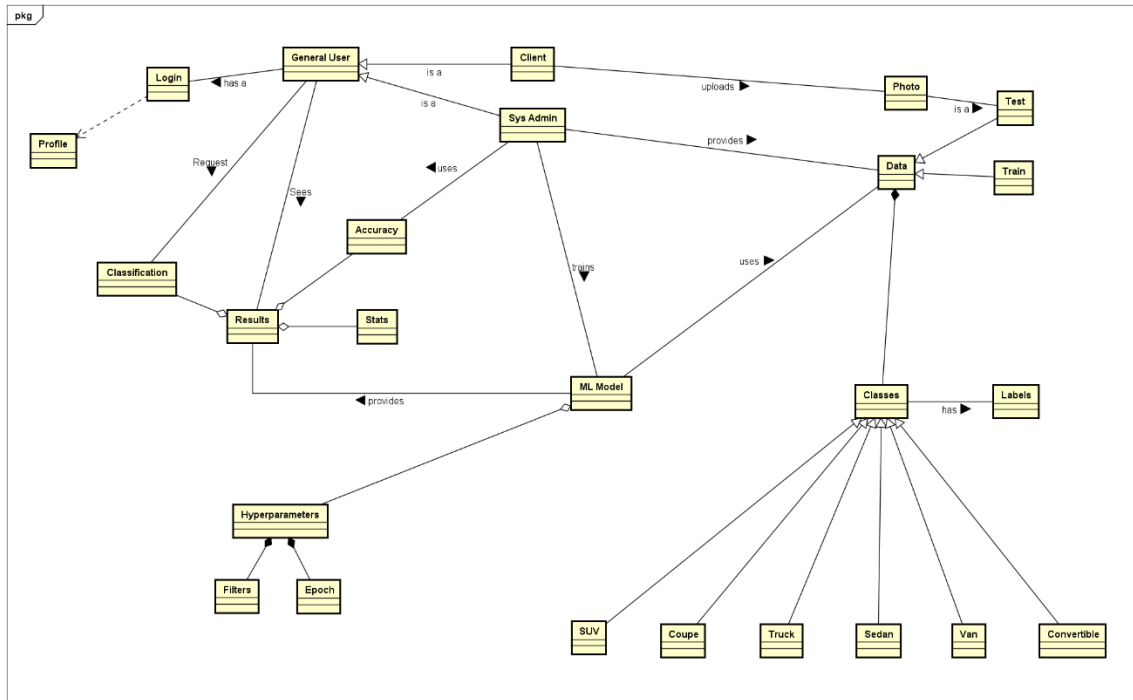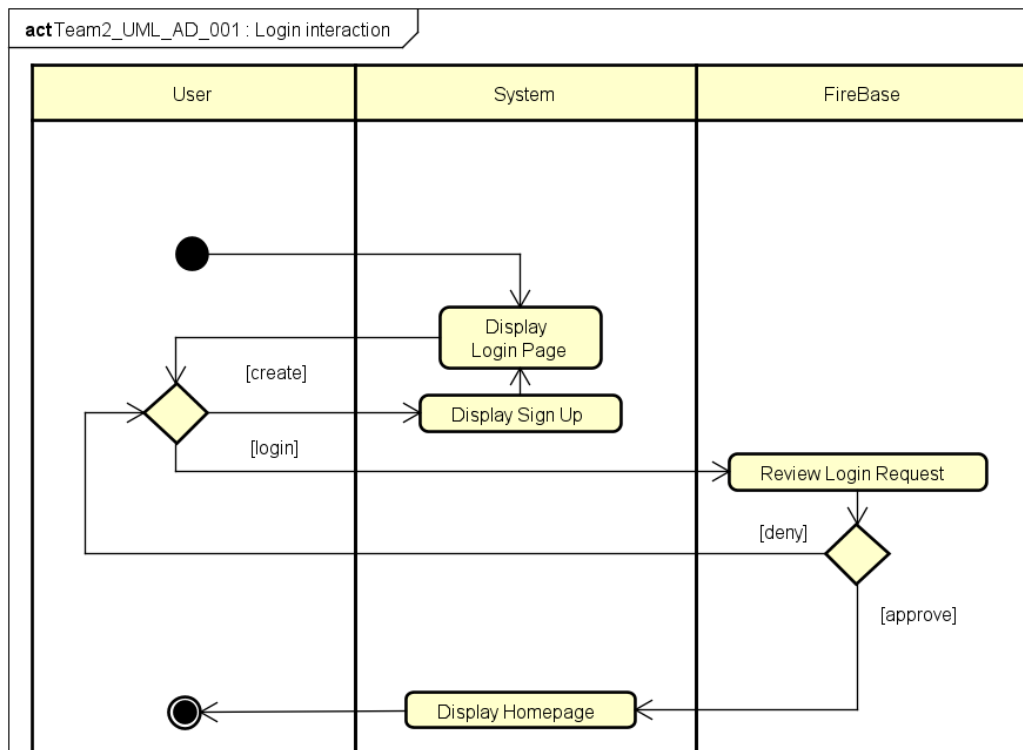