

CEG4913 Weekly Progress Report

Week #: 6

SCRUM/Sprint No. 14

Group Number: 3

Date: October 30th, 2025

One line summary of progress: Finalized the main body CAD prototype, advancing API integration, refining AI model, and developing login authentication and UI features.

Work Completed

Hardware:

- Modified and finalized main body CAD prototype

Software:

- API integration with website
- AI model research
- Login authentication development

Team Member Contributions:

Aaditya Shah:

- Working on depth scanning model

Abdullah Ramadan:

- Modified main body prototype

Keith Tran:

- Working on Twilio API integration

Kevin Dang:

- Working on API integration with website
- Researched methods to improve yawning AI model

Hajer Fguir:

- Finished the UI Screen Light/Dark Mode
- Prepared env for the API integration

Saurav Guduru:

- Working on login authentication for website

- Researched methods to improve AI model proficiency

Issues and Resolutions:

Issue: None

Status: N/A

Resolution: N/A

Plans for next week:

Hardware Goals:

- Print main body prototype

Software Goals:

- API integration with website
- Fully integrate Twilio APIs with screen UI application
- Continue developing AI models

Management Board Screenshots:

The management board displays the following tasks across four columns:

- BACKLOG (12):**
 - Upload event logs to database (INTEGRATION WITH INTERNET)
 - 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)
 - Dynamic driver status (DISPLAY UI DEVELOPMENT)
 - Update logo (WEBSITE FUNCTIONALITIES)
 - Reset password functionality (WEBSITE FUNCTIONALITIES)
 - Display driver location (WEBSITE FUNCTIONALITIES)
- TO DO (4):**
 - Store account information with firebase (WEBSITE FUNCTIONALITIES)
 - Get measurements for new hardware (LOC-144)
 - Final CAD Iteration (TERM 2 INTEGRATION)
 - Stereo Camera Depth model development (LOC-149)
- IN PROGRESS (8):**
 - Add storage interface with MCU (FIREBASE CLOUD DATABASE)
 - Integration with database (DISPLAY UI DEVELOPMENT)
 - Login Authentication (WEBSITE FUNCTIONALITIES)
 - 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)
- DONE (4):**
 - Create a driver for stereo camera (DRIVER IMPLEMENTATION)
 - Design REST APIs for User Interface (USER INTERFACE INITIALIZATION)
 - UI Screen Development React JS (DRIVER IMPLEMENTATION)
 - Redesign CAD (CAD DEVELOPMENT)

Figure 1 - General Management Board

IN PROGRESS 9		
Add storage interface with MCU	FIREBASE CLOUD DATABASE	KD
<input type="checkbox"/> LOC-49		
Integration with database	DISPLAY UI DEVELOPMENT	KD
<input type="checkbox"/> LOC-124		
Login Authentication	WEBSITE FUNCTIONALITIES	SG
<input type="checkbox"/> LOC-113		
Write unit tests for sensors	TESTING	KT
<input checked="" type="checkbox"/> LOC-126		
Create REST API for sensor data	FIREBASE CLOUD DATABASE	KT
<input type="checkbox"/> LOC-108		
Implement Twilio with the screen application	DISPLAY UI DEVELOPMENT	KT
<input checked="" type="checkbox"/> LOC-140		
Test Twilio outgoing messaging/calling from device	DISPLAY UI DEVELOPMENT	KT
<input checked="" type="checkbox"/> LOC-141		
AI model development		KD
<input checked="" type="checkbox"/> LOC-148		
Stereo Camera Depth model development		AS
<input checked="" type="checkbox"/> LOC-149		

Figure 2 - This Week's Sprint

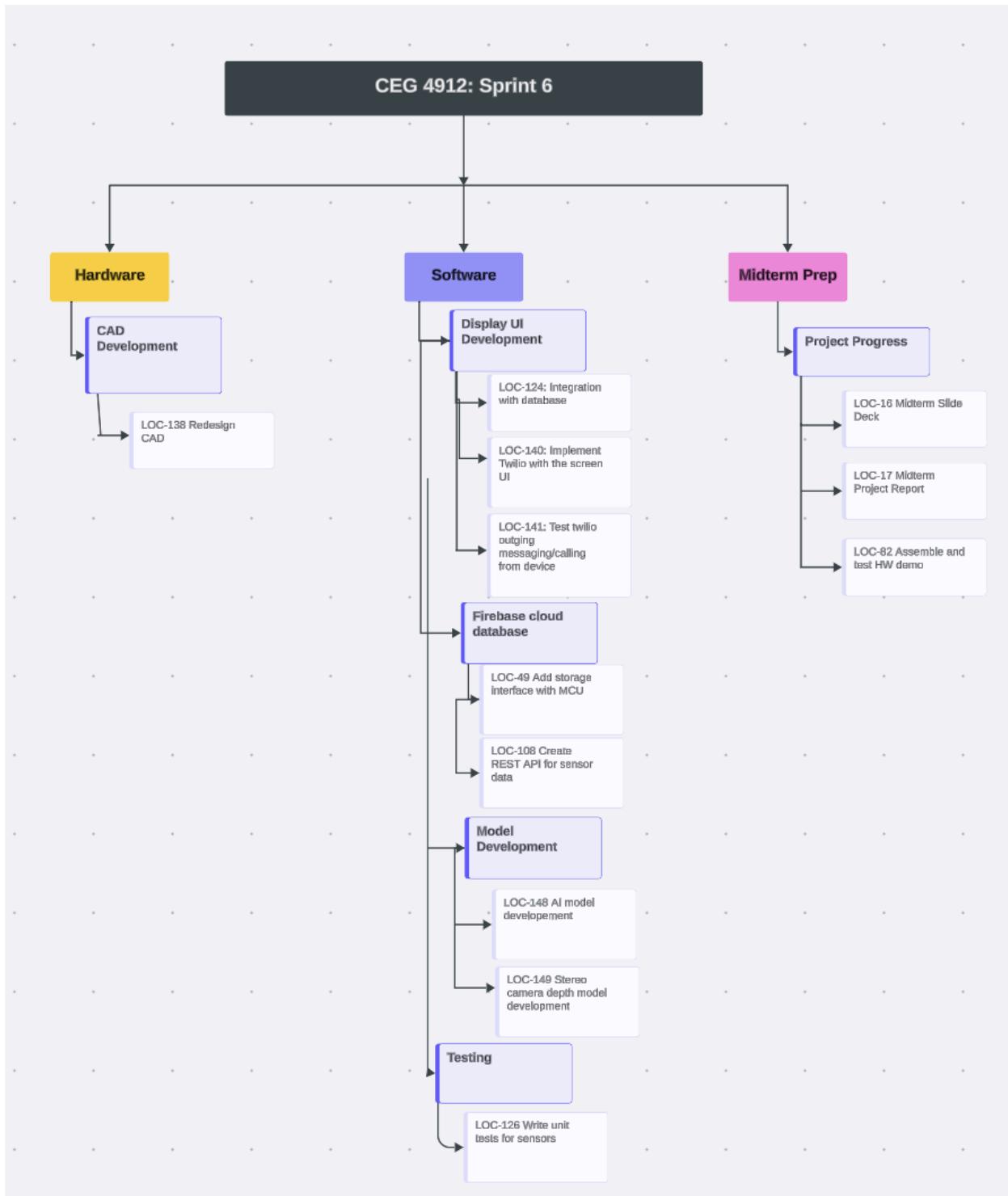


Figure 3 - WBS

Additional Notes: