

CEG4913 Weekly Progress Report

Week #: 7

SCRUM/Sprint No. 15

Group Number: 3

Date: November 11th, 2025

One line summary of progress: Printed, iterated, and tested CAD prototype, website API integration and login authentication completed, and continuing work on AI models, screen UI REST APIs.

Work Completed

Hardware:

- Printed and tested prototype with components

Software:

- API integration with website complete
- Login authentication complete

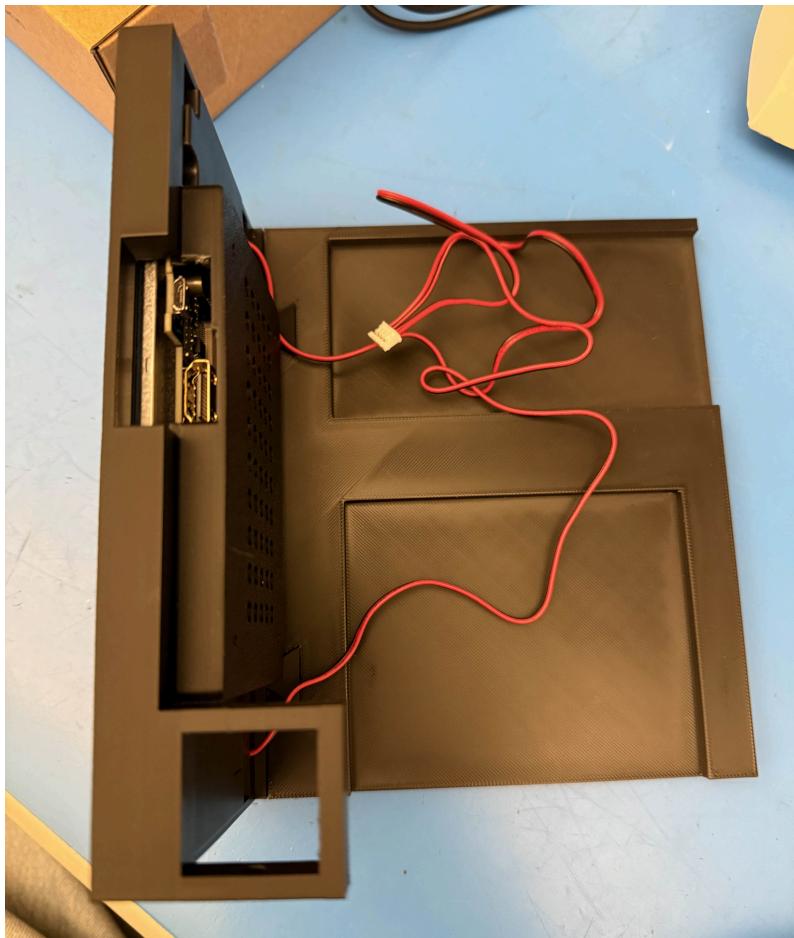
Team Member Contributions:

Aaditya Shah:

- Developing and testing stereo camera depth models

Abdullah Ramadan:

- Printed, iterated, test fitted main body prototypes with components



Keith Tran:

- Created API methods for Twilio

Kevin Dang:

 Finished website API integration with database

- Completed login authentication for website

Hajer Fguir:

- Developing screen UI REST_apis

Saurav Guduru:

- Yawning model research and development

Issues and Resolutions:

Issue: None

Status: N/A

Resolution: N/A

Plans for next week:

Hardware Goals:

- Improve and complete prototype for main body

Software Goals:

- Complete API integration for screen UI
- Finish developing yawning AI model

Management Board Screenshots:

The management board displays the following tasks across four columns:

- BACKLOG (6 items):**
 - Final Project Integration (TERM 2 INTEGRATION)
 - Midterm Project Report - Term 2 (MIDTERM PRESENTATIONS - TERM 2)
 - Final Presentation Slide Deck - Term 2 (FINAL PRESENTATIONS - TERM 2)
 - Final project demonstration (FINAL PRESENTATIONS - TERM 2)
 - Final Project Report - Term 2 (FINAL PRESENTATIONS - TERM 2)
 - Video capture feature (INTEGRATION WITH INTERNET)
- TO DO (5 items):**
 - Get measurements for new hardware (LOC-144, AR)
 - Final CAD Iteration (TERM 2 INTEGRATION)
 - Dynamic driver status (DISPLAY UI DEVELOPMENT)
 - Update logo (WEBSITE FUNCTIONALITIES)
 - Reset password functionality (WEBSITE FUNCTIONALITIES)
- IN PROGRESS (7 items):**
 - Add storage interface with MCU (FIREBASE CLOUD DATABASE)
 - Write unit tests for sensors (TESTING)
 - Create REST API for sensor data (FIREBASE CLOUD DATABASE)
 - Implement Twilio with the screen application (DISPLAY UI DEVELOPMENT)
 - Test Twilio outgoing messaging/calling from device (DISPLAY UI DEVELOPMENT)
 - AI model development (LOC-148, SG)
 - Stereo Camera Depth Model Development (LOC-149, AS)
- DONE (9 items):**
 - Design REST APIs for User Interface (USER INTERFACE INITIALIZATION)
 - Create a driver for stereo camera (DRIVER IMPLEMENTATION)
 - UI Screen Development React JS (DRIVER IMPLEMENTATION)
 - Redesign CAD (CAD DEVELOPMENT)
 - Login Authentication (WEBSITE FUNCTIONALITIES)
 - Integration with database (DISPLAY UI DEVELOPMENT)
 - Store account information with firebase (WEBSITE FUNCTIONALITIES)
 - Update driver information from cloud database (WEBSITE FUNCTIONALITIES)
 - Upload event logs to database (INTEGRATION WITH INTERNET)

