M2 Report

1. Current State of Project

From the proposal, we made two models separately, later we will choose a better one as the final version.

One is from Jeremy: (CookBook_M2) the model has reached an accuracy of 95.56% with 10 epochs. However, we plan on growing our dataset to include more images, so the model will have to be retrained afterwards. Despite that, we already have good progress with what we have at the moment, so progress should be smooth from here for the model.

One is from Ting: (CookBook_M2_2) the optimal model with 100 epochs is the model with 96.73% accuracy, which saved as model.pht, could be checked in github. These training is based on the dataset:
https://drive.google.com/file/d/1gmHh4Jhyt_FHG_7LQmXubFa27VElwbZz/view?usp=sharing
This dataset is based on the dataset from M1, then changes a little after the first epoch. In the .ipynb, the results for all 100 epoches, the plot for all classes both could be checked. The problem here is the accuracy for some classes is not high as we expected (e.g. chilli pepper, cucumber, pea). Thus, we will figure out the possible reasons for their low accuracy and then adjust the dataset based on speculation. One thing should be mentioned is that other 99 models (checkpoints) are omitted.

2. Changes to Proposal

The proposal hasn't been changed.

3. Current Challenges

1. Gathering recipes, extracting their ingredients, and then matching recipes to identified fruits/vegetables from the model.
2. Huge dataset requires longer training time than expected, each change to the dataset requires a long time of training.

4. Team Contributions

Jeremy has assembled the code for the model and has trained it to an accuracy of 95.56%. He is now working on increasing the dataset and then retraining the model with the new dataset.

Ting has finished CookBook_M2_2.ipynb. The fact is this notebook is to show the process of training the model, and the optimal model (96.73%) is saved as 'model.pht'. She is working on how to connect the deep learning model to the back-end.