M4 Report

1. Current State of Project

The web app and android app are now fully implemented. Backend has been dockerized for parallel computing for upto 10 simultaneous requests (optimal with Google compute VM of 4gb RAM) which can be scaled to 1000+ dockers but need more RAM on Google vm. The machine learning model had to be retrained with additional images to improve accuracy. An iOS app was also made for CookBook, but user download is not supported at the moment due to the limitations of an Apple developer account.

The web app can be found [here](#).
The Android apk can be downloaded from [here.](#)
The iOS app can be found [here](#).

2. Changes to Proposal

The AWS machine was changed to Google Compute because we decided to use our $50 credits and get 4 GB RAM instead of previous 1 GB RAM. This enabled us to use docker swarm for a robust and efficient backend. We also bought a free domain name (1 year) from Freenom.com to give an elegant name to our ip address. We also made an iOS app for CookBook.

3. Current Challenges

The project is done. The ML model has difficulty predicting fruits and vegetables that are of the same category (oranges, grapefruits, kumquats are often predicted as one another). Arguably, it is difficult for even humans to distinguish them.

4. Team Contributions

Aryan worked on retraining the model with a larger dataset to improve accuracy (created a DatasetBot using selenium library to scrape images from google) , re-designed the web-app to fit a mobile UI scale (responsiveness), dockerised backend flask API for parallel computing.

Jeremy helped test the iOS app and worked on the M4 report and final report and made the demo.

Rushil got images of CookBook for the final report.

Ting finished the Android app, and modified the training code to allow the trained model to continue training. She also worked on porting the web app to iOS.