Figure 1 - General Management Board

IN PROGRESS 7

Add storage interface with
MCU

FIREBASE CLOUD DATABASE

LOC-49

KD

Write unit tests for sensors

TESTING

LOC-126

KT

Create REST API for sensor
data

FIREBASE CLOUD DATABASE

LOC-108

KT

Implement Twilio with the
screen application

DISPLAY UI DEVELOPMENT

LOC-140

KT

Test Twilio outgoing
messaging/calling from device

DISPLAY UI DEVELOPMENT

LOC-141

KT

AI model development

LOC-148

SG

Stereo Camera Depth Model
Development

LOC-149

AS

Figure 2 - This Week's Sprint

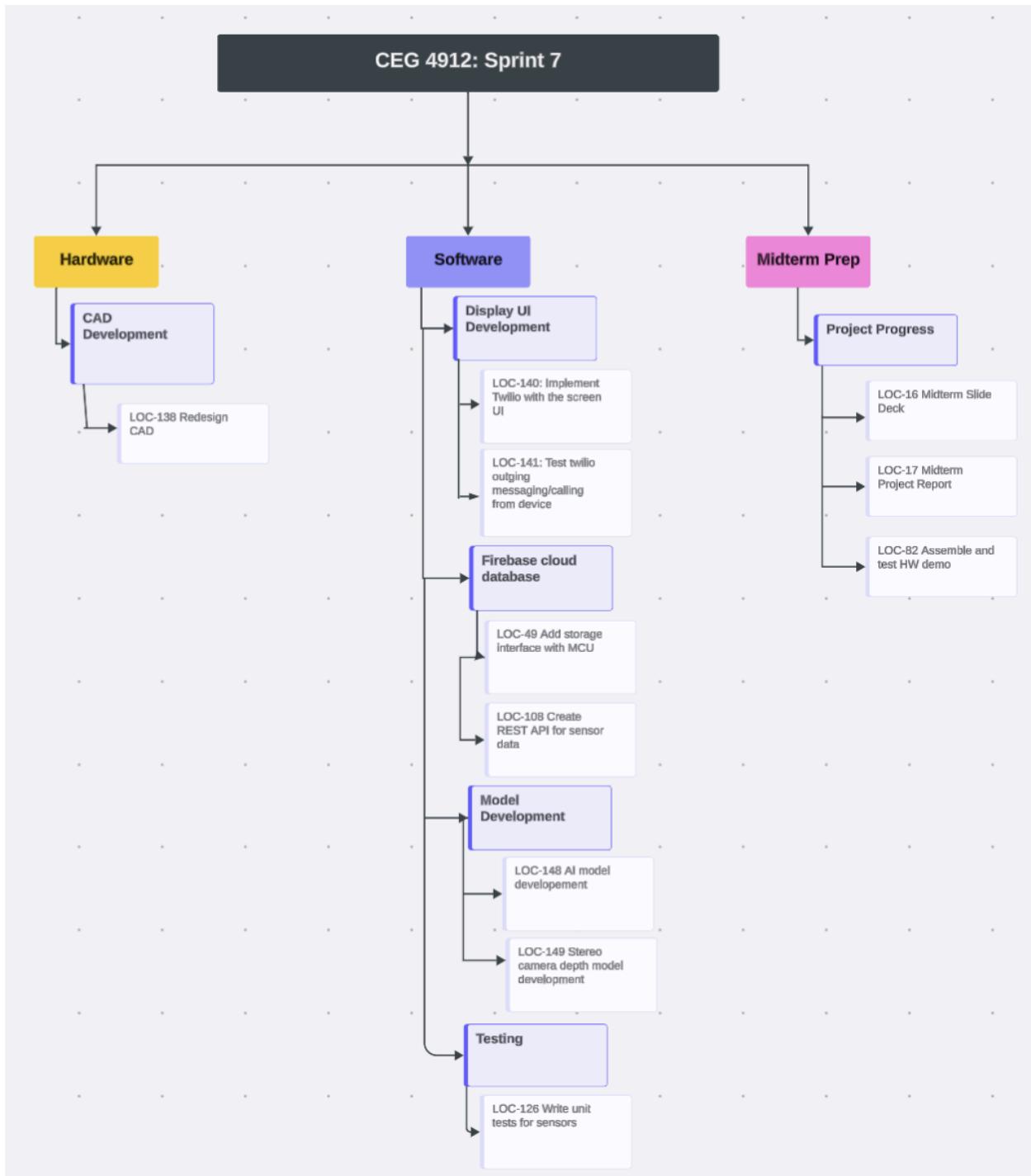


Figure 3 - WBS

Additional Notes: