Assist Robot

Project Report

Project Team – 8

Team Members

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Table of Contents

1. Introduction:

The main goal of the project is to help people in finding their misplaced objects. Basically humans have a tendency to forget their belongings somewhere in their house and search for it for hours together. For example, if I have an important business meeting to attend, but I don't remember where I placed my car keys, then I might miss my meeting or can be late to the schedule. So to prevail in these circumstances here comes our Friendly Robot- My Friend which could assist me in keeping track of my personal things. So what this robot will do is that it will have entire map (laser scan) of the building and objects in the building in its memory. So we will feed the robot with the objects that are highly important to us, like car keys, some files, phone and laptop. This robot will keep its eye on these objects and notify their location to its master upon request. Additionally our Robot who will be an eFriend who will help us to choose the furniture to our home. Also our robot will suggest us the top rated books.

2. Project Goal and Objectives:

The primary goals of our project is described below:

- To implement a module to create an android application where the user is provided with the login page. The user will be provided with the features of registering the new account or to login with an existing account.
- To implement an android module where user identification is done using facial reorganization.
- To implement an android module where there must be a camera facility. The objects image must be captured and should save the image to the SD card.
- To implement a module which could implement client server module where the client (android device) will be sending the streaming images to server (Spark).
- To implement an image classification module using machine learning techniques in which the image that comes from the android device should be classified.
- To implement a recommendation module where the location of the classified image should be recommended.
- To implement a module where the notifications about the classification and recommendation will be sent to an android device.

- To build a recommendation system which will suggest us about the latest furniture details, their quality and from which brand/ shop we could purchase from. This feature enables us to decorate our houses with rich interior designing.

3. Tools and Frameworks

Android Studio:

An official Integrated Developer Environment which we used for Android application development. It is based on IntelliJ IDEA with powerful code editor and developer tools embedding flexible 'Gradle' based build system. It also support drag and drop editing which helped us in developing rich User Interface. It also had built in feature like emulator where we can test our developed applications without being deployed on actual device.

Intellij IDEA:

It's a Java Integrated Development Environment which helps to develop software applications with the support of various languages like Scala, SQL, Java which we had used for our project. It provides variety of build and packaging tools like Maven, Grunt, Gradle, SBT etc.

Maven – A build automation tool developed by Apache organization that is used for adding dependencies and external JARS for JAVA based projects.

SBT – An open source tool which can run on cross platform for building Scala and JAVA based projects. An added advantage of this build tool is that it can compile Scala projects by integrating them with many test frameworks. It has a special feature called Ivy with which it provides dependency management.

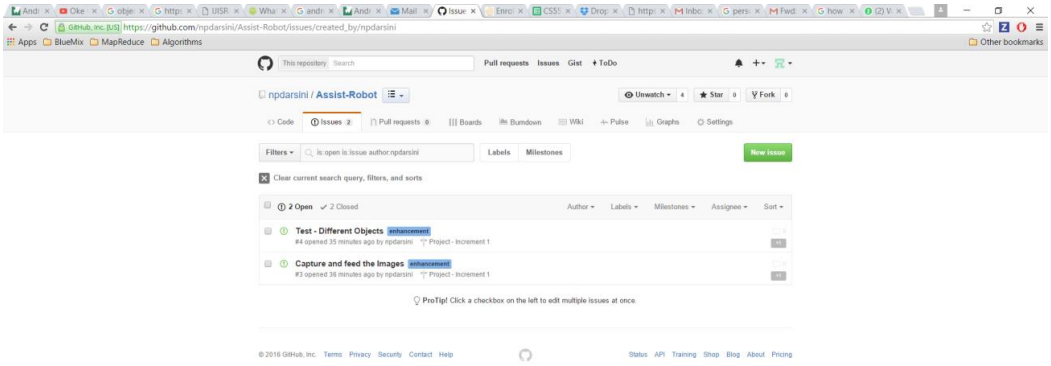
Spark:

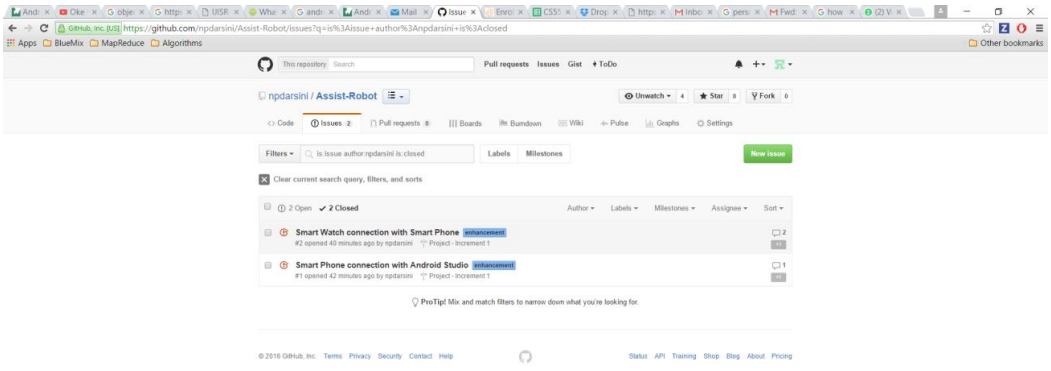
Spark is an open source framework that runs on top of Hadoop clustering systems. It is experimentally proved that Spark can process the data at least 10 times faster than when it runs on local disk. Spark has a variety of features and it supports various languages like R, SQL, Python, Scala and JAVA. In the project we had used Spark features like MLlib, streaming and data frames. Spark MLlib is a Machine Learning library which has the algorithms like Naive Base, Random Forest, and Alternate Least Squares etc.

4. Project Plan:

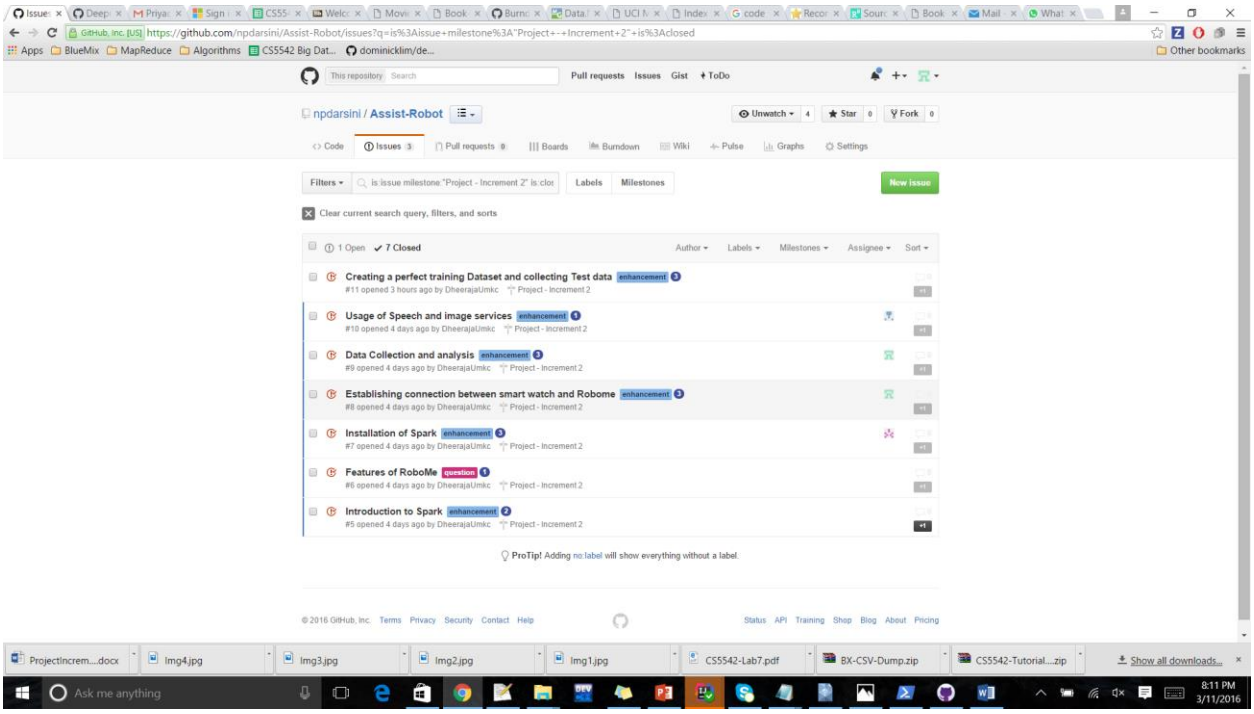
4.1 Schedule:

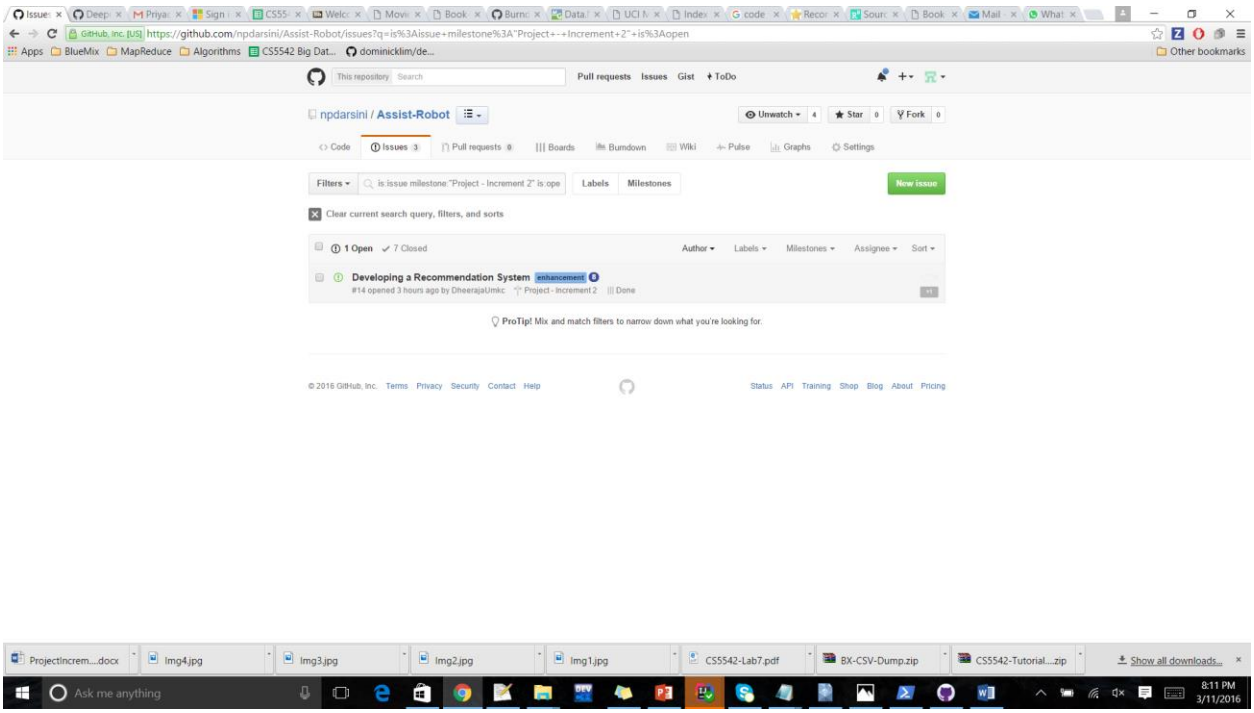
Stories: Four user stories had been created as part of Iteration 1. Here are the snapshots for the stories which are in closed and opened state.



