SDMAY18-37 - System and app for managing general faculty/staff parking on ISU campus
Advisor: Ahmed E. Kamal

Donavan Brooks: Backend Lead
Derrick Lockwood: Team Lead
Joseph Krajcir: Quality Assurance
John Ingwersen: Mobile Master
Riley Snyder: Webmaster
Mason Schreck: Communications Lead

Weekly Summary:

Past Week Accomplishments:
Donavan Brooks: Began real-world testing of our system. Used test pictures of parking lot from my window, added three test spots into firestore, and made predictions on those spots.
Derrick Lockwood: RUNNING OF tensorflow for GPU!! Wrote up documentation on how to install tensorflow for GPU on Windows 10 (same install on ubuntu or ubuntu server is the theory). Added tensorboard to see analytics of the model. Started on optimization of the model.
Joseph Krajcir: Finally got React Native and Cloud Firestore to work together. I am able to get all necessary information from Cloud Firestore into the React Native app.
John Ingwersen: Working with mobile application (Firestore/Firebase) and creating screen mockups for design purposes.
Riley Snyder: Pre Processing device setup. Everything tested except capturing image from webcam on pi (tested working with laptop webcam).
Mason Schreck: Mobile application screenflow completed with interactions and map view stretch goal.

Pending Issues:
Donavan Brooks: Finish the queueing of parking spot images during predictions.
Derrick Lockwood: None currently
Joseph Krajcir: ListItems are not being created with the spot information gathered from Cloud Firestore. Verdict is still out on using Cloud Firestore since it still isn't working on iOS yet.
John Ingwersen: Is Firestore worth it? Deciding if we want to have any user permissions within the app, or if everyone is just generic user.
Riley Snyder: Waiting on webcam to come in.
Mason Schreck: Getting started on react native with Joe and John and get some of the slide designs actually implemented.

Individual Contributions:

Name	Individual Contributions	Hours This Week	Hours Cumulative
Donavan Brooks	Began real-world testing and implementing queue for parking spot images.	8	60
Derrick Lockwood	GPU impl. Tensorboard feature added.	10	81
Joseph Krajcir	React Native+Cloud Firestore is now working on Android	6	46
John Ingwersen	React Native work. Continueing to become more familiar with JS.	7	50
Riley Snyder	Pre-Processing device set up.	7	51
Mason Schreck	Screen mockups and transitions.	6	46

Comments and extended discussion:
Final decision on placement of prototype machine? That way I can play with it over break - Riley

Decide upon a data solution so we can develop over break, hopefully having solved the Firestore vs. built-in reactive database - Mason

Plan for coming week:
Donavan Brooks: More testing, more training of model using the GPU and tracking the progress of the model in tensorboard.
Derrick Lockwood: Continue to optimize the data section of the project and run tests on GPU machine. Possibly help with getting firestore working with react-native or revert back to using the built-in realtime database.
Joseph Krajcir: Fix generating ListItems. Then, reintroduce some app functionality that I previously implemented, such as screen navigation and selecting a parking lot.
John Ingwersen: Keep working with javascript to learn more features surround UI improvement. (Front End Dev).
Riley Snyder: Once camera comes in, finish setting up device and have working prototype machine. Start implementing threading for pre-processing.

Mason Schreck: Get react-native development underway, work with John and Joseph to start implementing the designed screens. Finish getting Android Studio setup for react-native application to emulate, and document the process a little better.

Summary of weekly advisor meeting: