Project:	Auto-Learn
Team No.:	2
Class:	CSE 3310; Spring 2020
Module:	Test Plan
Deliverable:	Test Plan Document

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Revision History

Version number	*Date*	*Originator*	*Reason for change*	*High level description of changes*
1.0	04/06/2020	Edrik Aguilera William Anderson Ryan Laurents	Initial draft	Sections 2-8 implemented
1.1	04/15/2020	Edrik Aguilera	Last column filled	Pass or fail checks

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1. Introduction and Plan of Approach

Summary

AutoLearn is an android application supporting version 7.0 (Nougat) of Android. The app should be able to allow users to upload pictures, and classify the picture if it has a vehicle or not. The app should use a machine learning model to classify the vehicles. The picture (if a vehicle is found) should classify the picture as one of the following categories: MPV, SUV, Sedan, Hatchback. Minibus. Fastback, Estate, Pickup, Hardtop Convertible, Sports, Crossover, Convertible. After the user has taken a picture or chosen one to classify the model should classify the picture and display the results to the user. The user can then choose to make another classification by uploading another picture, or the user can choose to view the statistics of the classification they just performed. The user should also be able to customize their account by choosing another profile picture, changing their password, changing their college/academic information, and the changes should be saved to a database. Previous classifications should be seen in the user's account statistics and they should be able to view them, save them, or delete them.

In general here are the functions users should be able to do with AutoLearn in no specific order:

- Upload a picture
- Create an account
- Classify a picture with a vehicle
- View statistics of a previous classification performed
- View, save, or delete previous classifications
- Customize their account
- Change profile picture, personal information, and password

Assumptions

- User's phone has wifi connection
- User's phone has a camera
- User's phone has a touch screen
- User's phone has sufficient system requirements
- User's phone has the accurate operating system

Components covered

1. Login
2. Home Screen
3. Settings page
4. Profile
5. Take Photo
6. Upload Photo
7. Classification

2. Test Cases: “Login”

Project Name: Auto-Learn
Test Case Name: Login
Test Case Id: CSE3310/Spring 2020/Team2/ Login

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1 - Sign Up	Click the “Sign Up” page near the bottom of the splash page.	The user will be navigated to the sign up page.	**Pass:** New activity is presented
TC2 - Enter Profile Info	Enter the below information and hit “Confirm” Name UTA ID: (10 digits) Email - Valid email address. Password - Longer than 5 characters and contain at least 1 special character.	Account will be created and ready for use. The user will still be on the splash page.	**Fail:** Entries are presented and the user may enter the following information, but hitting register does not register as firebase has not been implemented.
TC2 - Login	Tab into the email and password fields and enter a valid user ID/password.	System should allow the user to login and navigate to the home screen.	**Fail:** Entry fields can be filled in and hitting login will bring the user to the home page. But the firebase is not set up.
TC3 - Invalid Login	Tab into the email and password fields and enter an invalid username and password.	System should not accept the invalid credentials and prevent you from entering the system.	**Fail:** System will allow any credential in, as firebase has not been set up
TC4 - Forgot Password	Enter a valid username and press “Forgot Password”.	System should prompt you with a security question and	Yet to be implemented

		send a temporary password to your email.	
TC5 - Invalid FP	Enter an invalid username and press “Forgot Password”.	System should prompt with an “invalid userID” message.	Yet to be implemented
TC6 - Logo	AutoLearn logo.	The AutoLearn logo should display on the splash page.	**Pass**

3. Test Cases: “Home Screen”

Project Name: Auto-Learn
Test Case Name: Home Screen
Test Case Id: CSE3310/Spring 2020/Team2/ Home_Screen

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1 - Settings	Click the “Settings” button in the top left of the home screen.	Settings menu opens from the left side of the screen.	**Pass**
TC2 - Profile	Click the profile button in the top right of the home screen.	The user should be navigated to the profile page.	Not implemented
TC3 - Take Photo	Click the “Take Photo” button in the bottom right hand corner of the home screen.	The device’s camera will be opened to allow user to take a photo	**Pass**
TC4 - Upload Photo	Click the “Upload Photo” button in the bottom right hand corner of the home screen.	The device’s camera roll application should be opened and will allow the user to select one photo for classification.	**Pass**
TC5 - Classify image	Click the “Classify” button in the bottom center of the screen.	Machine learning model will be run and classification will be displayed.	Not implemented, no ML model

4. Test Cases: “Settings”

Project Name: Auto-Learn
Test Case Name: Settings
Test Case Id: CSE3310/Spring 2020/Team2/Settings

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1 - Back Home	From settings menu press the right side of the screen or swipe menu away	Settings menu will disappear and Home page will be displayed	**Pass**
TC2 - Model Stats	From settings menu press “Model Statistics”	Before classifying anything there should be a brief message displayed to encourage trying the classification feature. After classifying at least one image there should be detailed statistics of your previous classifications.	Not implemented, no ML model
TC2 - Model Info	From settings menu press “Model Information”	Application navigates to Information page where project team members and any information pertaining to the machine learning model will be displayed	Not implemented
TC3 - Model info Back	From “Model Information” press back arrow	Exit Information page and return to “Home”	**Pass**: but data is not persistent
TC3 - Model stats Back	From “Model Statistics” press back arrow	Exit Information page and return to “Home”	**Pass**: but data is not persistent
TC4 - Logout	From settings menu press “Logout”	User is logged out and application navigates to “Login Page”	**Fail:** no firebase yet so no log out, but app does navigate to Login Page

TC5 - Exit	From settings menu press “Exit AutoLearn”	Application closes and device home screen is displayed	**Pass**

5. Test Cases: “Profile”

Project Name: Auto-Learn
Test Case Name: Profile
Test Case Id: CSE3310/Spring 2020/Team2/Profile

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1 - Back Home	Click the back arrow in the top left of the “Profile” page.	The user will be navigated back to the home screen.	Not implemented
TC2 - Profile Picture	Click the Profile Picture Bubble located in the upper left hand corner of the “Profile” page.	The device’s camera roll will open and prompt the user to choose a photo for their Profile Picture. Once chosen, they can hit the “Confirm” button at the bottom of the screen.	Not implemented
TC3 - Edit Profile	Click the “Edit Profile” button near the bottom of the profile page.	The user will be allowed to edit their personal information in the text boxes on screen. Personal information includes: Email address Name Major (Drop Down box with all UTA majors) UTA ID (Must be 10 digits)	Not implemented
TC4 - Cancel Edit	Click the “Cancel” button at the bottom of the “Edit Profile” page.	The application will not save any changes made to the users profile. The user will be back on the “Profile” page.	Not implemented
TC5 - Confirm Edit	Click the “Confirm Changes” button at the bottom of the “Edit Profile” page.	The application will save profile changes and navigate the user back to the “Profile” page, where their updated information will be displayed.	Not implemented

TC6 - Change Password	Click the “Change Password” button at the bottom of the “Profile” page.	The user will be prompted for their current password and also to confirm that password. The pop-up will have a “Cancel” button as well as a “Confirm” button.	Not implemented
TC7 - Cancel Change PW	Click the “Cancel” button on the “Change Password” pop-up.	The pop-up will be closed and the system will not save any changes the user may have made. The user will be on the “Profile” page.	Not implemented
TC8 - Confirm Change PW	Click the “Confirm” button on the “Change Password” pop-up.	The pop-up will be closed with a “Success!” message displayed to the user. The user will be on the “Profile” page.	Not implemented

6. Test Cases: “Take Photo”

Project Name: Auto-Learn
Test Case Name: Take Photo
Test Case Id: CSE3310/Spring 2020/Team2/Take_Photo

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1 - Instructions	From “Home Page” the user will click “Okay!” on the instructions pop up	Pop up will be closed	Not implemented
TC2 - Permission	First time users will be prompted to grant the application permission/access to the device’s native camera	Permissions pop up should appear with two options: Allow / Deny	**Pass**
TC3 - Deny Permission	From permissions pop up user clicks “Deny”	Camera will not be accessed and notification will be displayed to inform user to go to App Settings to allow permission	**Pass**
TC4 - Allow Permission	From permissions pop up user clicks “Allow”	The device’s camera will be accessed	**Pass**
TC5 - Take Photo	From the Camera display press the “Take Photo” (Camera icon) button	Once the photo is taken the classification process will start automatically	**Pass**
TC6 - Back Home	From the Camera display press the back arrow	Application will navigate to “Home Page”	**Pass**