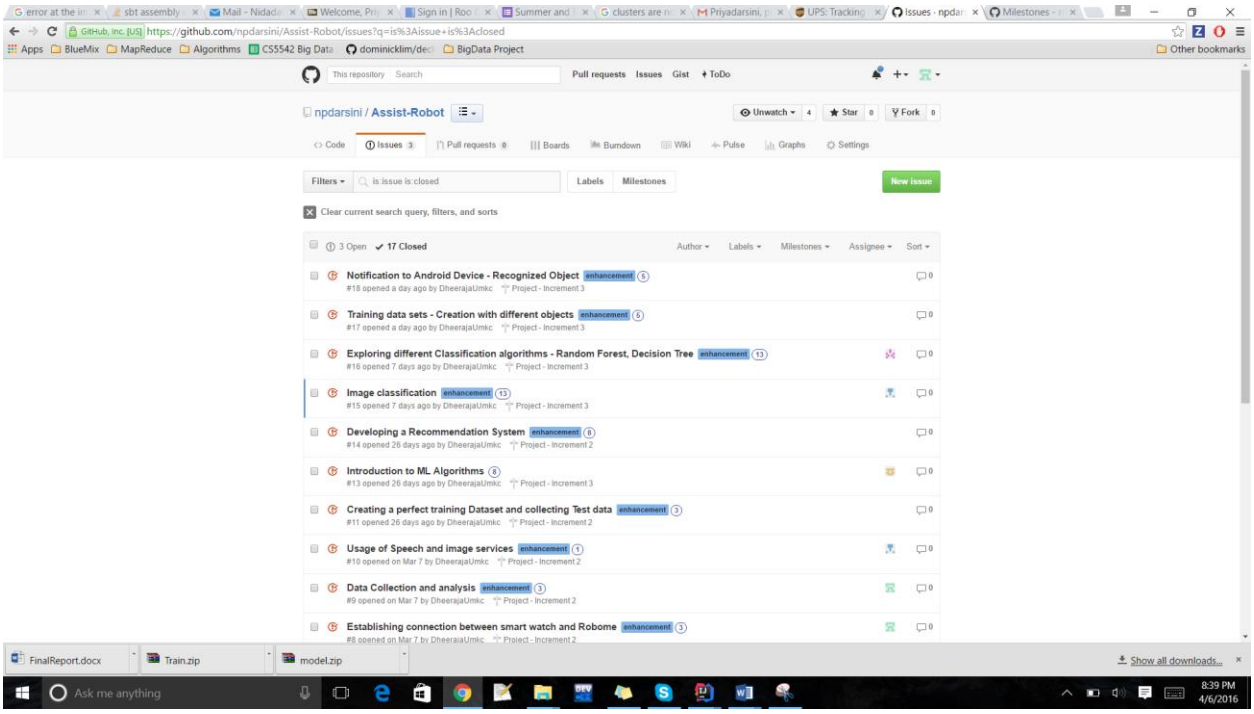


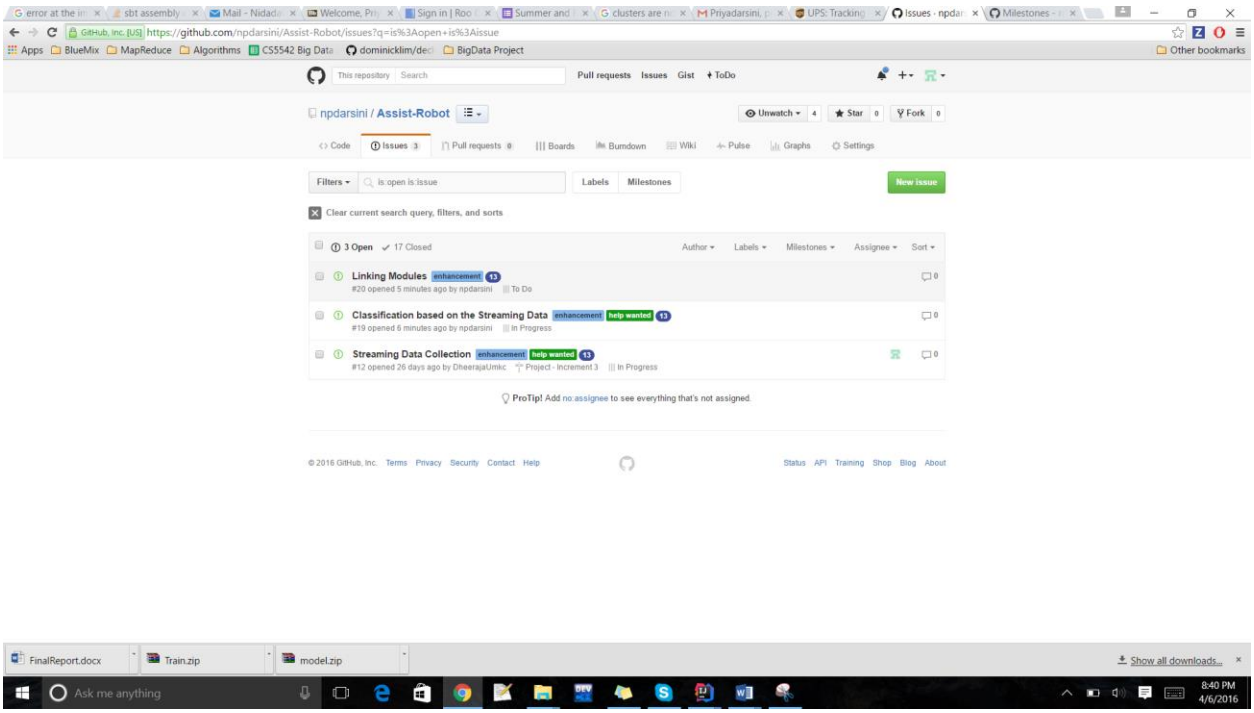
Stories: Eight user issues had been created as part of Iteration 2. Here are the snapshots for the stories which are in closed and opened state.



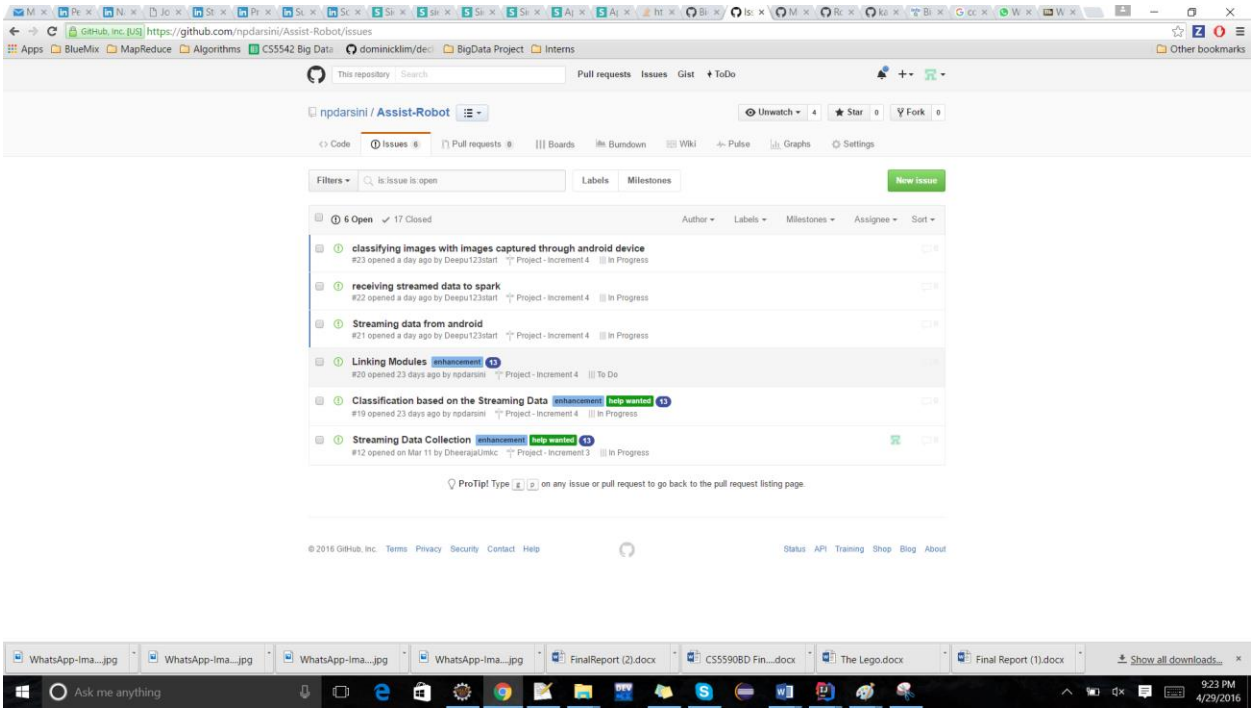


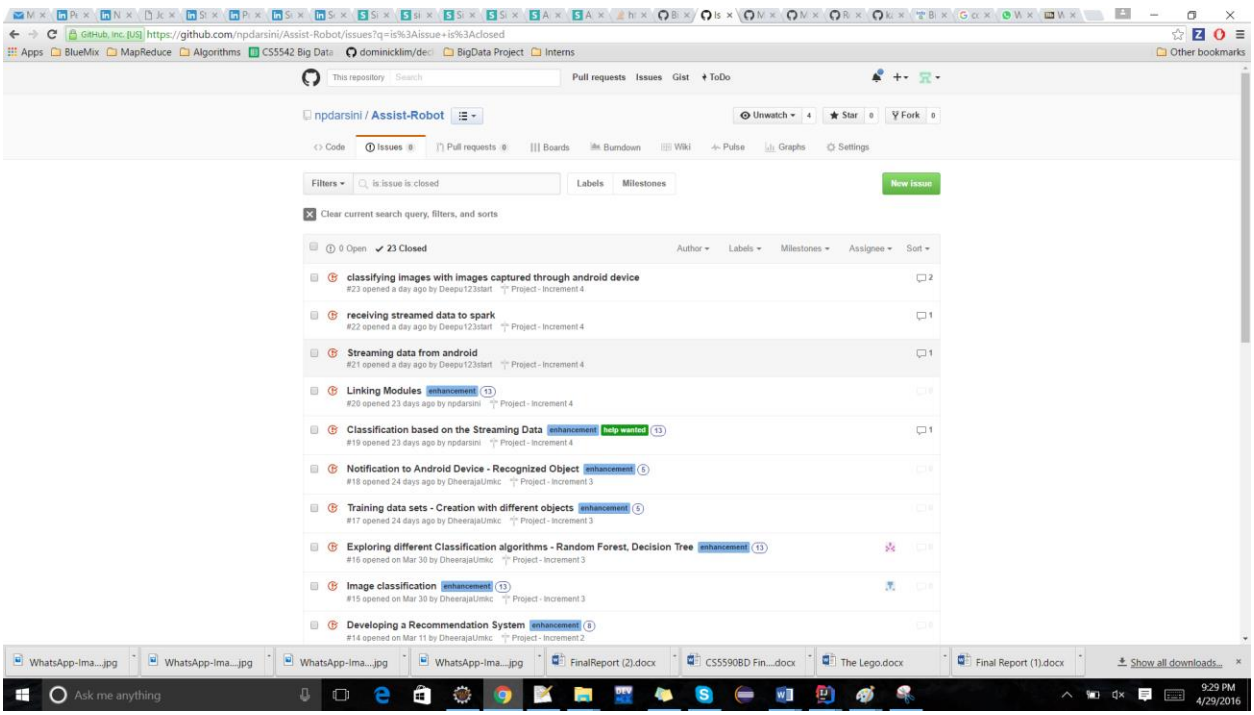
Stories: Six user issues had been created as part of Iteration 3. Here are the snapshots for the stories which are in closed and opened state.



