CSULB – College of Engineering
Computer Engineering
Senior Design Project
CECS-490A

Dr. Pill
- Jonathan Cerniaz
- Jehmel Espiritu
- Jeremy Espiritu
- Joseph Guzman
- Afzal Hakim
- Lee Roger Ordinario

Prof:
Dan Cregg

Weekly Report 3

Last week's list… ✅🟡❌

Jonathan Cerniaz:

- User interface design (menus, what will be displayed…) ✅
- How to get pills to dispense without cross-contamination 🟡
- Placement of object recognition. 🟡

Jehmel Espiritu:

- Start looking at the programming for our motor 🟡
- Figure out the motor placements for our design 🟡

Jeremy Espiritu:

- Start researching on pill sizes and weight ✅
- Help figure out the motor placements and look at programming for our motors 🟡

Joseph Guzman:

- Measurements ✅
- Design, building, and placement 🟡
- Raspberry Pi implementation ❌
- Hardware connections ❌
- Space management 🟡

Afzal Hakim:

- Start researching how facial recognition works for sign-in. ✅
- Start researching the user interface for the display. ✅
- Start researching MySQL/Excel for data logs. 🟡

Lee Roger Ordinario:

- Figure out the dimensions of the storage compartments within the dispenser🟡
- Figure out how objects will get to the same area for object recognition/dispense✅

Did you accomplish what you planned?

This week, we managed to complete a few of our tasks, but we made significant progress on most of them. We selected a 7” display and developed a design for our menu layout as well as a 16x2 LCD Display commonly used in keycard readers, pin pads, and vending machines. To ensure a straightforward user experience, we are keeping the screen content minimal. From our research this past week we were able to find out the weight and length of the typical pills that

people would take. From this, we are now figuring out what kinds of medications we would want to use for our overall project.

If not, why?

We encountered several challenges that delayed progress on the Dr. Pill dispenser. Figuring out the right size for the storage compartments was tricky because we needed to fit different pill sizes. Designing and building the dispenser was more complicated than expected. Additionally, ensuring pills could be dispensed without cross-contamination was technically difficult. Due to these issues and limited resources on these issues, we couldn't fully complete the tasks as planned.

Are all team members accounted for?

Yes, we are all accounted for, and we are communicating consistently. We all have our assigned tasks and work together if necessary.

Next week's plan, specific to each individual:

Jonathan Cerniaz:

- How to get pills to dispense without cross-contamination.
- Placement of object recognition.
- Dispense history
- Power supply (options)

Jehmel Espiritu:

- Motor placement in our design
- Software development for our motors
- Look into various sizes for stepper motors

Jeremy Espiritu:

- Research object recognition and dispensing for our design
- Help with motor placement and software development for our motors

Joseph Guzman:

- Design, building, and placement
- Raspberry pi implementation
- Hardware connections
- Space management

Afzal Hakim:

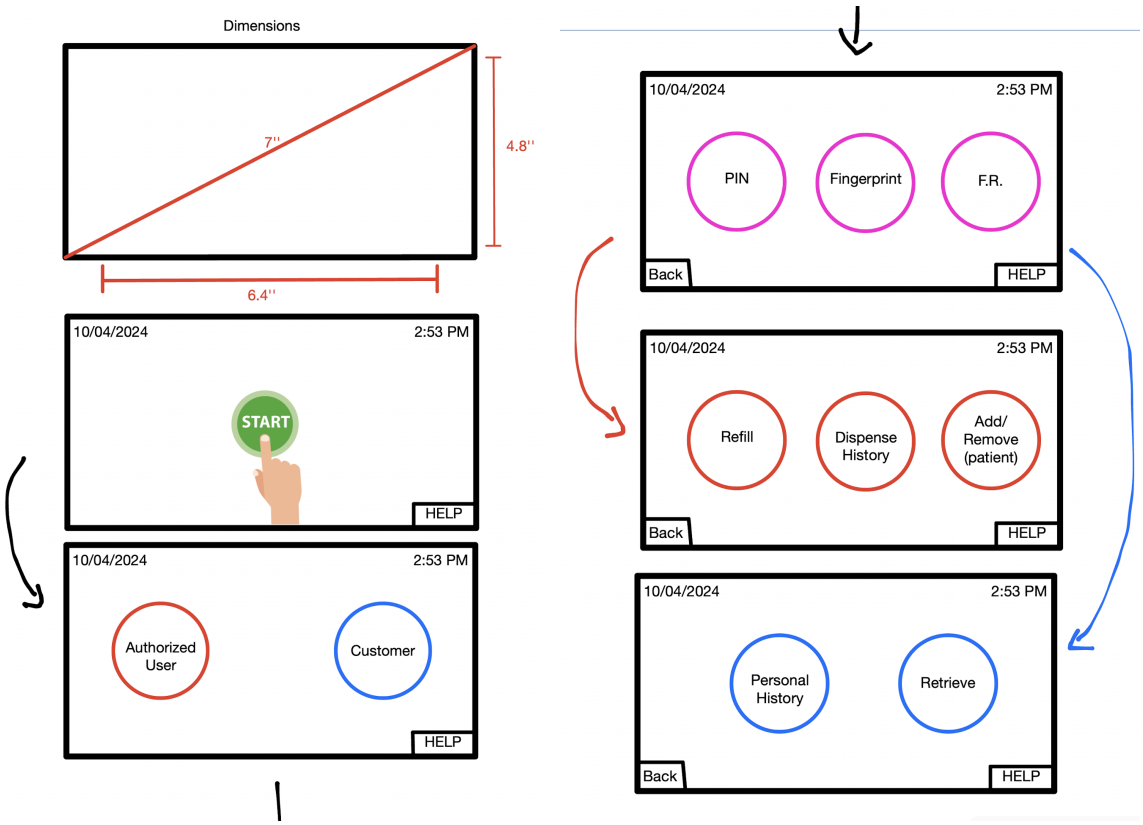
- User Interface Development
- Security Device Integration with Automation
    - Building an Application for easy use