7. Test Cases: “Upload Photo”

Project Name: Auto-Learn
Test Case Name: Upload Photo
Test Case Id: CSE3310/Spring 2020/Team2/Upload_Photo

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1 - Permission	First time users will be prompted to grant the application permission/access to the device’s photo gallery	Permissions pop up should appear with two options: Allow / Deny	**Pass**
TC2 - Deny Permission	From permissions pop up user clicks “Deny”	Photo gallery will not be accessed and notification will be displayed to inform user to go to App Settings to allow permission	**Pass**
TC3 - Allow Permission	From permissions pop up user clicks “Allow”	The device’s photo gallery will be accessed, with a greyed out submit button	**Pass**
TC4 - Select Image	Select one (1) image	Submit button will become available	**Pass**
TC5 - Submit Image	With one image selected press “Submit” button	Once submitted classification process will start automatically	Not implemented
TC6 - Back Home	From the photo gallery press the back arrow	Application will navigate to “Home Page”	**Pass**

8. Test Cases: “Classification”

Project Name: Auto-Learn
Test Case Name: Classification
Test Case Id: CSE3310/Spring 2020/Team2/Classification

Test Case No.	Test Case Description	Expected results	Outcome Pass, Fail, Other (comments)
TC1 - MPV	The user takes/uploads a photo of an MPV (Multi Purpose Vehicle). [Ex: Honda Odyssey]	The classification will return a message: “MPV”	Not implemented: no ML Model
TC3 - SUV	The user takes/uploads a photo of an SUV (Sports Utility Vehicle). [Ex: Toyota RAV4]	The classification will return a message: “SUV”	Not implemented: no ML Model
TC3 - Sedan	The user takes/uploads a photo of a Sedan. [Ex: Toyota Camry]	The classification will return a message: “Sedan”	Not implemented: no ML Model
TC4 - Hatchback	The user takes/uploads a photo of a Hatchback. [Ex: Honda Fit]	The classification will return a message: “Hatchback”	Not implemented: no ML Model
TC5 - Minibus	The user takes/uploads a photo of a Minibus. [Ex: Nissan Civilian]	The classification will return a message: “Minibus”	Not implemented: no ML Model
TC6 - Fastback	The user takes/uploads a photo of a Fastback. [Ex: Ford Mustang]	The classification will return a message: “Fastback”	Not implemented: no ML Model
TC7 - Estate	The user takes/uploads a photo of an Estate (Station Wagon). [Ex: Volvo V60]	The classification will return a message: “Estate”	Not implemented: no ML Model
TC8 - Pickup	The user takes/uploads a photo of a Pickup Truck. [Ex: Chevrolet Silverado]	The classification will return a message: “Pickup”	Not implemented: no ML Model

TC9 - Hardtop	The user takes/uploads a photo of a Hardtop Convertible [Ex: Mercedes SL]	The classification will return a message: “Hardtop Convertible”	Not implemented: no ML Model
TC10 - Sports	The user takes/uploads a photo of a Sports Car. [Ex: Porsche 911]	The classification will return a message: “Sports Car”	Not implemented: no ML Model
TC11 - Crossover	The user takes/uploads a photo of a Crossover. [Ex: Honda CR-V]	The classification will return a message: “Crossover”	Not implemented: no ML Model
TC12 - Soft Top	The user takes/uploads a photo of a Soft Top Convertible [Ex: BMW 4 Series Convertible]	The classification will return a message: “Soft Top Convertible:	Not implemented: no ML Model
TC13 - Other	The user takes/uploads a photo of a vehicle that doesn’t fall into any of these categories.	The classification will return a message with the category that it determines is a best fit for the uploaded photo.	Not implemented: no ML Model