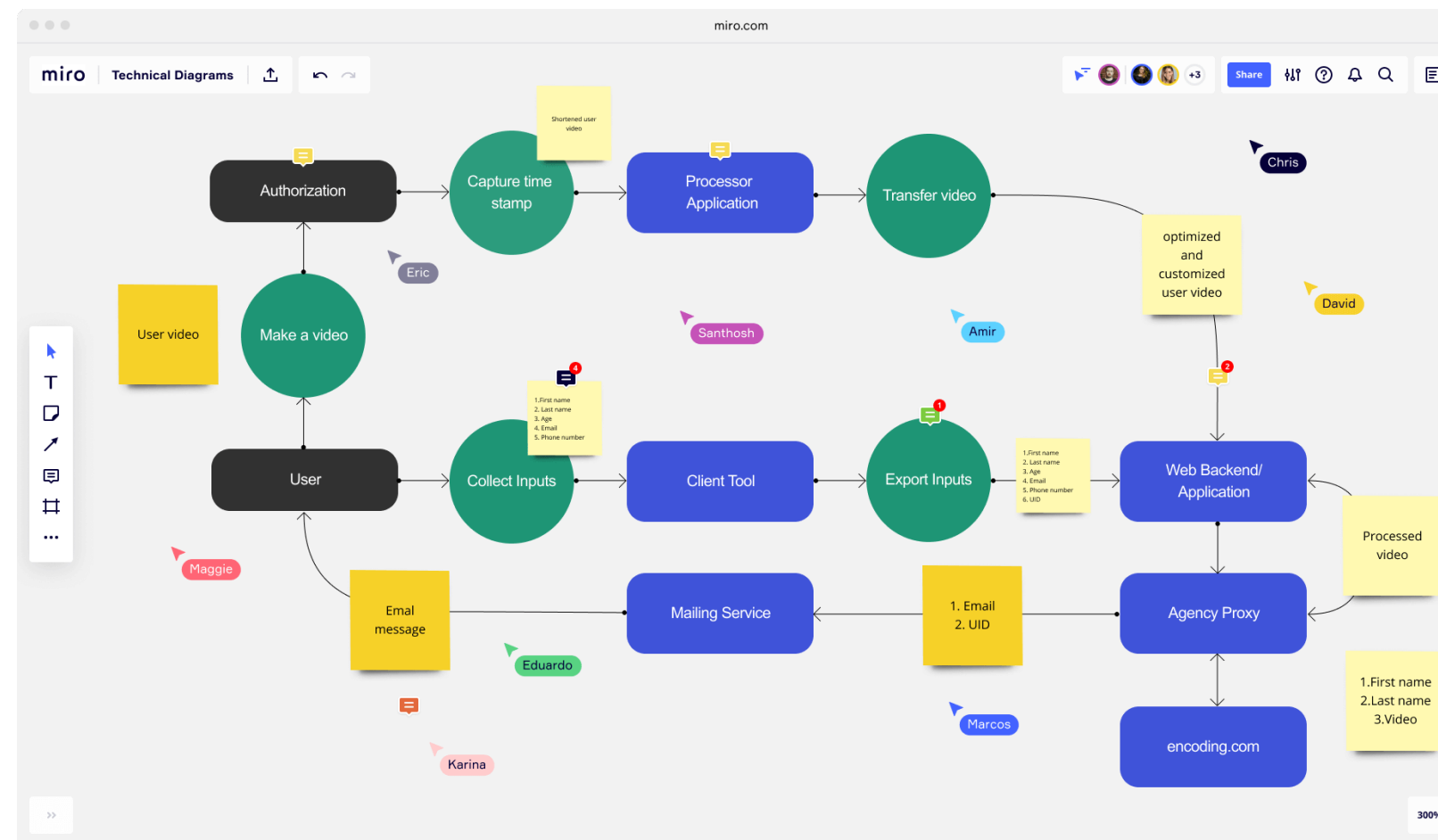


- RECEIVES SHIPMENT WINDOW W/ORDER SUBMISSION
- SETS PLAN FOR RESTOCK

¹ Images: Left, Right

Step 2: Devise System Model²

Build a preliminary model of your system based on the envisioned scenarios.



² Image

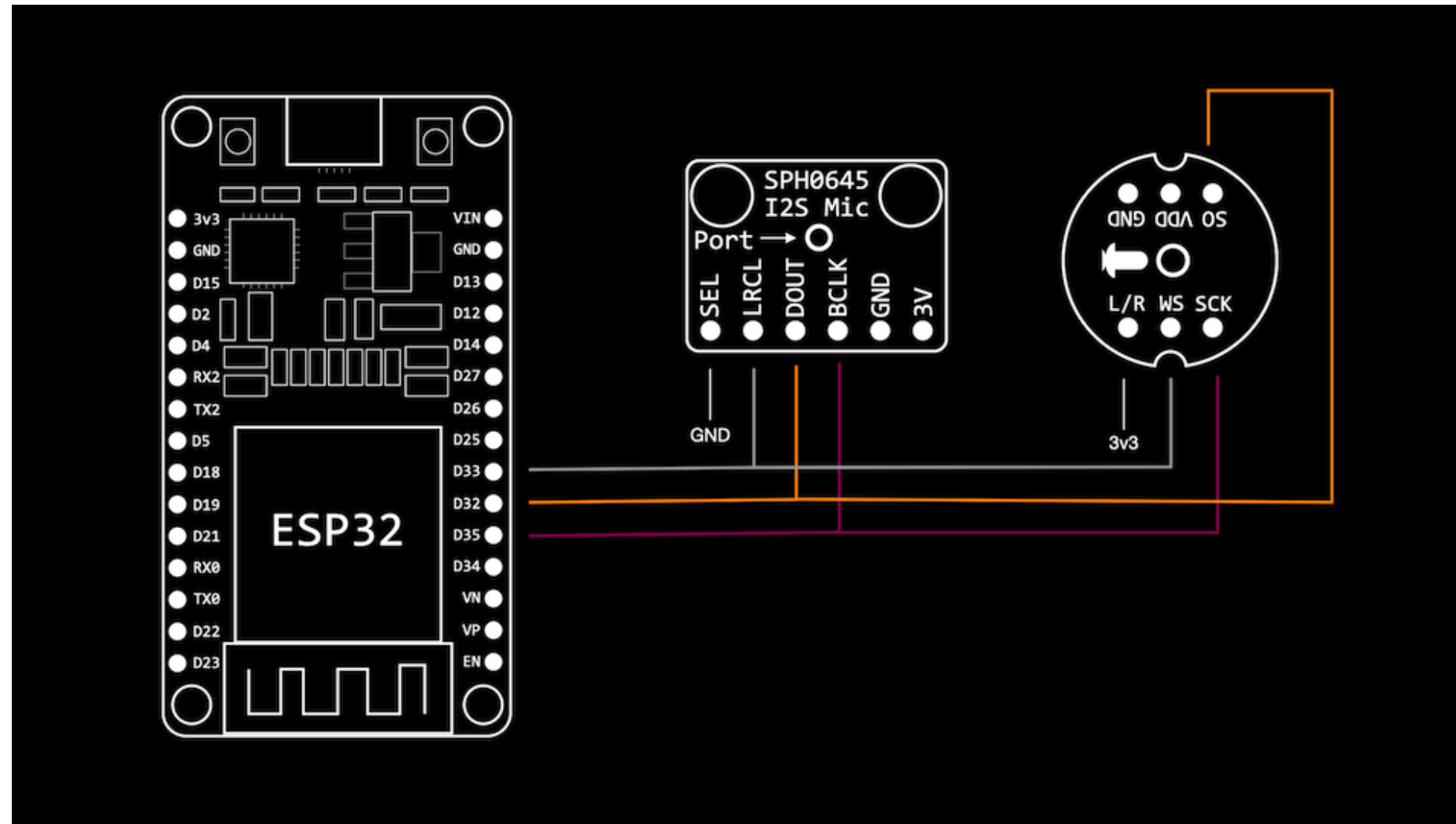
Step 3: Dialogue Mechanisms

Make design decisions on how you will integrate conversational mechanisms.

Think about *turn-taking, repair, speech acts, patterns, grounding ...*

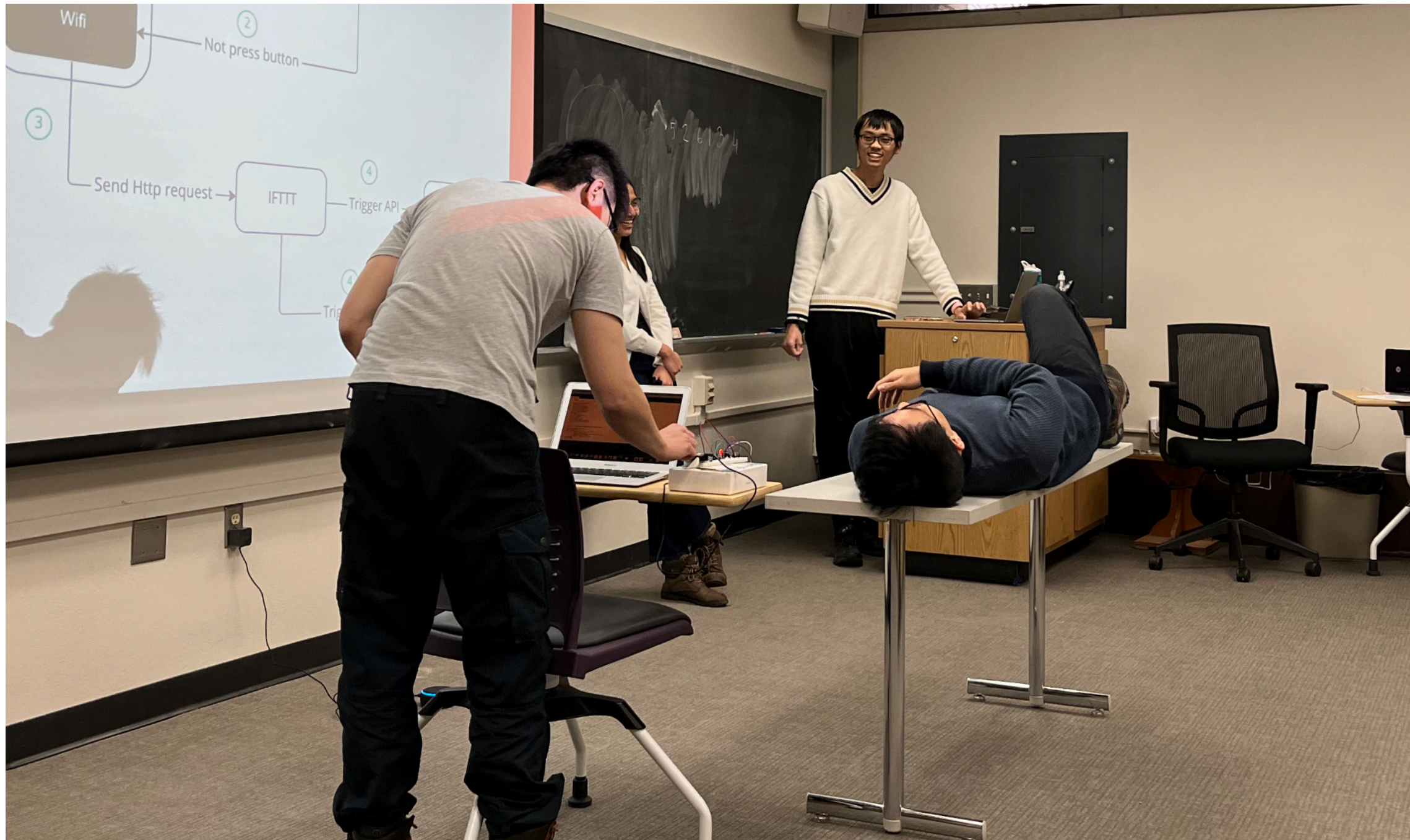
Step 4: Implement your Prototype³

Implement your envisioned system using ESP32 and MAX4466.



³ Image

Step 5: Demo Prototype



HACK Logistics

- HACK 3 teams will continue
- Use ESP32 kits + new MAX4466 hardware
- Due in 2 weeks
- Worksession next week

Good luck, have fun!