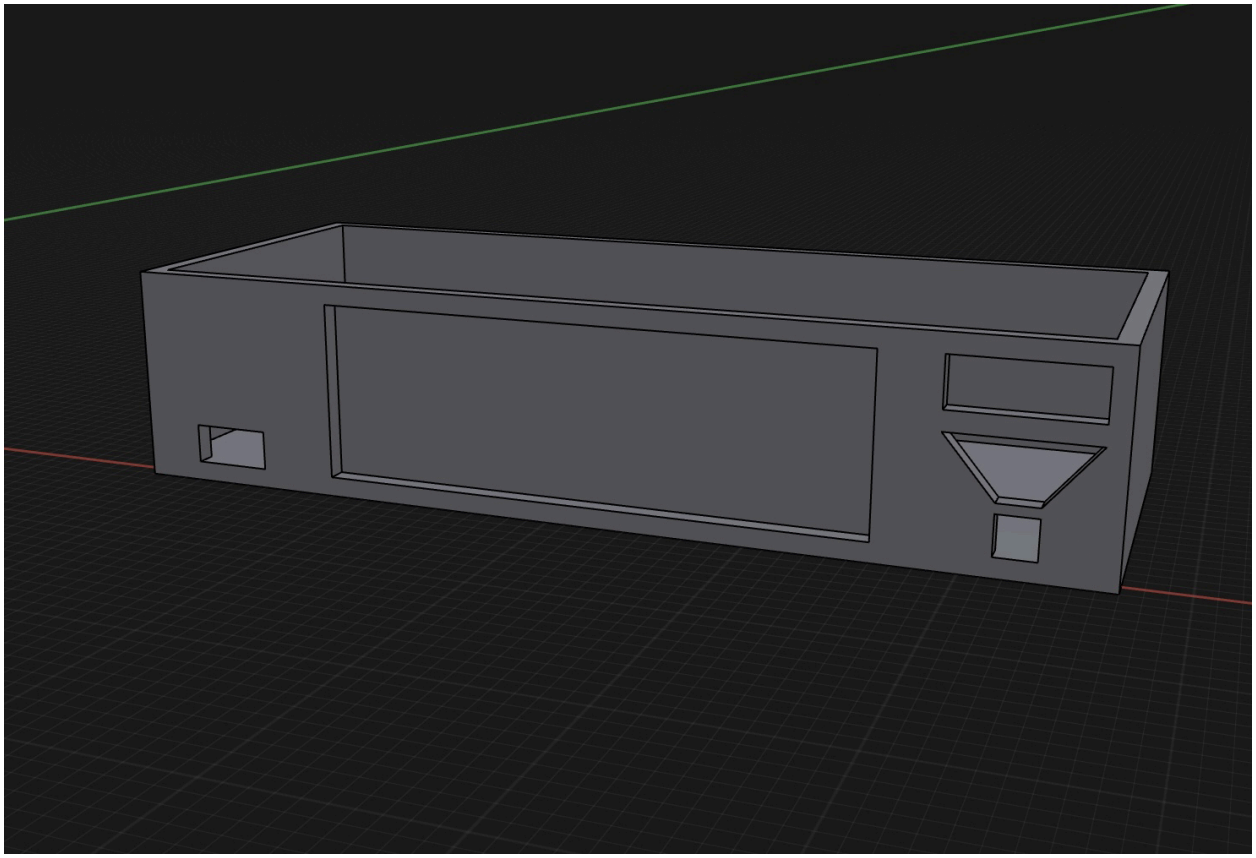
- Log Management and Data Tracking
    - Research on SQL on how to store and retrieve data

Lee Roger Ordinario:

- Object recognition area design and concept
- The complete layout of compartments and how the pills reach the dispensing area
- Dimensions of pill compartments and dispense mechanics

Pictures/Screenshots:





References:

Alei. “Pill Size Chart.” *AIPAK*, 9 Apr. 2024, www.icapsulepack.com/pill-size-chart/.

“Capsule Size Chart - Capsuline.” *Capsuline*, 2024, https://capsuline.com/pages/empty-capsule-size-chart?srsltid=AfmBOoqRLTIUjuOAilYw329Y2ALiwkjlhrYnhVFiHoLTvGdzcj8Pc9kb

LFA Machines, *Capsule Size Guide | LFA Capsule Fillers, Youtube* *https://www.youtube.com/watch?v=_0zf9hB-tmE&t=1s&ab_channel=LFAMachines*