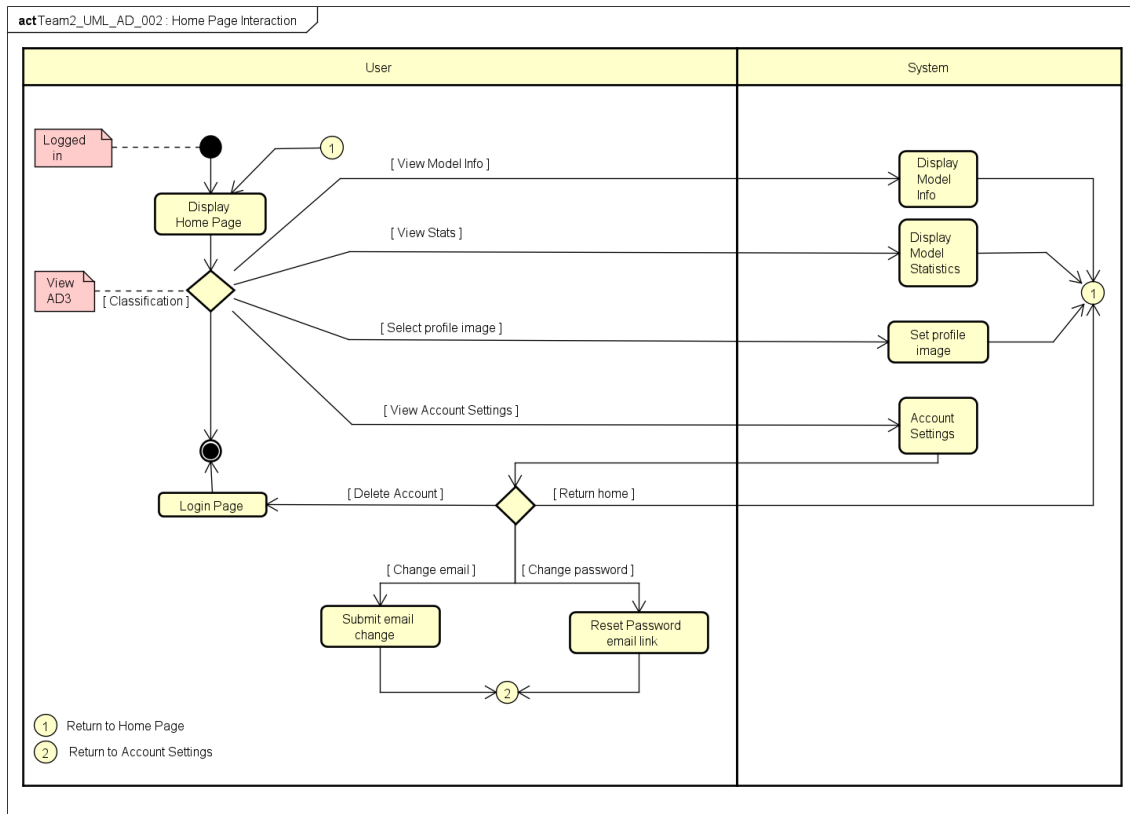## 5.2 UML DIAGRAMS

