

FreshIT

Title - FreshIT

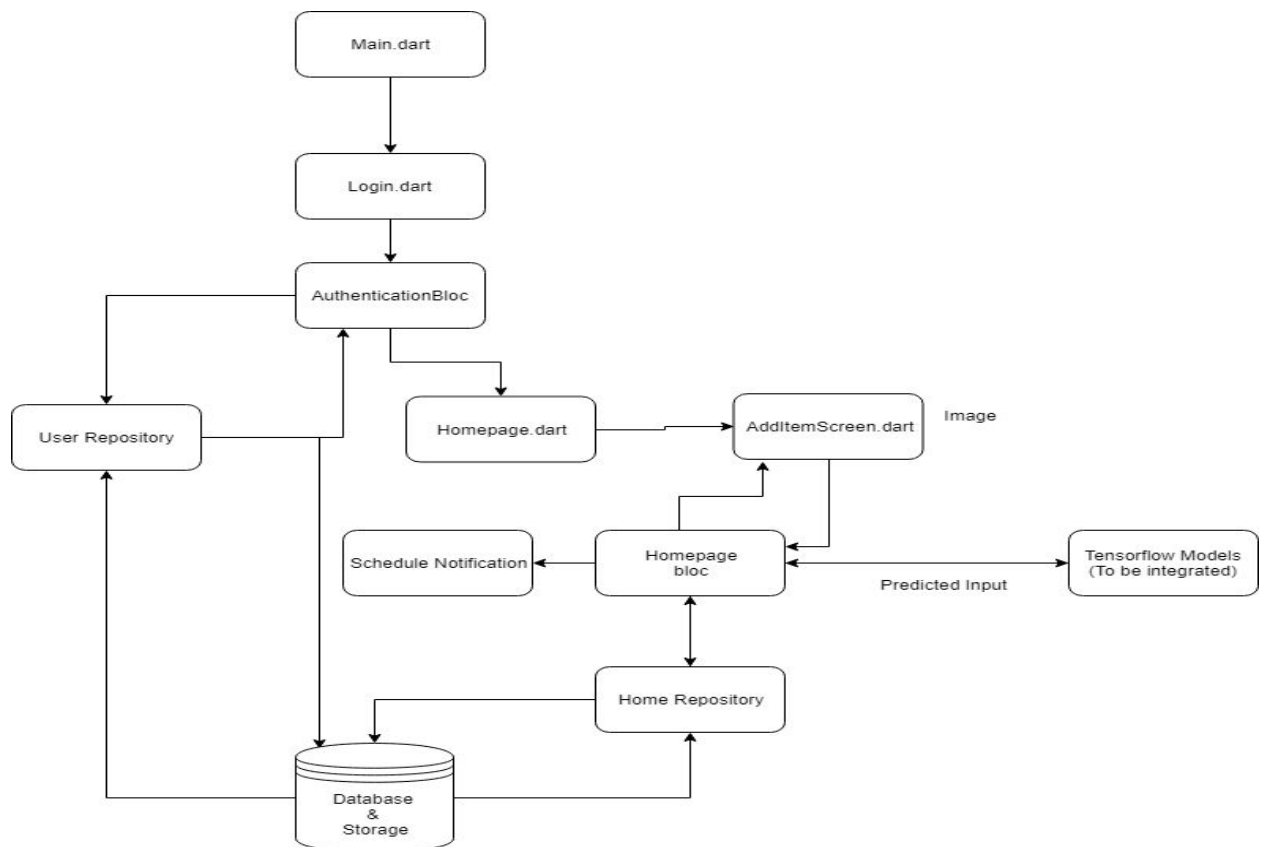
Project ID - 24

Objective - To prevent food wastage due to expiration, develop an application that tells you when your food is going to expire so that you can use it before it does. It should intelligently send you an alert when your food is close to expiring.

Team - Ayush Agrawal, 2017A8PS0604G, f20170604@goa.bits-pilani.ac.in, High

Mayank Harsani, 2015A7PS0010G, f20150010@goa.bits-pilani.ac.in, High

Architecture Diagram -



Hardware Prerequisites:-

- NVIDIA® GPU card with CUDA® Compute Capability 3.5 or higher enabled for Tensorflow.
- NVIDIA® GTX 1070 or above preferred.
- Quad core Intel Core i7 Skylake or higher
- 8Gb RAM recommended
- 16Gb of disk space
- 1280 x 800 minimum screen resolution

Software Prerequisites -

- Android API Level : ^18
- Flutter Framework by Google
- Git
- Anaconda/Jupyter Notebook
- Firebase
- Android Studio
- Flutter packages
 - date_format: ^1.0.6
 - flutter_bloc: ^0.9.1
 - equatable: ^0.2.3
 - firebase_auth: ^0.8.3
 - cloud_firestore: ^0.9.11
 - image_picker: ^0.5.1
 - firebase_storage: ^2.1.0+1
 - flutter_secure_storage: ^3.2.1+1
 - flutter_local_notifications: ^0.6.0
 - datetime_picker_formfield: ^0.1.8

Before Mid-semester - Basic Design implementation Prototype of Front-end was developed.

Progress after Midsem -

- 1.) Comments during Mid-semester demo provided us assurance that the design implementation of application is ok and can be proceeded with for final development. It also helped us to remove the barcode functionality due to lack of Universal barcode formats for Fruit/Vegetable Scanning.
- 2.) Currently entire Frontend is ready with complete functionality for both Android as well as iOS.
- 3.) Backend currently supports taking product image through camera, manual input of data. It fulfills the basic objective of the project to minimize food wastage through notifications.
- 4.) Image Classification Models trained using Inceptionv3 and achieved following results.

Fruits : Final Test Accuracy - 98.1% , Validation Accuracy - 98%

Groceries : Final Test Accuracy - 72.9% , Validation Accuracy - 77%

Usage of the app - Cannot be shown due to Causality between expiry date and notifications.

Link to Source Code -

Github Link - <https://github.com/Mynk96/FreshIt> (Complete with all links and Colab Files)

Google Drive Link -

1. Tensorflow Colab Files and Trained Models :
https://drive.google.com/open?id=1QYxEYT87pf46-IT9Gnl7HG6nOKZnOp_y
2. FreshIT App Package -
<https://drive.google.com/open?id=14-wWoLV8PnIMaArcBvs1YAq0kZDa0xQ6>

Unfinished Tasks - TensorFlow Trained Models Integration