

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:

This is a summary of what has been accomplished since the end of the Fall 2017 semester.

Past Week Accomplishments:

Donavan Brooks: Set up raspberry pi and webcam in room so that Riley could grab images and check connection between pre and post processing machine. Worked on creating a script so that we can grab the images taken by the pre-processing machine, overlay and number the bounding boxes over the image, and take user input to say what spaces do and don't have cars. This will automatically move the images to a dataset and create json file with labels.

Derrick Lockwood: Fixed model and got it learning on images from the internet. Added prediction function and evaluation function. Trained a model and push it to our repository so people could use it for prediction and evaluation.

Joseph Krajcir: Created a new screen in the mobile application to display the layout of lot 7. The purpose of this screen is to have a graphical representation of the spot availability of a parking spot. I currently have one graphical box mapped to a parking spot.

John Ingwersen: Rewrote a lot of the mobile codebase to be more concise and to put everything in relevant files once I was confident on the best way to do this. It should now be very easy to add new additions to the application and for new people to see what is happening.

Riley Snyder: After Donavan set up the pi and webcam I was able to get a manual version of the pre processing device done. We are able to get the image, clip the individual spots, and send to post processing device. We also keep 4 sets of images through the day for training purposes. I also set up a post processing machine given to us by the Computer Science department, it has 2 GTX 680's and will enable us to use GPUs for our training.

Mason Schreck: Started work on the web platform with AngularFire. Tackled a lot of newer package inconsistencies that caused build errors, setup production typescript file to deploy from. Setup firebase deployment for the AngularFire app to avoid using Heroku, and keeping everything dependent upon Firebase.

Pending Issues:

Donavan Brooks: Finish script
Derrick Lockwood: None

Joseph Krajcir: None.

John Ingwersen: Mobile styling (not urgent)

Riley Snyder: Getting the images to have less black space around them. Get a working daemon (right now we are using a cron job to take the pictures).

Mason Schreck: Query dynamic data and enable browser caching for data.

Individual Contributions:

will be ready when needed.

Riley Snyder: Finalize logging, and close initial command prompt issue. Start on daemon.

Mason Schreck: Finish the retrieval of data from Firestore and complete the design of the prototype page to demonstrate updating information based upon parking stall classification.

Summary of weekly advisor meeting:

We met with our advisor and summed up what had been done since we last met in the fall, and out timeline for finishing a beta and final v

Name	Individual Contributions	Hours This Week	Hours Cumulative
Donavan Brooks	Set up pi and webcam, and helped create datasets for training	10	79
Derrick Lockwood	Worked on model	12	100
Joseph Krajcir	Worked on graphical overlay	9	63
John Ingwersen	Working on mobile app	12	70
Riley Snyder	Pre & Post Processing device set up.	10	71
Mason Schreck	Working on web platform	14	70

Comments and extended discussion:

Plan for coming week:

Donavan Brooks: Finish Script, and start taking dummy prediction data and update values in firestore.

Derrick Lockwood: Continue editing DataHandler and creating prediction method that listens for new images in directory

Joseph Krajcir: Create a function that will update a box's fill color to correspond to the spot's availability.

John Ingwersen: Add handicap support for spots and create something for test lot within app so it ersion of our project.