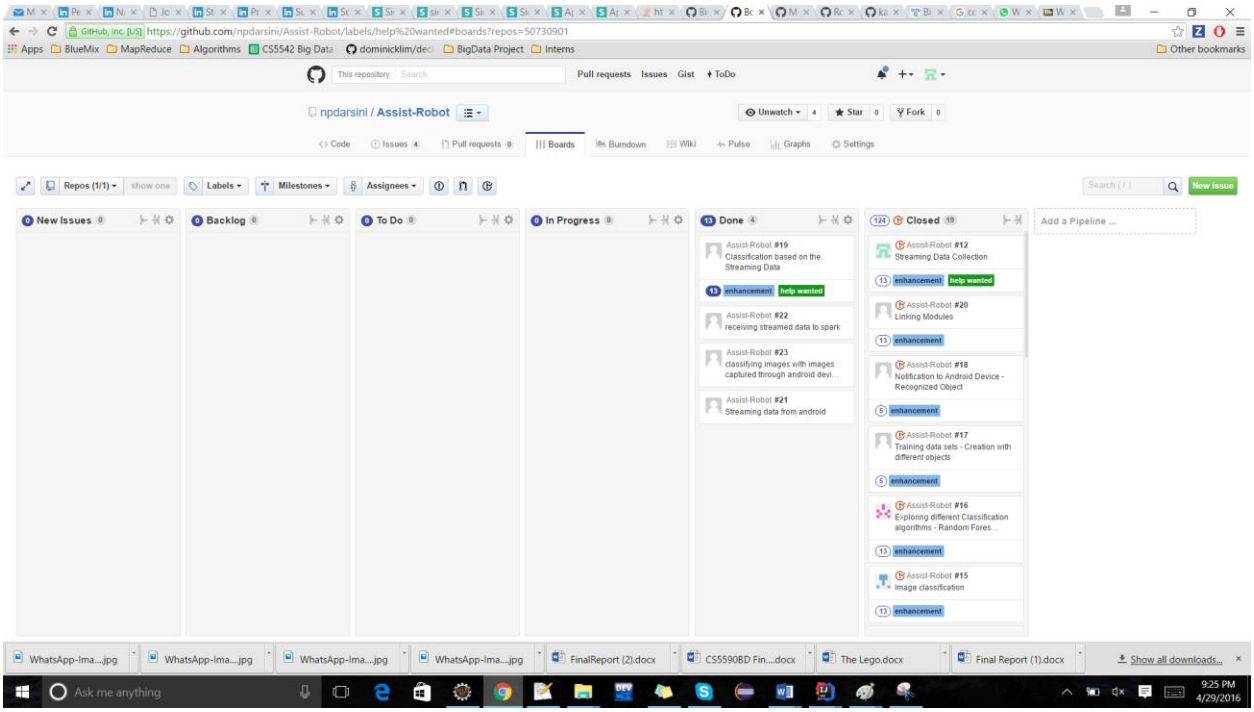


Stories:

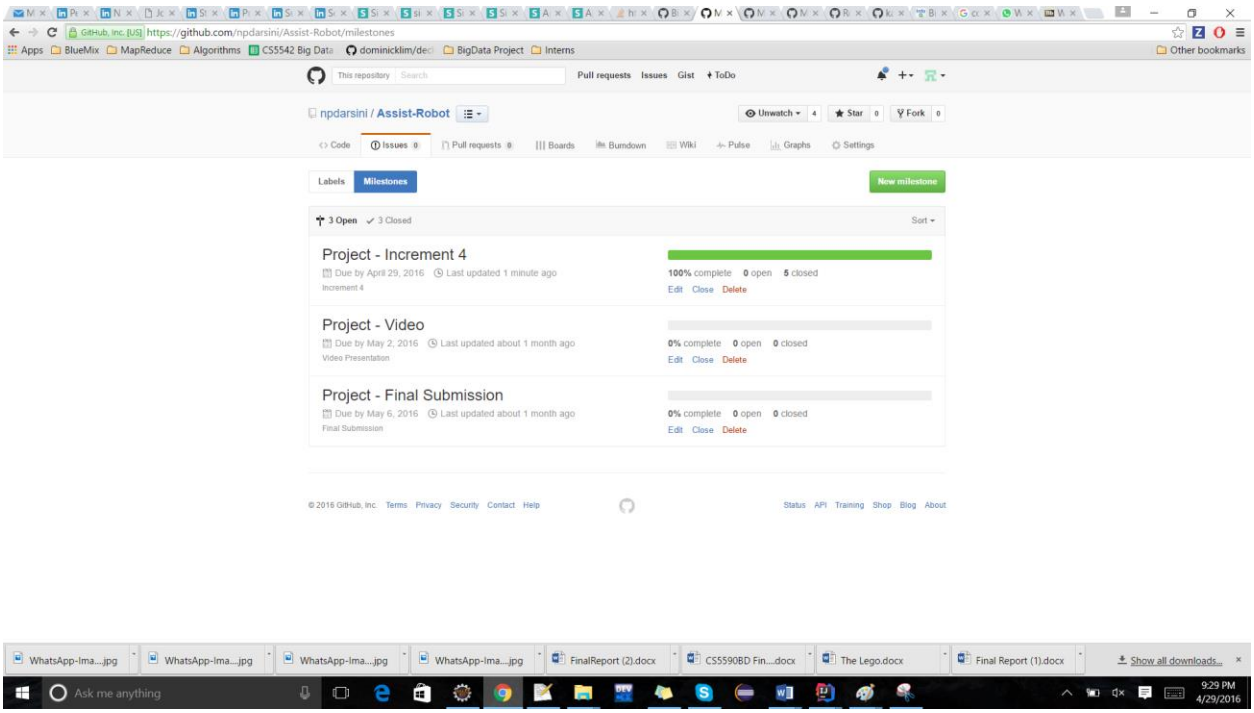

https://github.com/npdarsini/Assist-Robot/issues
npdarsini / Assist-Robot
6 Open
17 Closed
classifying images with images captured through android device
receiving streamed data to spark
Streaming data from android
Linking Modules
Classification based on the Streaming Data
Streaming Data Collection


https://github.com/npdarsini/Assist-Robot/issues?q=is%3Aissue+is%3Aclosed
npdarsini / Assist-Robot
0 Open
23 Closed
classifying images with images captured through android device
receiving streamed data to spark
Streaming data from android
Linking Modules
Classification based on the Streaming Data
Notification to Android Device - Recognized Object
Training data sets - Creation with different objects
Exploring different Classification algorithms - Random Forest, Decision Tree
Image classification
Developing a Recommendation System

Board:

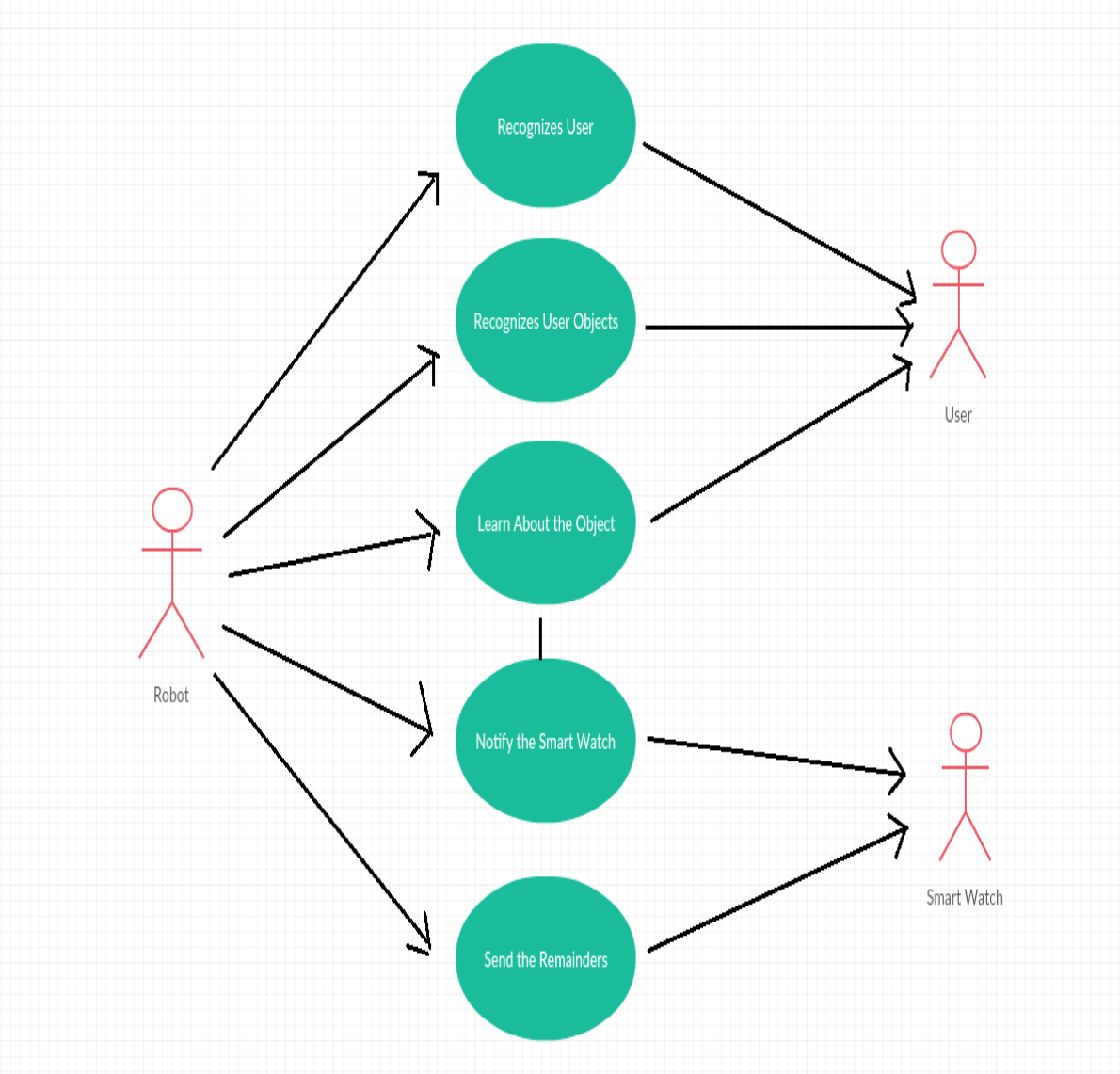


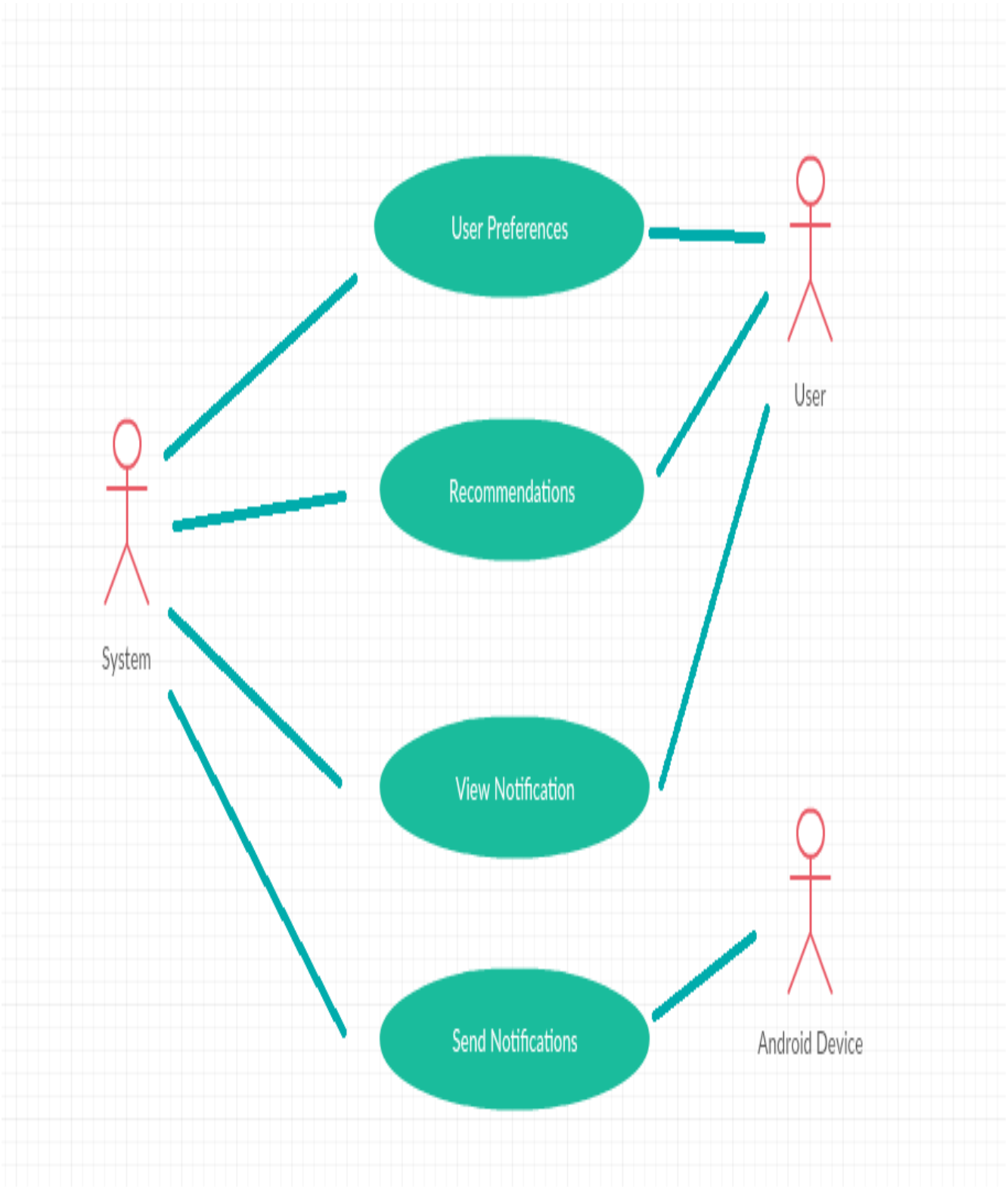
Milestones:



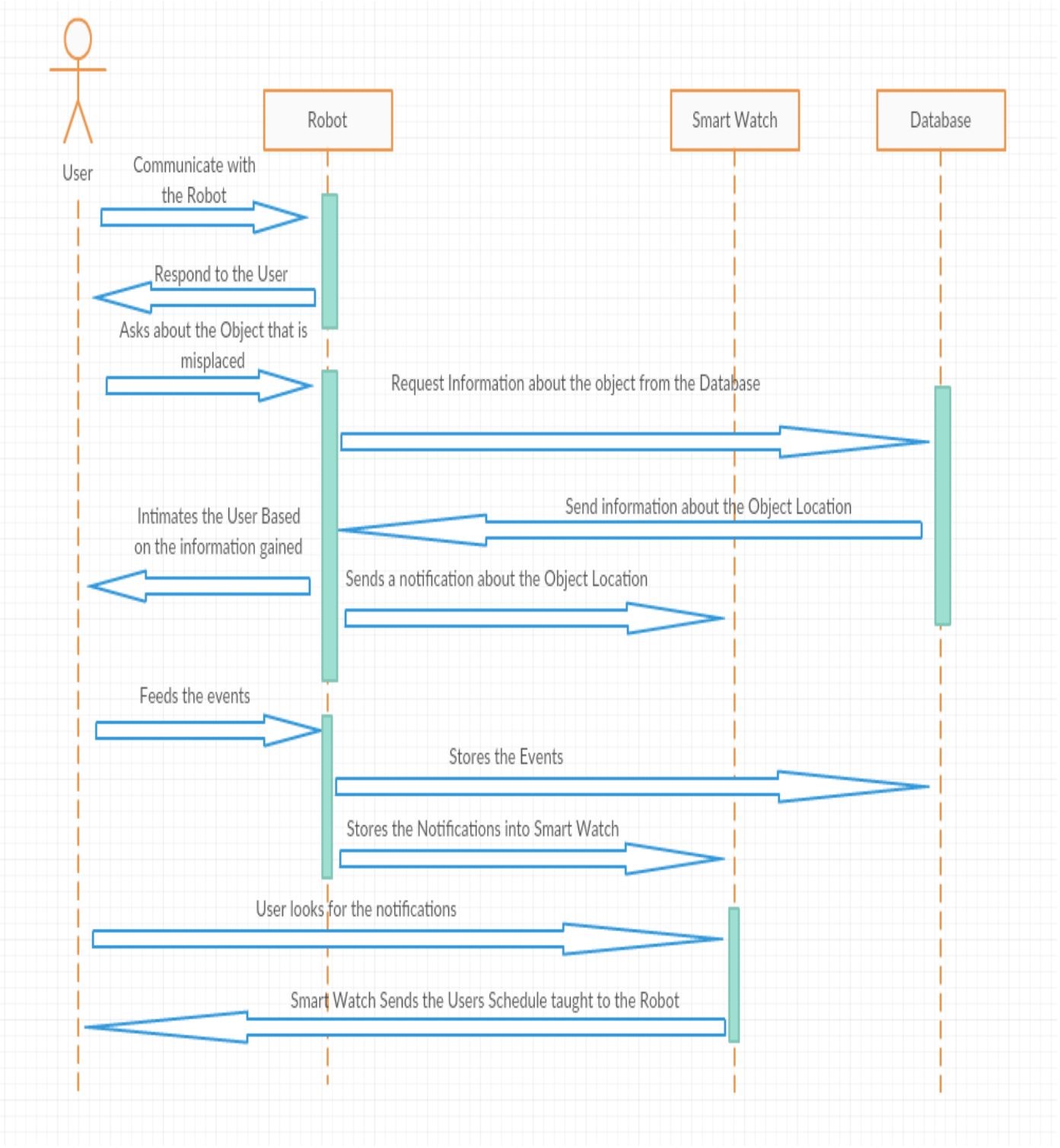
4.1.1 UML Diagrams:

Use Case Diagram

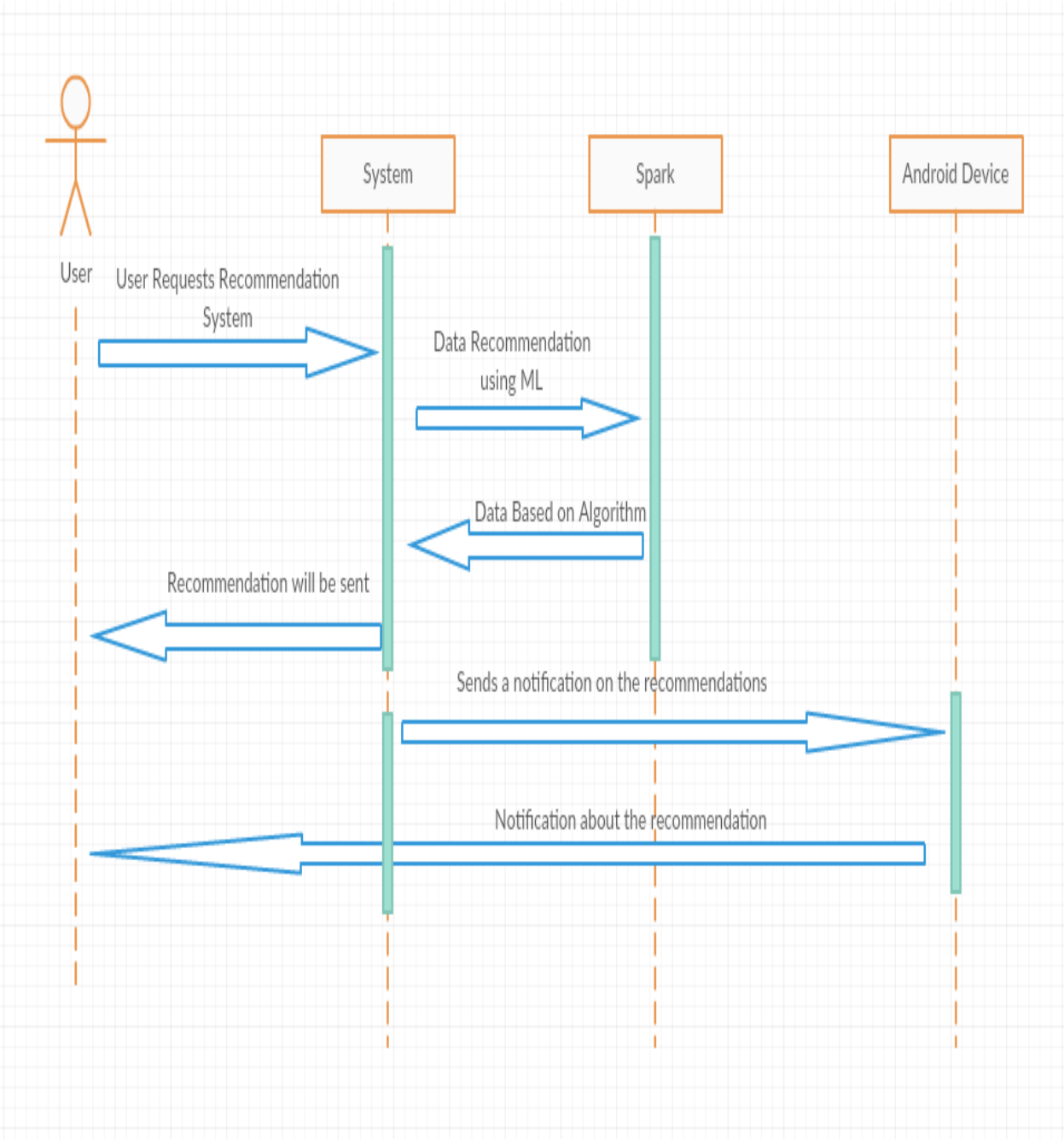



User Preferences
User
Recommendations
System
View Notification
Send Notifications
Android Device

Sequence Diagram:



Sequence Diagram for Recommendation System



4.2 Project Timelines:

Increment	Deadline
Increment 1	19 February 2015
Increment 2	11 March 2016
Increment 3	6 April 2016
Increment 4	29 April 2016
Final Submission	6 May 2016

4.2.1 Team Members:

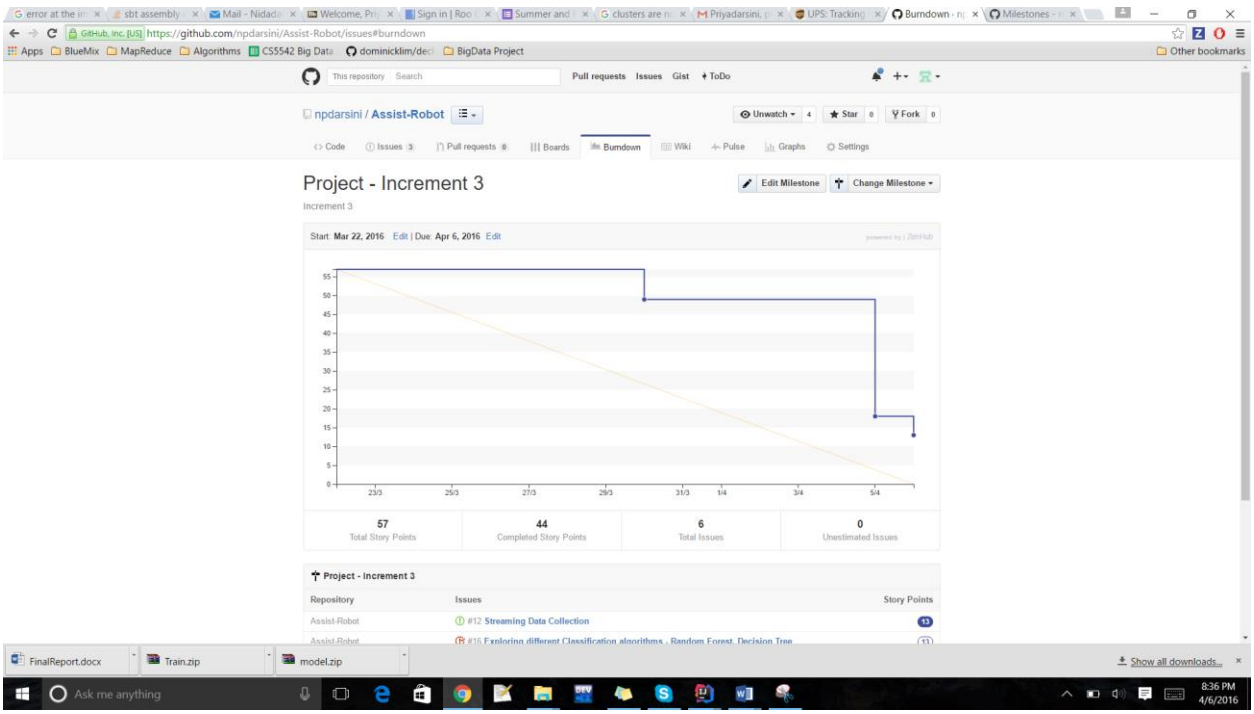
1. Priyadarsini Nidadavolu – 17
2. Deepthi Priyadarshini Penmetsa – 22
3. Dheeraja Vallabhaneni – 28
4. Tej Kumar Yentrapragada – 33

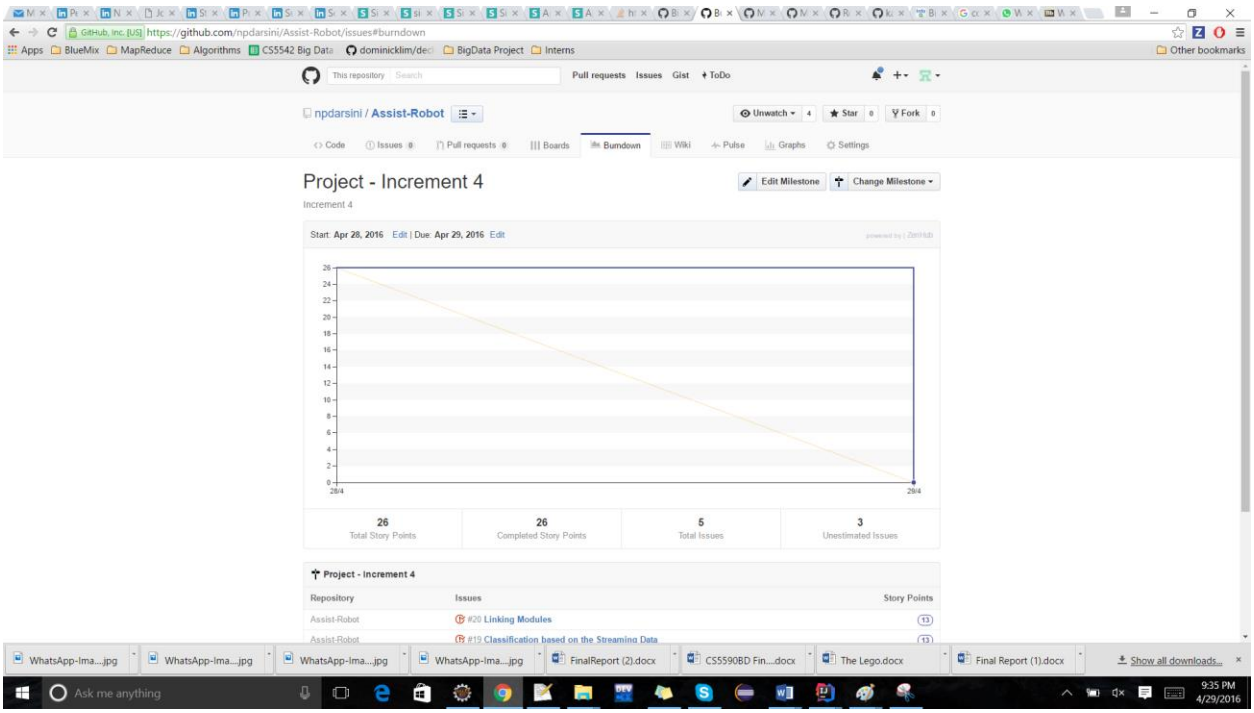
4.2.2 Tasks and Responsibilities:

Name	Responsibilities
Priyadarsini Nidadavolu	**Machine Learning with Spark**
Deepthi Priyadarshini Penmetsa	**Spark and Hadoop Technologies**
Tej Kumar Yentrapragada	**Android Programming and Spark MLLib**
Dheeraja Vallabhaneni	**Android Programming**

4.3 Burndown Chart:

Burndown:





5. Increment Report

5.1 Incremental Explanations

5.1.1 Phase 1 -Existing API:

IBM Alchemy API

This API basically performs machine learning and natural language processing techniques. Some of its features include semantic text analysis, sentimental analysis, deep learning, face detection and reorganization, speech to text and vice versa conversions etc. In this we had used this API in order to recognize the objects that we want to teach the Robot.

Achievements upon using this API – The Robot could identify basic objects like laptop, phone, bottle etc.

5.1.2 Phase 2 - Recommendation System:

In this phase we had developed two recommendation systems which can recommend the user about the popular furniture showrooms and the famous books. In this we provided the training set with user information (uid, name, ratings etc.,), furniture information (list of showrooms, location) and the book information (name, author etc.,).

The recommended notification has been sent to the android device (smart watch/phone) using Spark-Android Socket programming techniques.

5.1.3 Phase 3 – Image Classification:

In this phase we had implemented Image Classification system using Random Forest Machine Learning Classifier Algorithm. In this we had provided the training data set which has the different kinds of objects like keys, charger, watch, spectacles, phone. Basically, we generated the key descriptors and created the clusters and histograms out of it. Based on this features, the classifier predicts the image from the testing data set that has been provided.

The notification about the classified image will be sent to the android device (smart watch/ phone) using Spark-Android Socket programming techniques.

5.1.4 Final Phase

This phase basically projects full pledged implementation of our project.

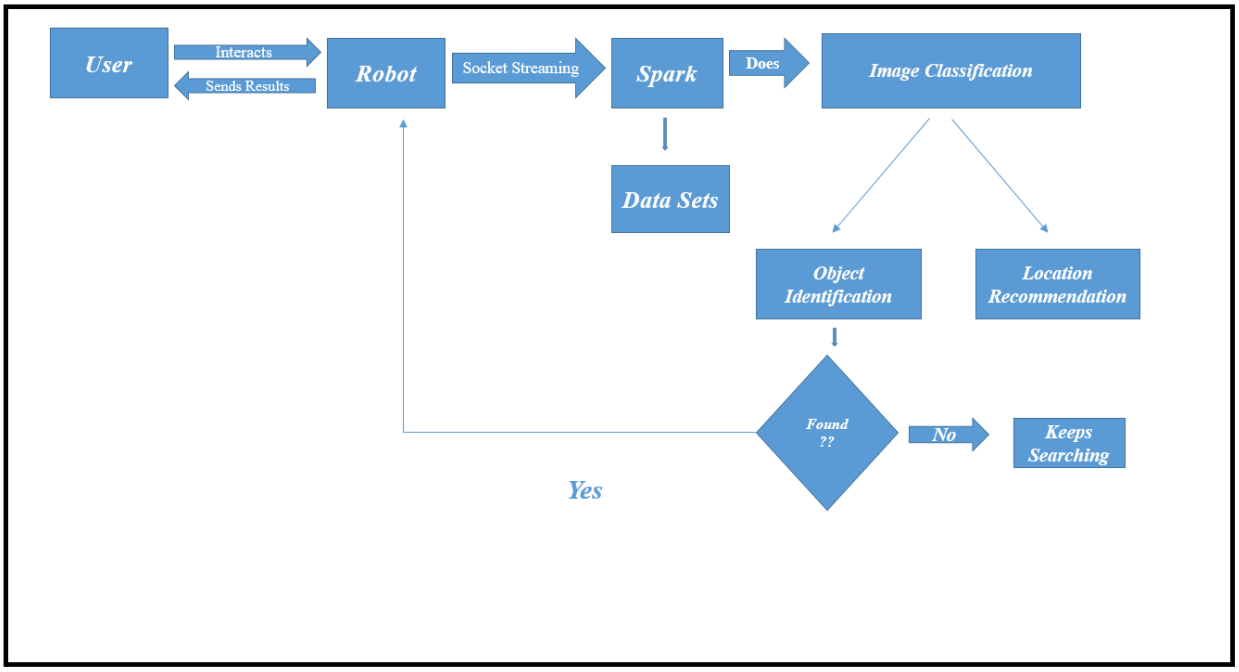
Login to the android application either by using Email ID as a user id or by facial recognition. The user is provided to register his own account or can be able to login with the existing signon. The login page is developed using Java in Android Studio IDE. Upon logging in, the camera option will be made available to the user. Android device will be capturing the images and store it in the SD card using android.os.Environment library.

A client server module has been developed to send these streaming images to spark testing directory. The Spark Server will accept the connection from android client and will receive the base64 formatted image string. At the Spark Server side, these images will be decoded and classified using Random Forest algorithm. This classified result will be send to the user device in the form of notification. Based on the image that is classified, a recommendation system has been built. If the object is out of reach, it will give the recommended places that the object can be placed based on the training data. This will also be sent to the user in the form of notification.

5.2 Design of Features:

The architecture of our system could be like the user can login to the android application with the facial recognition or with the user credentials. Image capture could be done and will be sent to spark as a streaming data via socket. Image Classification based on the training and testing data will be done and further a recommendation system has been developed. The outcomes from these algorithms will be sent to the android devices as a notification.

Work Flow:



System Features

The following are the features that were developed as part of Phase I:
We had used IBM's Alchemy API and able to make our Robot to detect the object and return the object name as a result.

The following are the features that are developed as part of Phase II:

We had used machine learning algorithms to develop a recommendation system. In this phase we had developed two recommendation systems with which the system will be able to suggest top rated books to the user based on his interests and the furniture showrooms which could be available for cheaper prices with the location. Basically, we had provided the training data sets and the user preferences which serves as a key inputs for the system. We were also able to connect our system to the android device to which the recommendations has been sent.

The following are the features that are developed as part of Phase III:

We had used Random Forest Classifier Algorithm to develop an Image classification system. In this phase we had provided the system with the training data set which consists the sample images of the different types of objects like keys, watch, spectacles, phone etc. We are able to create the clusters and histograms out of the provided data and was able to send a notification to the smart device about the object that has been predicted.

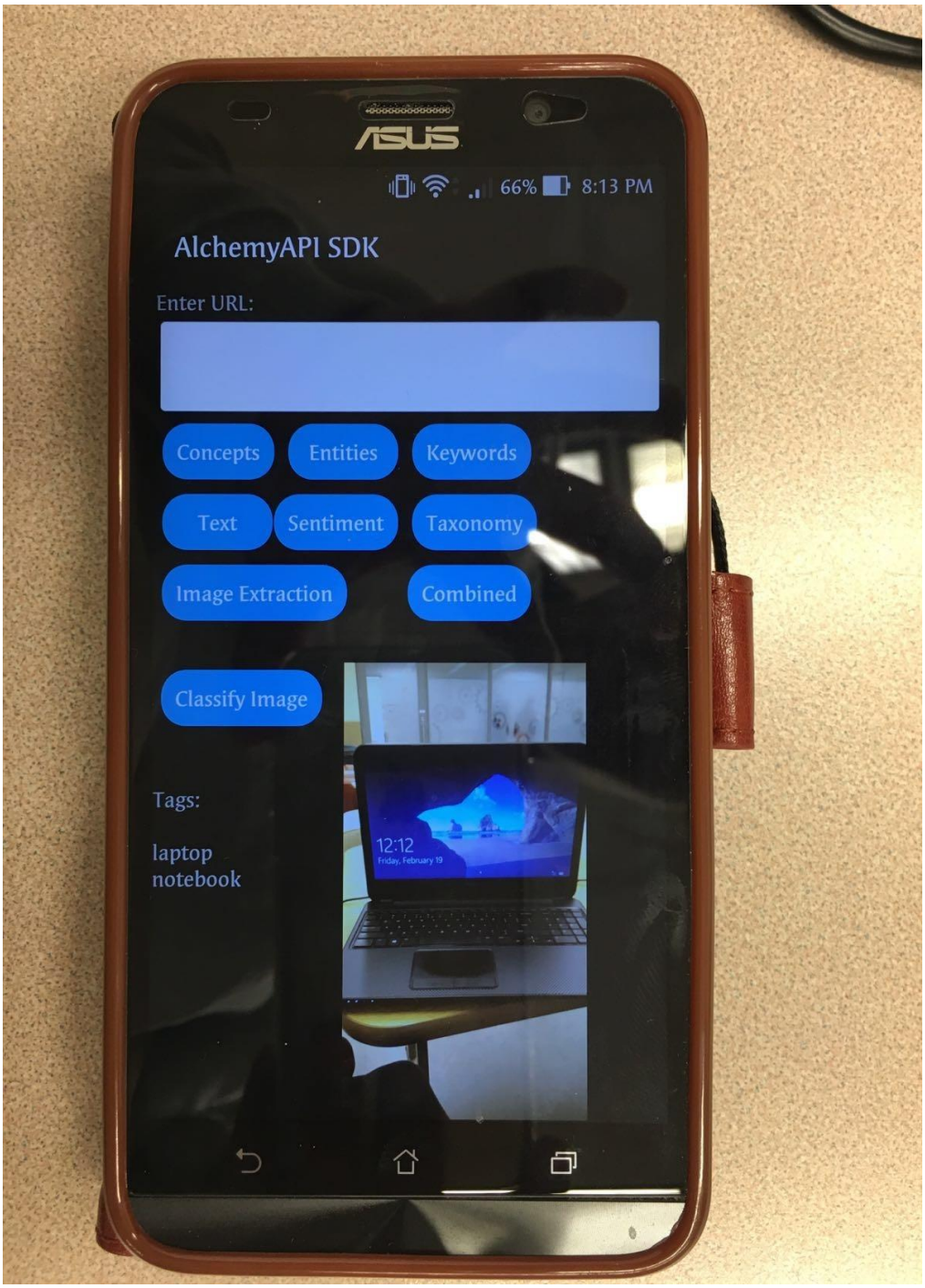
The following features has been added for the final phase:

In the previous phase Image classification is done with the static testing data set. In this phase we had added the functionality of streaming image classification. In this the streaming data will be coming from the android device to the Spark server. A login page for the android application has been developed and embedded with the functionality of facial recognition and user registration options. Upon logging in to the application the image capture option is implemented with the facility to store it to the device SD card.