CLASS DIAGRAM

ACTIVITY DIAGRAM – Login Interaction

User	System

Logged in

Display Home Page

[View Model Info]

Display Model Info

[View Stats]

Display Model Statistics

View AD3

[Classification]

[Select profile image]

Set profile image

[View Account Settings]

Account Settings

Login Page

[Delete Account]

[Return home]

[Change email]

[Change password]

Submit email change

Reset Password email link

1   Return to Home Page

2   Return to Account Settings

ACTIVITY DIAGRAM – Home Page Interaction

User	Front End	Back End

[Choose Photo]

Open Camera Roll

Set FirebaseVisionImage

[Take Photo]

Open Camera

Run TFLITE model

[Cancel]

[Confirm Selection]

Save results

Request Classification

Display Results
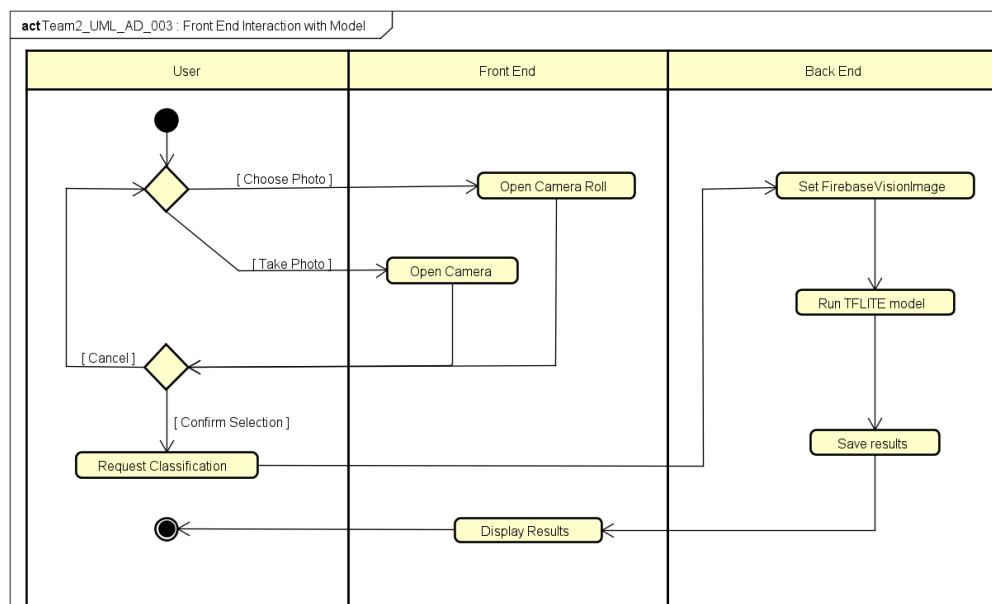
ACTIVITY DIAGRAM – Front End Interaction with Model

28

act Team2_UML_AD_004 : Back End

System Admin	System / Model

Gather Data

Implement Model with Tensor Flow Keras

[Run model after adjustments]

1

Set Epoch count

Preprocess images

Split data into Training set and Test set

Run Training

Verify training results

Calculate Validation Accuracy

1

AD 005

[Adjust model]

[Needs more training]

[Satisfied with training]

Run Testing

[Adjust model]

Deploy

[Overall accuracy good]

Calculate final accuracy

ACTIVITY DIAGRAM – Back End
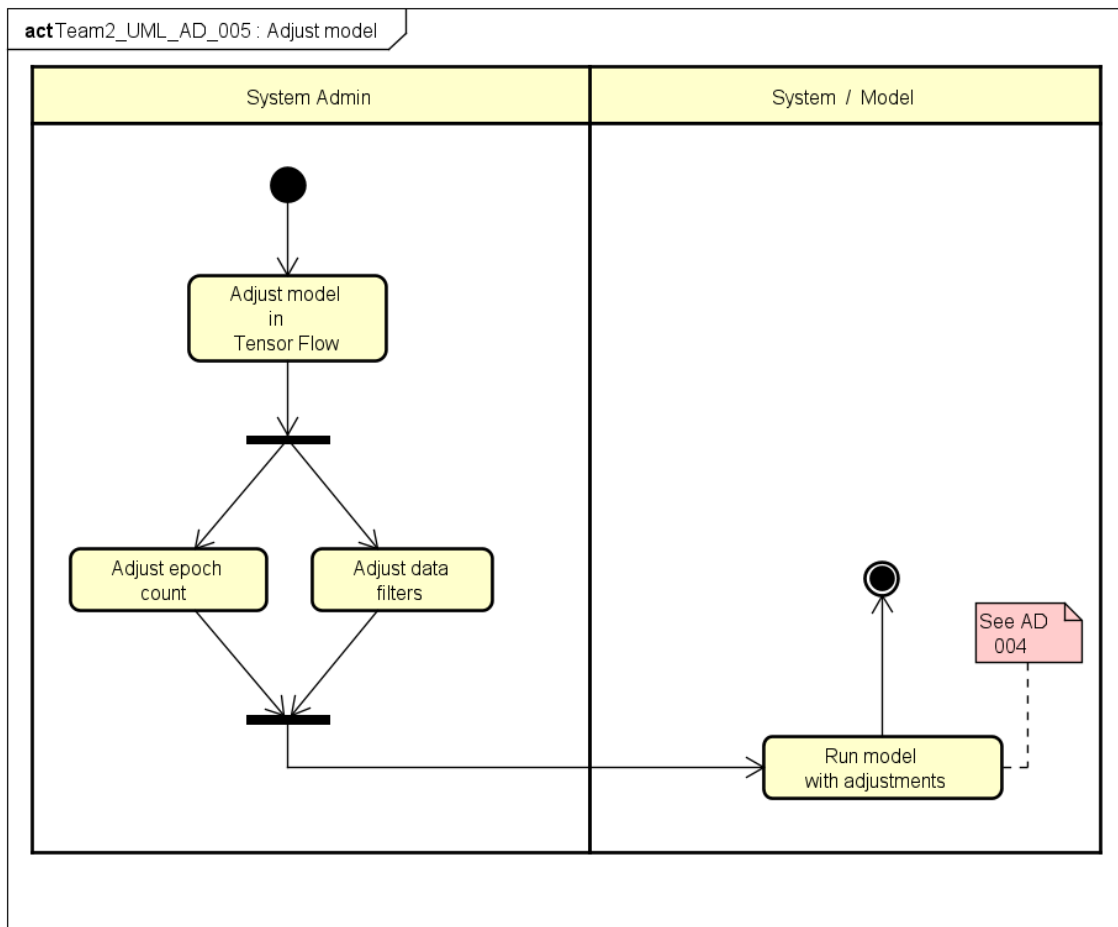
ACTIVITY DIAGRAM – Adjust Model

