sddec20-11: Dash Cam Defender
Bi-Weekly Report 5
October 13- October 26

Team Members
Evan Timmons — *Team Leader*
Ismael Duran — *Full Stack Developer*
Danny Yip — *Head Test Engineer*
Cobi Mom — *Chief Mobile Engineer*
Durga Darba — *Head Data Engineer*
Scott Vlasic — *Head Hardware Concept Engineer*

Summary of Progress this Report
Dashcam Defender™ Jetson GUI Team - Evan
- Configured the local prototype board to run the GUI
- Downloaded an implemented the necessary libraries and tools to ensure proper compatibility
- A completed custom solution to split camera input into multiple virtual cameras, allowing for video preview, recording and ALPR simultaneously

Dashcam Defender™ Hardware Team - Durga & Scott
- Met with the Software Development team to coordinate strategy for video naming conventions.
- Performed basic video upload testing to the Amazon S3 bucket

Software Development Team - Ismael, Danny & Cobi
- Create an API calls for the mobile application to be able to register to their account and be able to retrieve the registered car of the user
- Discussed with the team to plan how the database structure that will allow the mobile application to be able to view the videos directly from the mobile application
- Create add car button and create car info button at the car selection page

Pending Issues
Dashcam Defender™ Jetson GUI Team - Evan
- Resolve problem with FFmpeg video encoding causing video files to corrupt before opening

Dashcam Defender™ Hardware Team - Scott & Durga
- Find a way to ensure that the videos saved on the Jetson are named properly so that the software team can access them
- Send saved video to the s3 bucket.
- Integrate Evan's GUI with the AWS connection scripts

Plans for Upcoming Reporting Period
Dashcam Defender™ Jetson GUI Team - Evan
- Integrate the GUI system with the backend operation
- Seamlessly implement JSON and mp4 output with GUI button interface
- Test prototype system fully against benchmark values

Dashcam Defender™ Hardware Team - Scott, Evan & Durga

- Figure out ways to handle memory management on the board with the save videos.
- Make API calls to the backend database to save the location of videos with the naming convention

Software Development Team - Ismael, Danny & Cobi

- Create the video player interface that will allow the user to watch a video directly on their phone
- Create an API calls the will get the video URL location to allow streaming on the mobile application
- Develop a Lambda function to handle license plate data coming from the Jetson

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Evan Timmons	Downloaded the necessary tools and libraries to run the custom GUI on the development board. Found and configured a solution to split the camera stream into multiple virtual outputs to allow for simultaneous ALPR, recording, and video preview. Working to resolve video recording encoding issues.	13	65
Ismael Duran	Worked on building API calls using lambda function to allow the mobile application to retrieve the user's car. Discussed and planned out with the team on how we will achieve watching videos from the mobile application.	13.5	61.5
Danny Yip	Create an add button to add a car to the car selection page.I also created a car info button that pops up a car information detail. Users can add a car with info of car model, car make, year, and license plate. This information will be a tie with the user email account.	14	62
Cobi Mom	Developed a lambda function that interacts with our "Add Car" button in our Flutter app. Users are able to add a car to their account and modify it if needed. Met with the hardware team to discuss how we're going to interact with videos.	13	61
Durga Darba	Created a script that connected to the s3 directly from my computer. This script allows us to upload videos to the s3 bucket. Our next step is to connect this with the GUI on the board.	14	63
Scott Vlasic	Began researching and working with Durga for video uploading from the board to the database. Did testing with the Amazon S3 bucket and collaborated with the software team to determine what needed to be accomplished	13	61.5