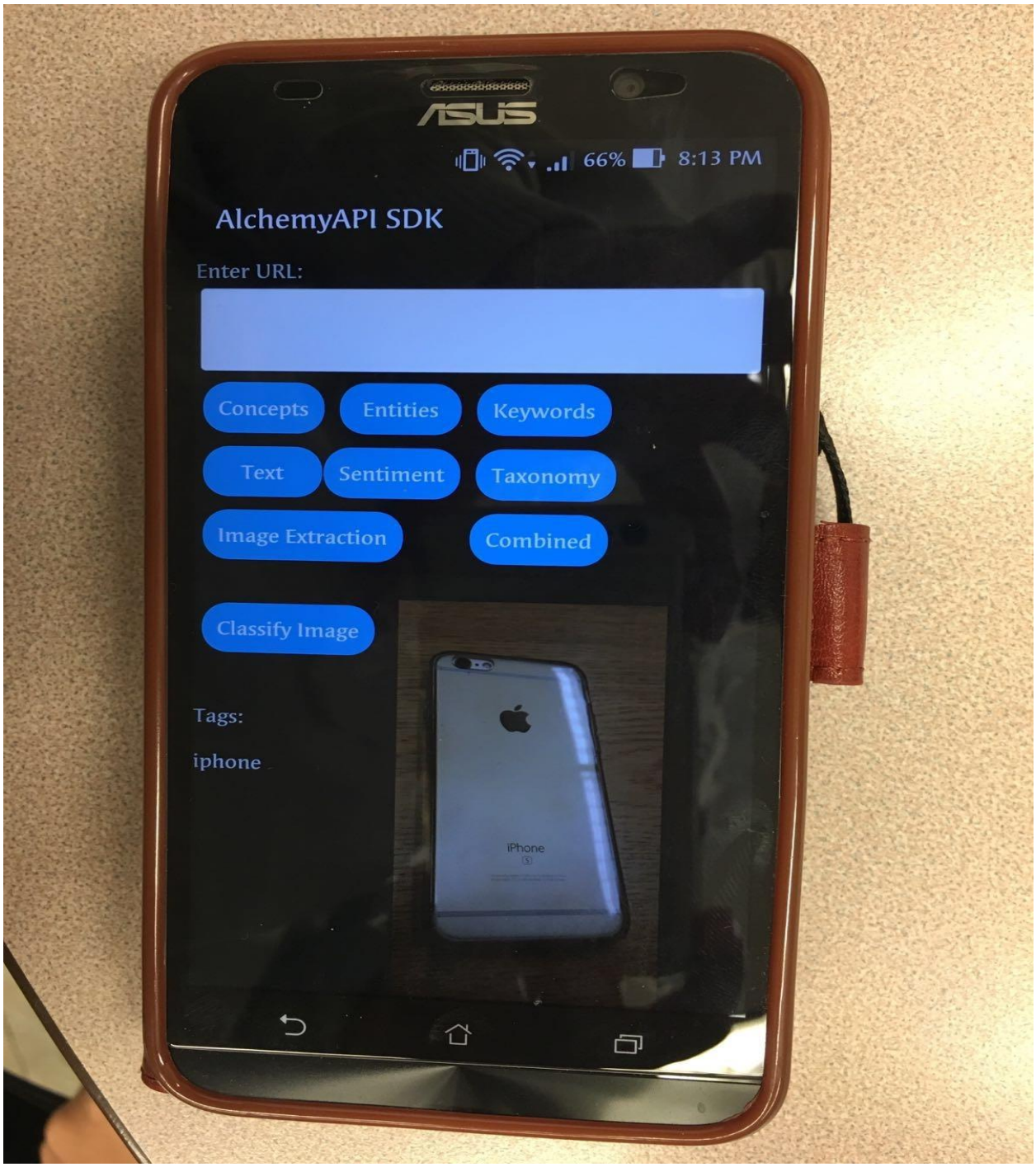
5.3 Implementation:

Mobile Client Implementation – Snapshots

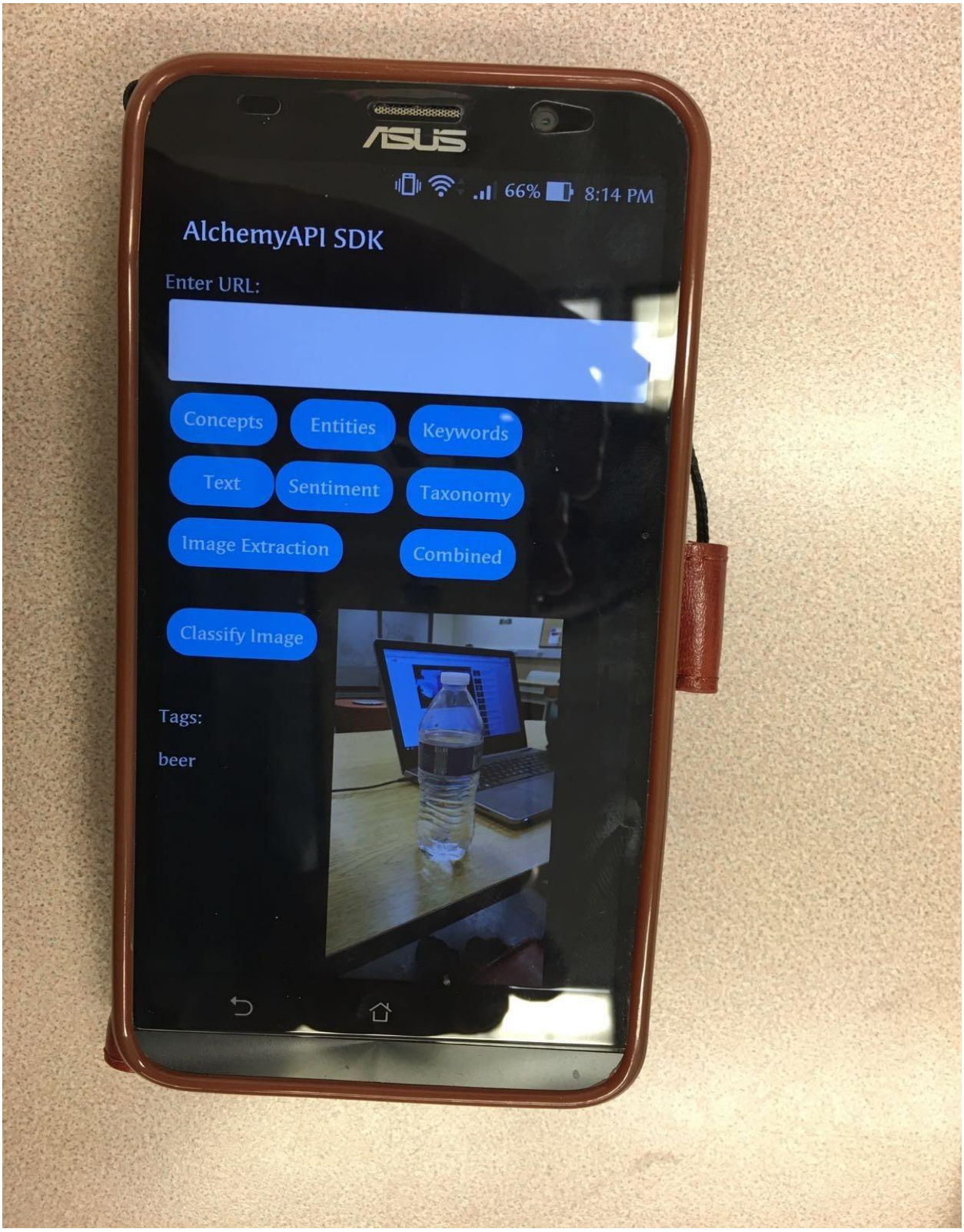
This snapshot shows us that the application is able to identify the object and names its Laptop.



This snapshot shows us that the application is capable of identifying the object and names it as an Iphone.



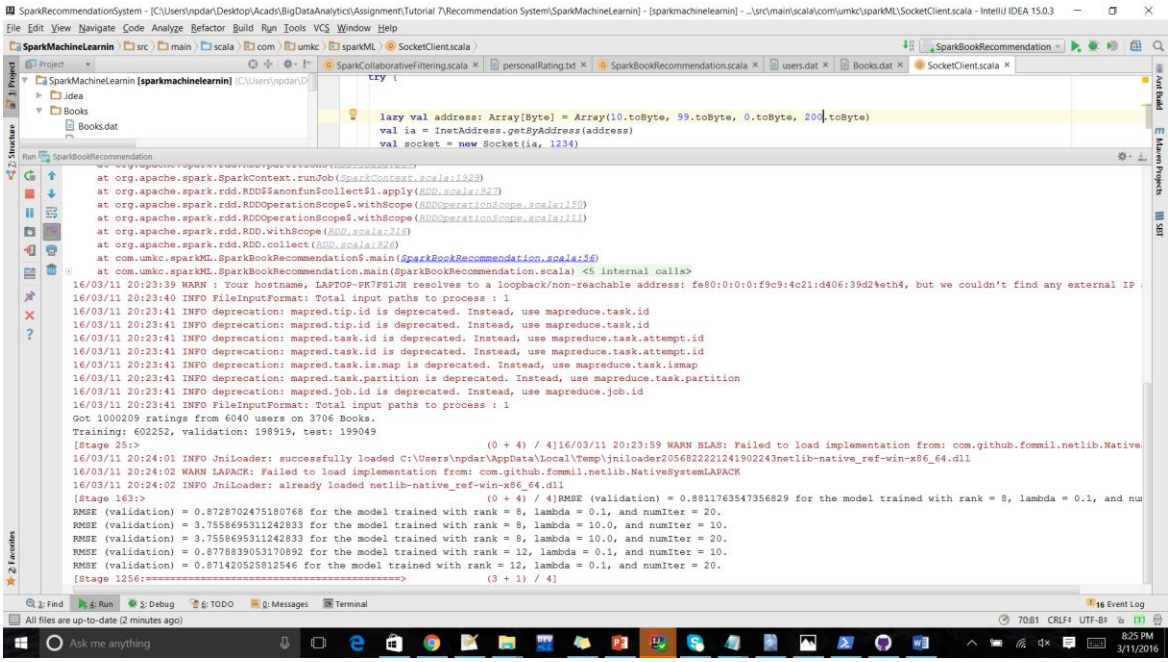
This snapshot shows us that the application is able to identify the bottle.



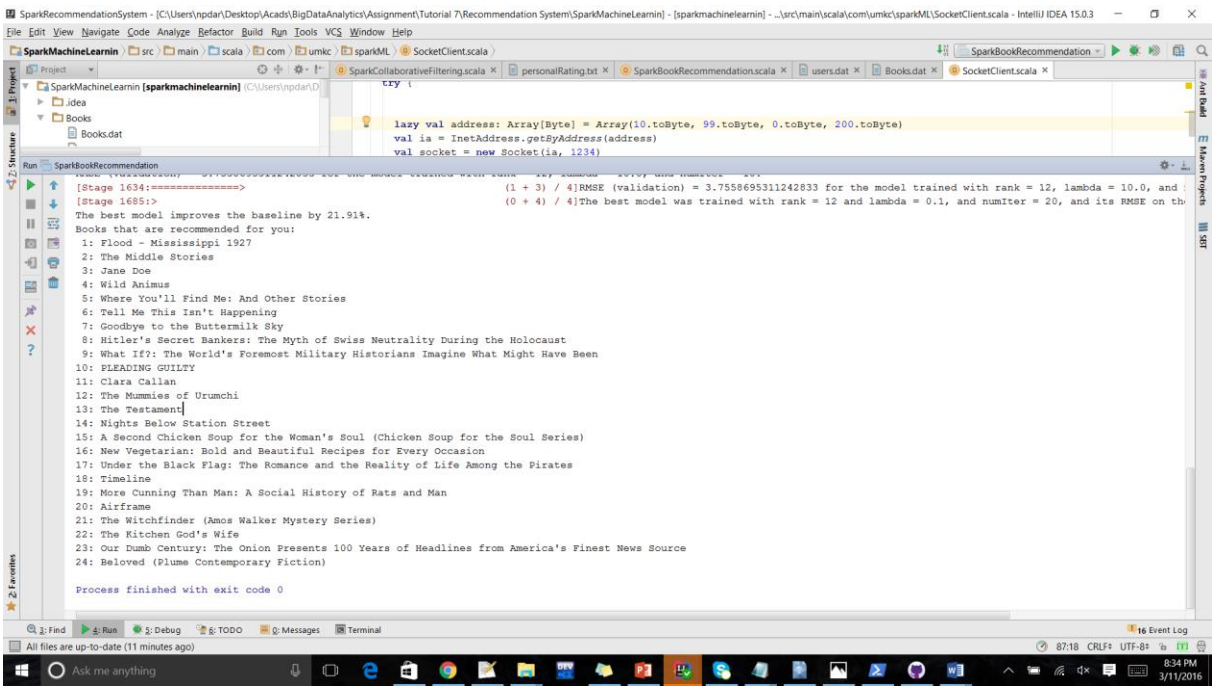
Recommendation System Snapshots:

Books Recommendation System:

Phase at which the analyzation of training data set is taking place.



Recommended Books

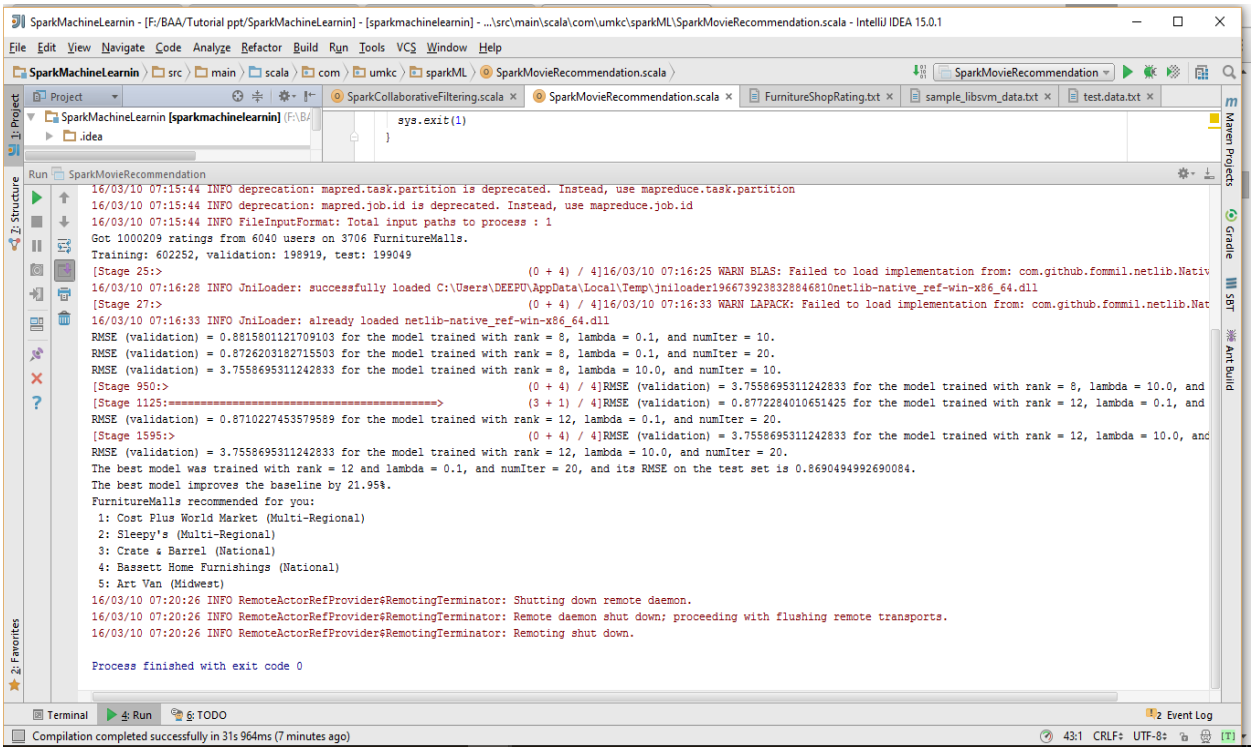


We had also sent the recommended books to the smart phone as a notification:

Furniture Malls Recommendation System

```
Got 1000209 ratings from 6040 users on 3706 FurnitureMalls.
Training: 602252, validation: 198919, test: 199049
[Stage 25:>                                                         (0 + 4) / 4]16/03/10 07:16:25 WARN BLAS: Failed to load implementation from: com.github.fommil.netlib.Nativ
16/03/10 07:16:28 INFO JniLoader: successfully loaded C:\Users\DEEPU\AppData\Local\Temp\jniloader1966739238328846810netlib-native_ref-win-x86_64.dll
[Stage 27:>                                                         (0 + 4) / 4]16/03/10 07:16:33 WARN LAPACK: Failed to load implementation from: com.github.fommil.netlib.Nat
16/03/10 07:16:33 INFO JniLoader: already loaded netlib-native_ref-win-x86_64.dll
RMSE (validation) = 0.8815801121709103 for the model trained with rank = 8, lambda = 0.1, and numIter = 10.
RMSE (validation) = 0.8726203182715503 for the model trained with rank = 8, lambda = 0.1, and numIter = 20.
RMSE (validation) = 3.7558695311242833 for the model trained with rank = 8, lambda = 10.0, and numIter = 10.
[Stage 950:>                                                        (0 + 4) / 4]RMSE (validation) = 3.7558695311242833 for the model trained with rank = 8, lambda = 10.0, and
[Stage 1125:=========================================>               (3 + 1) / 4]RMSE (validation) = 0.8772284010651425 for the model trained with rank = 12, lambda = 0.1, and
RMSE (validation) = 0.8710227453579589 for the model trained with rank = 12, lambda = 0.1, and numIter = 20.
[Stage 1595:>                                                       (0 + 4) / 4]RMSE (validation) = 3.7558695311242833 for the model trained with rank = 12, lambda = 10.0, and
RMSE (validation) = 3.7558695311242833 for the model trained with rank = 12, lambda = 10.0, and numIter = 20.
The best model was trained with rank = 12 and lambda = 0.1, and numIter = 20, and its RMSE on the test set is 0.8690494992690084.
The best model improves the baseline by 21.95%.
```

This Screenshot shows the Furniture Malls recommended to you:



The notification has been sent to the android mobile which shows the recommended furniture list.

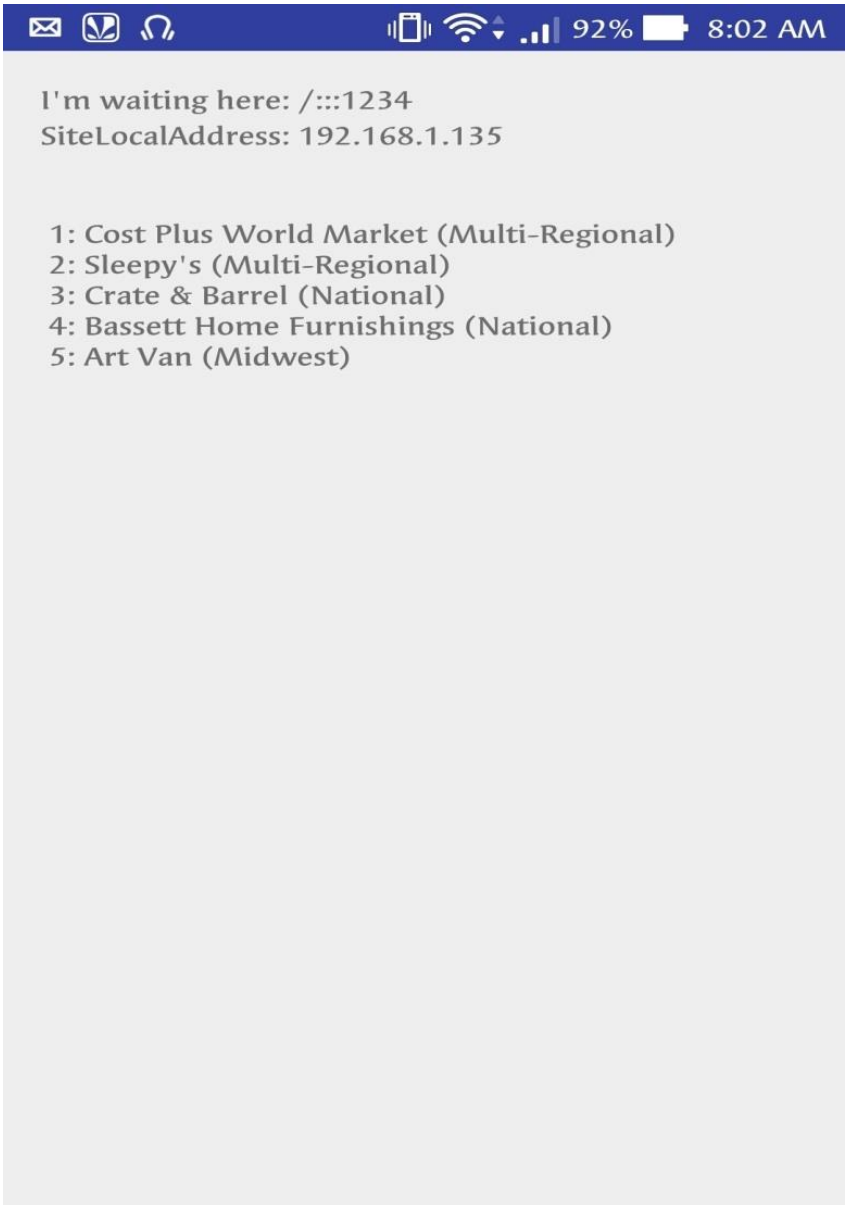
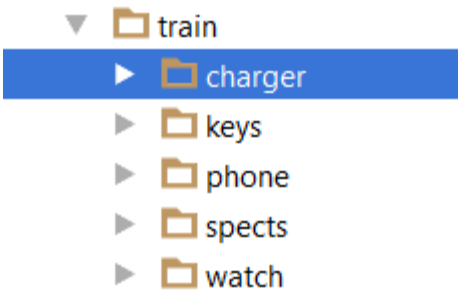


Image Classification

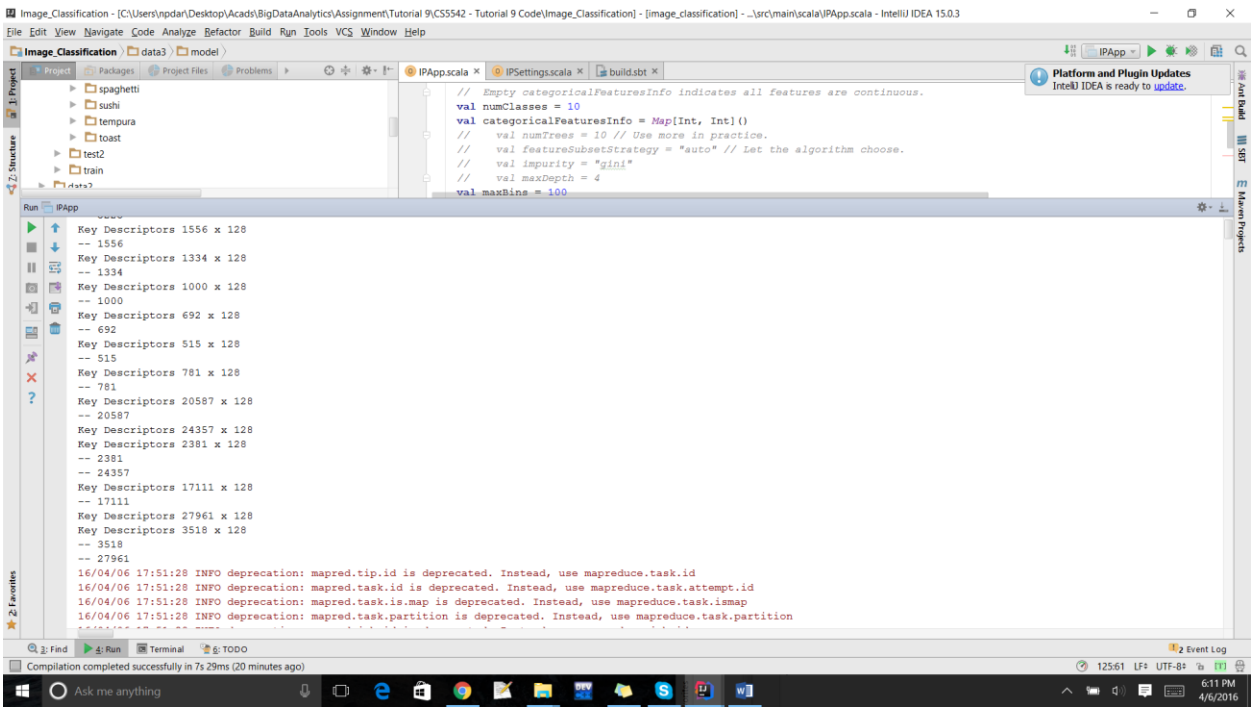
The Training dataset is full with images of objects the user want to identify which were got misplaced. And the test dataset is the streaming images which are captured by the robot while trying to identify the misplaced object. So when the robot finds the image, it classifies the image and notifies about the object to the users device.