sd Team2_UML_SD_001 : Login interaction

: User
: Front End
: Fire Base

alt : Succesful login

1: Enter user name()

2: Enter password()

3: Submit login request()

3.1: Review login request()

Approve login

Display Home Page

alt : Failed login

4: Enter user name()

5: Enter password()

6: Submit login request()

6.1: Review login request()

Deny login

Display login page
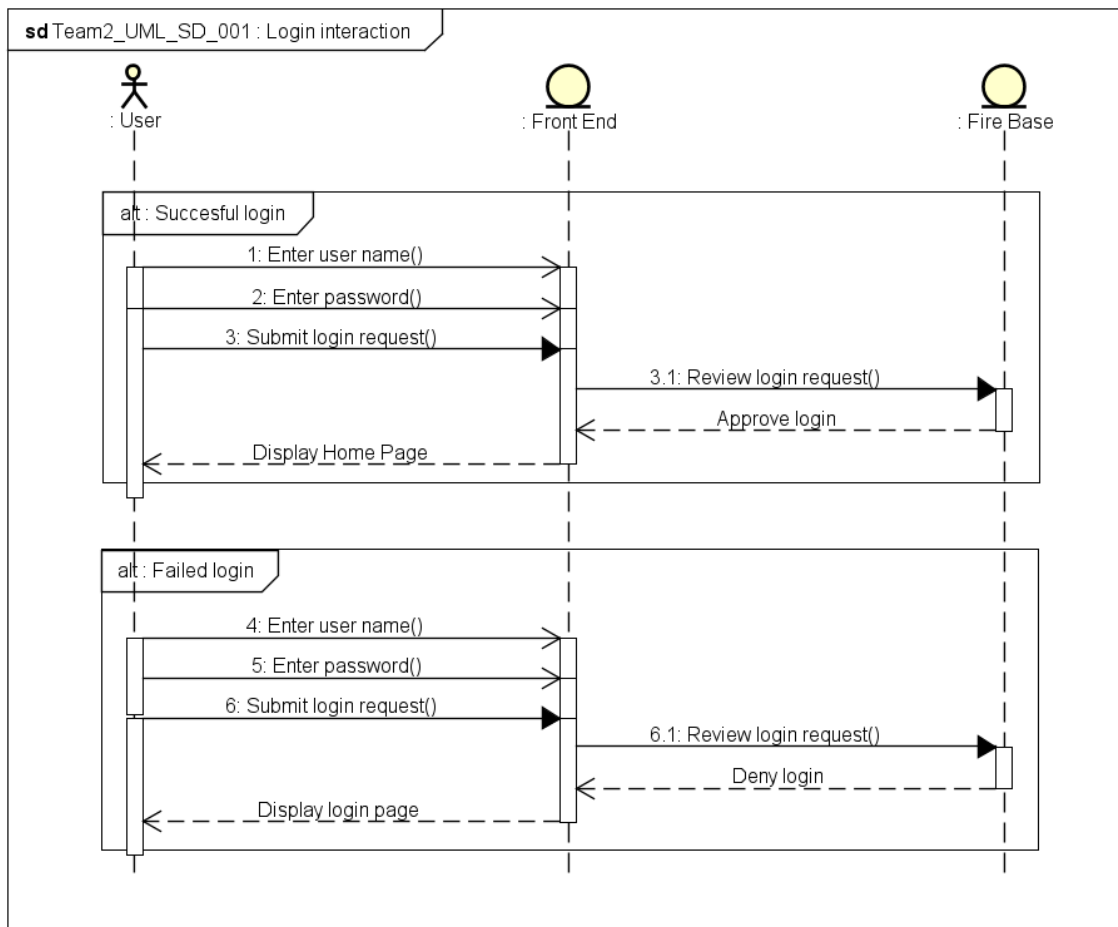
SEQUENCE DIAGRAM – Login Interaction

31

sd Team2_UML_SD_002 : Front end interaction with model

: User

: Front End

: Back End

View SD 001
Login interaction

1: Upload an image()

2: Request classification()

2.1: Run Model()

Return result

2.2: Save result()

Display result
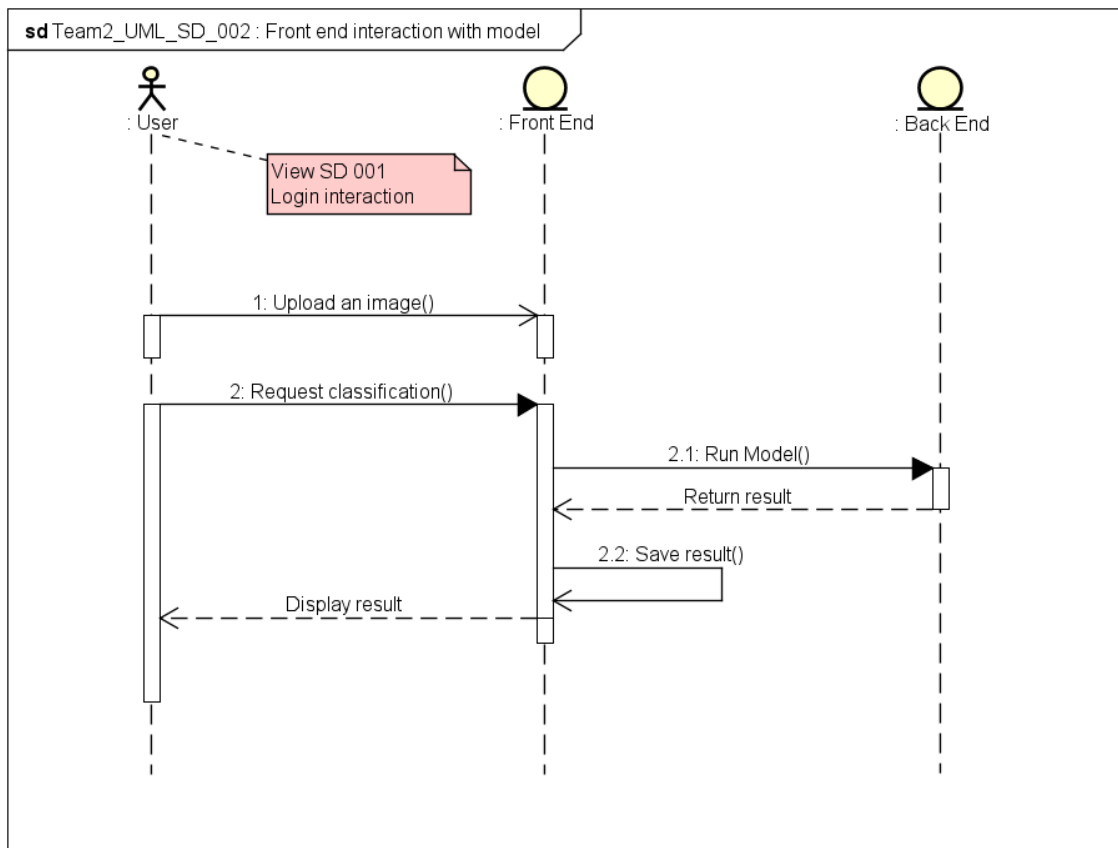
SEQUENCE DIAGRAM – Front end interaction with model
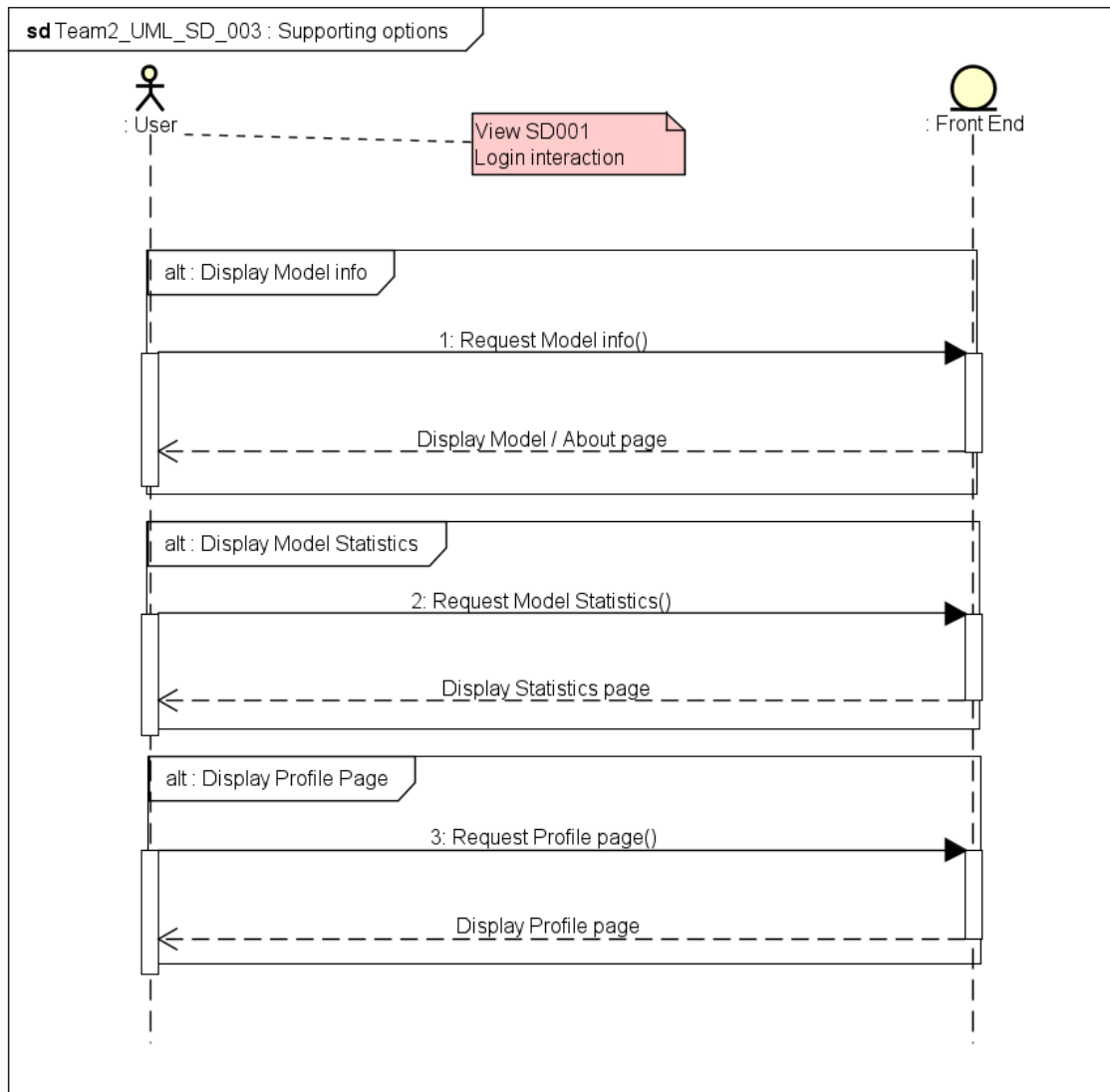
SEQUENCE DIAGRAM – Supporting options

sd Team2_UML_SD_004 : Training to Testing

: System Admin : Model

1: Gather data()

1.1: Preprocess images()

1.1.1: Choose epoch count()

1.1.1.1: Implement model()

2: Train model with training images()

Display results / Calculate accuracy

alt : Adjust model

3: Evaluate training accuracy()

3.1: Make adjustments()

3.2: Retrain model with training images()

alt : Accept training accuracy

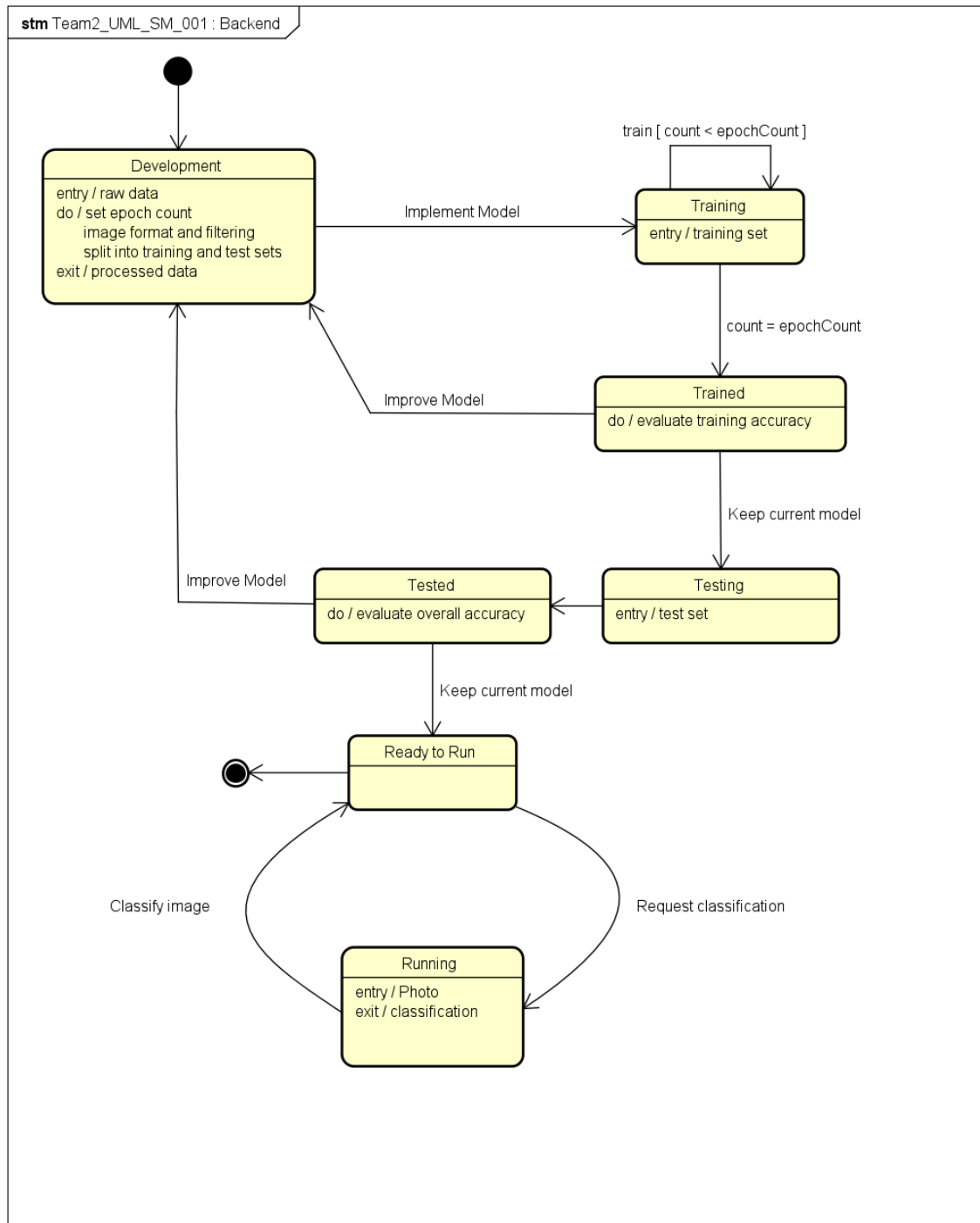4: Evaluate training accuracy()

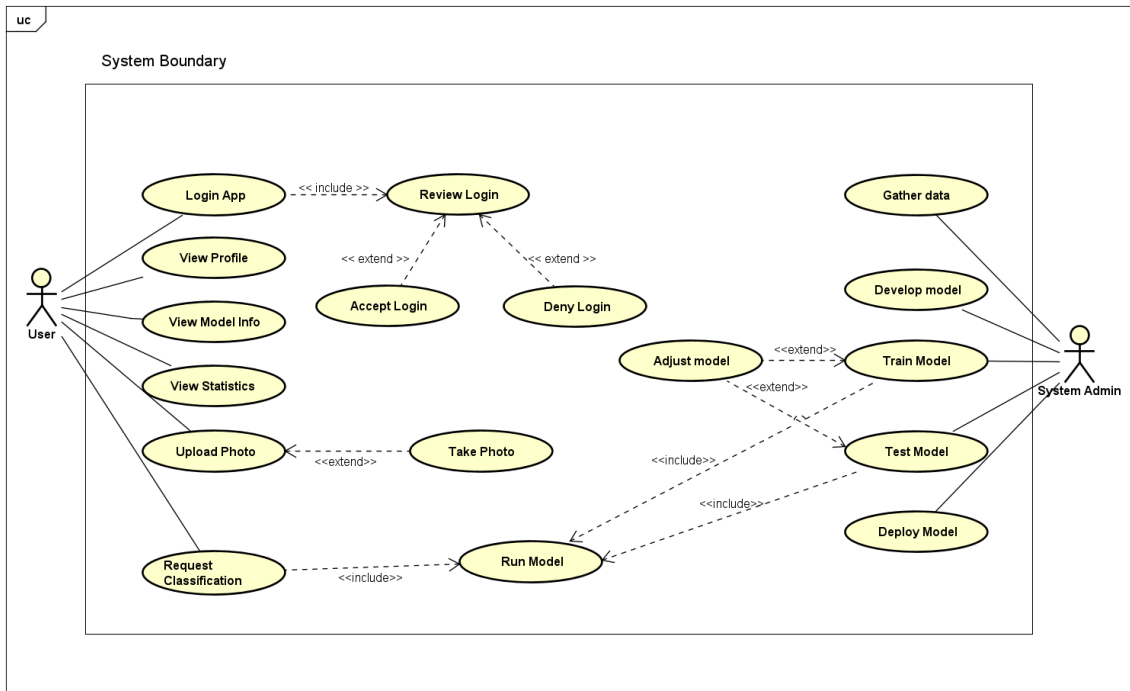View SD003

SEQUENCE DIAGRAM – Training to Testing
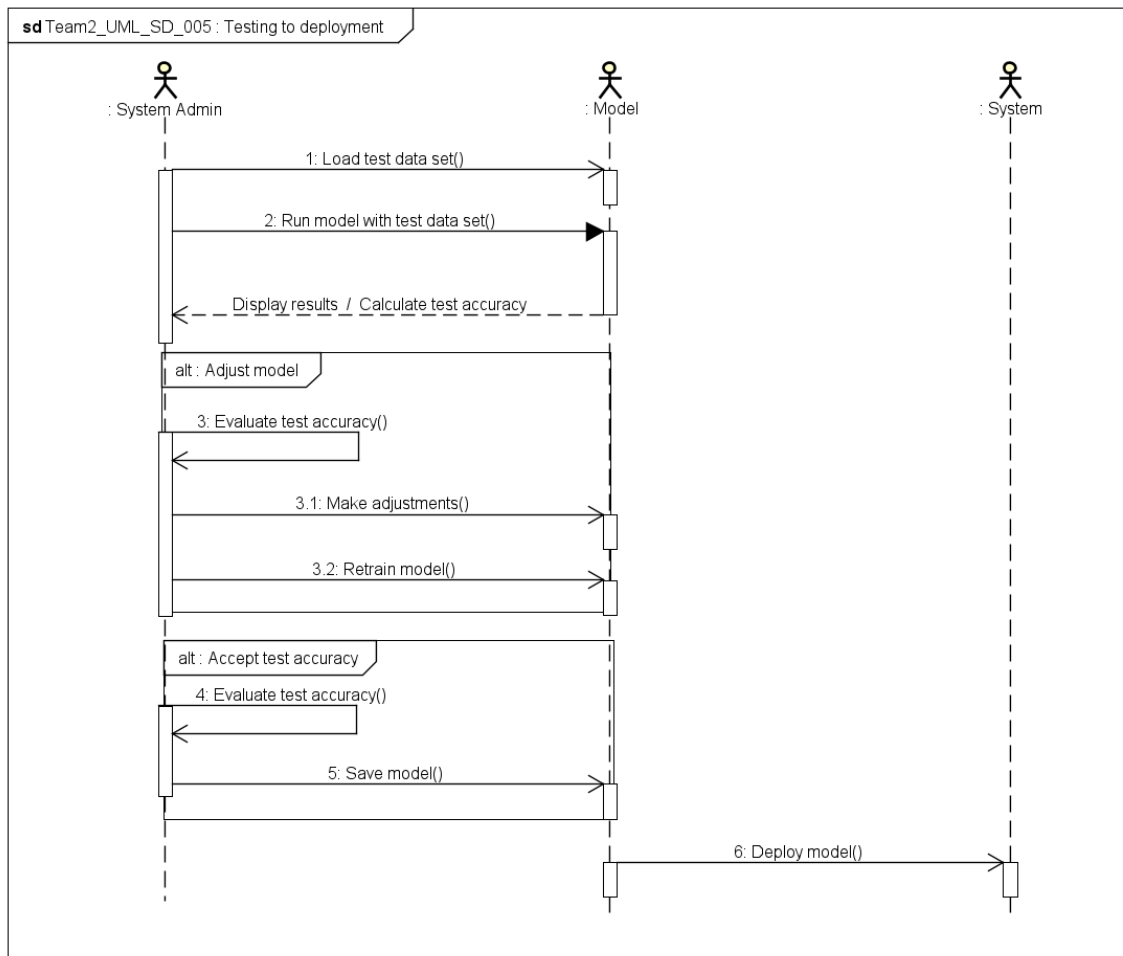
SEQUENCE DIAGRAM – Testing to deployment

STATE MACHINE DIAGRAM – Back End

USE CASE DIAGRAM

5.3 Conceptual Data Model – Database

pkg

Firestore Maverick Information

Firebase Authentication

Hash map

Firebase Firestore

Name

JSON file

UTA ID

Profession