Screenshots of the image classification:

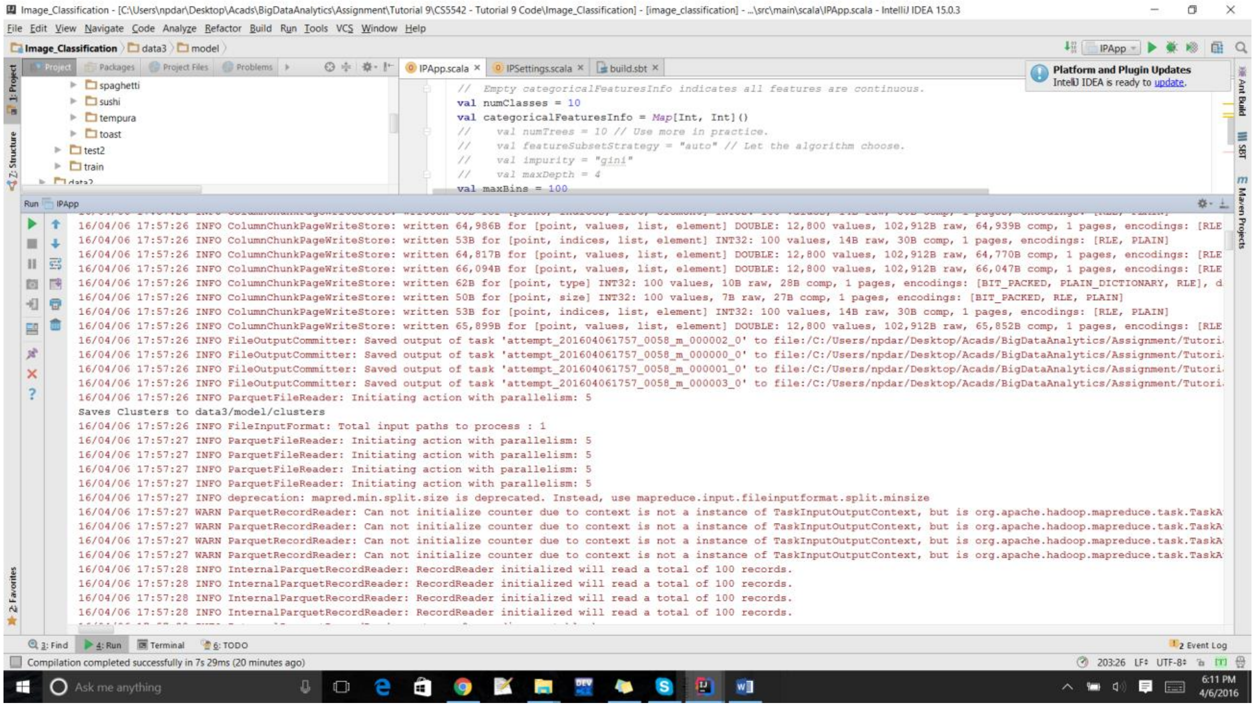
Train data:



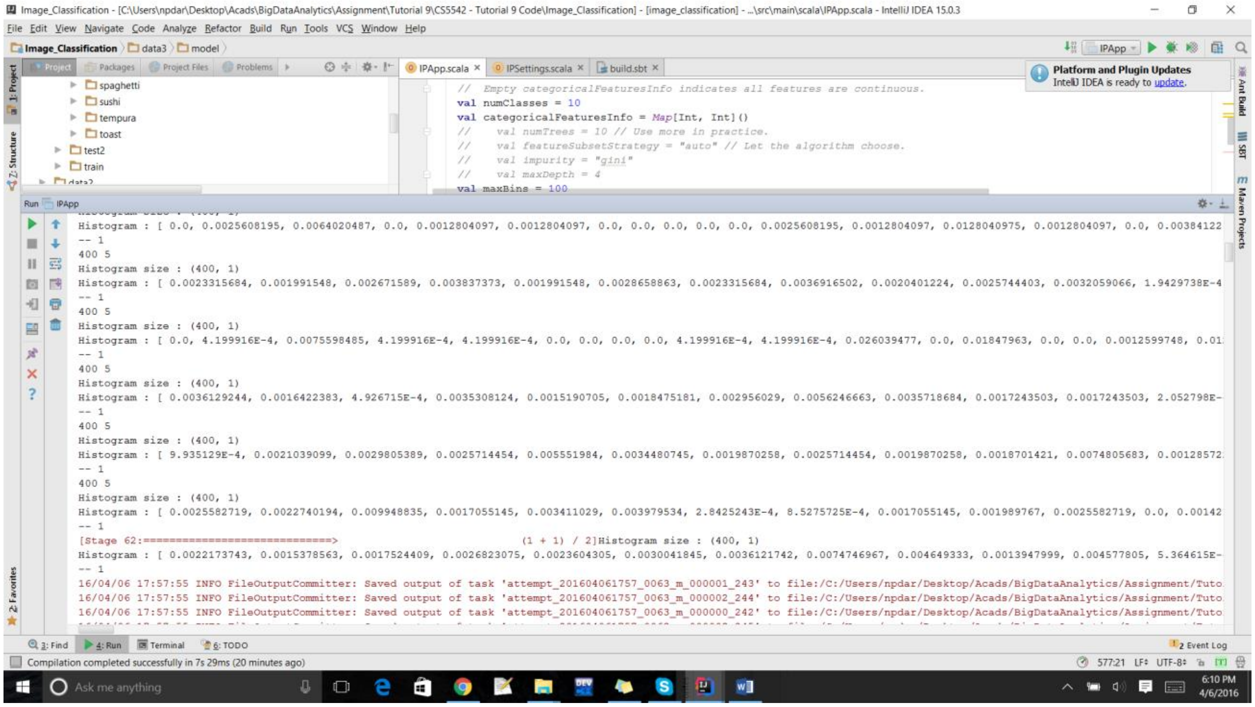
Identifying Key descriptors from Training dataset



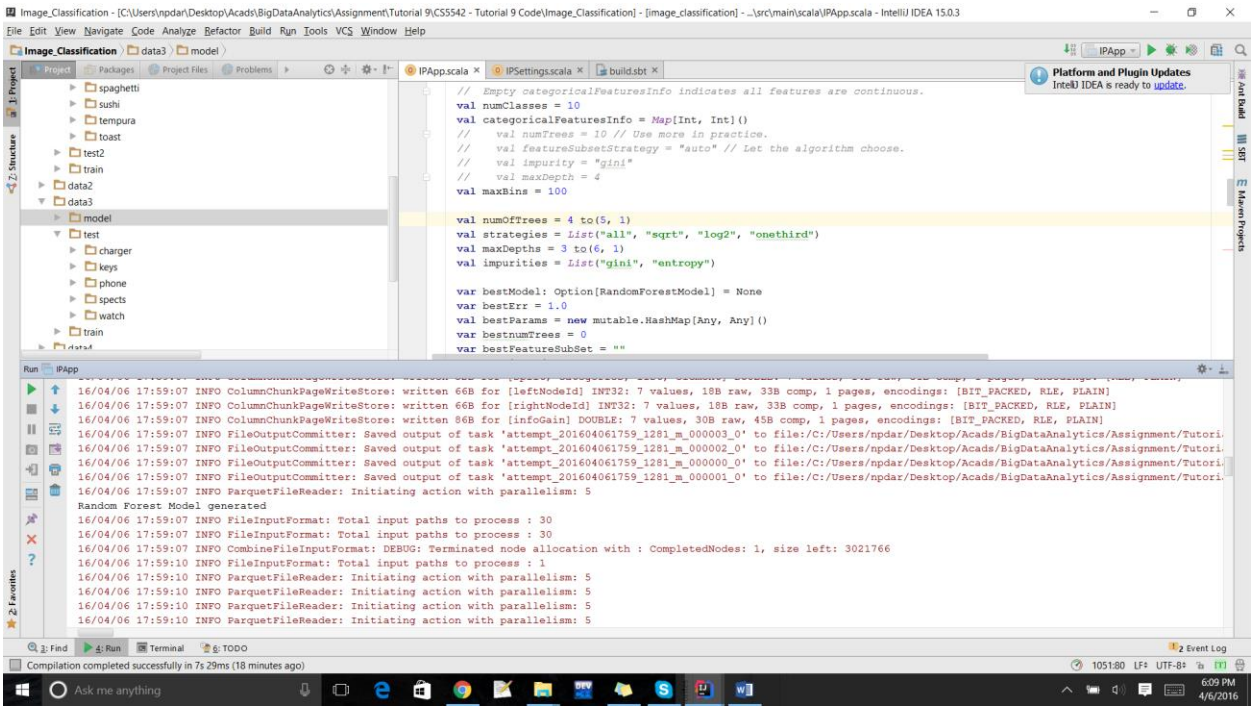
Cluster formation:

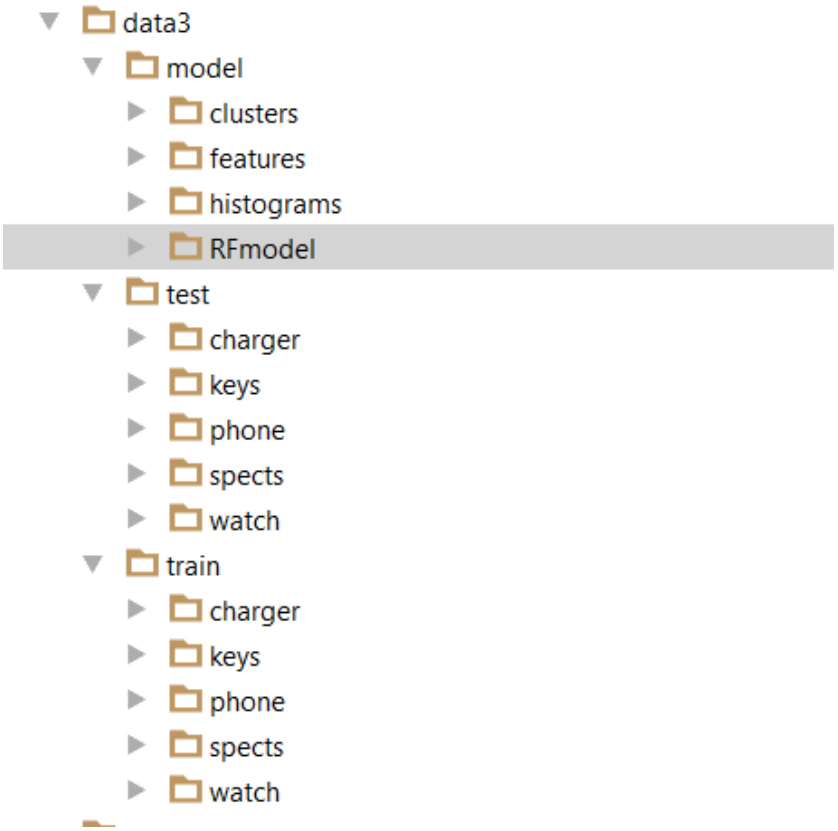


Histogram generation based on size specified:

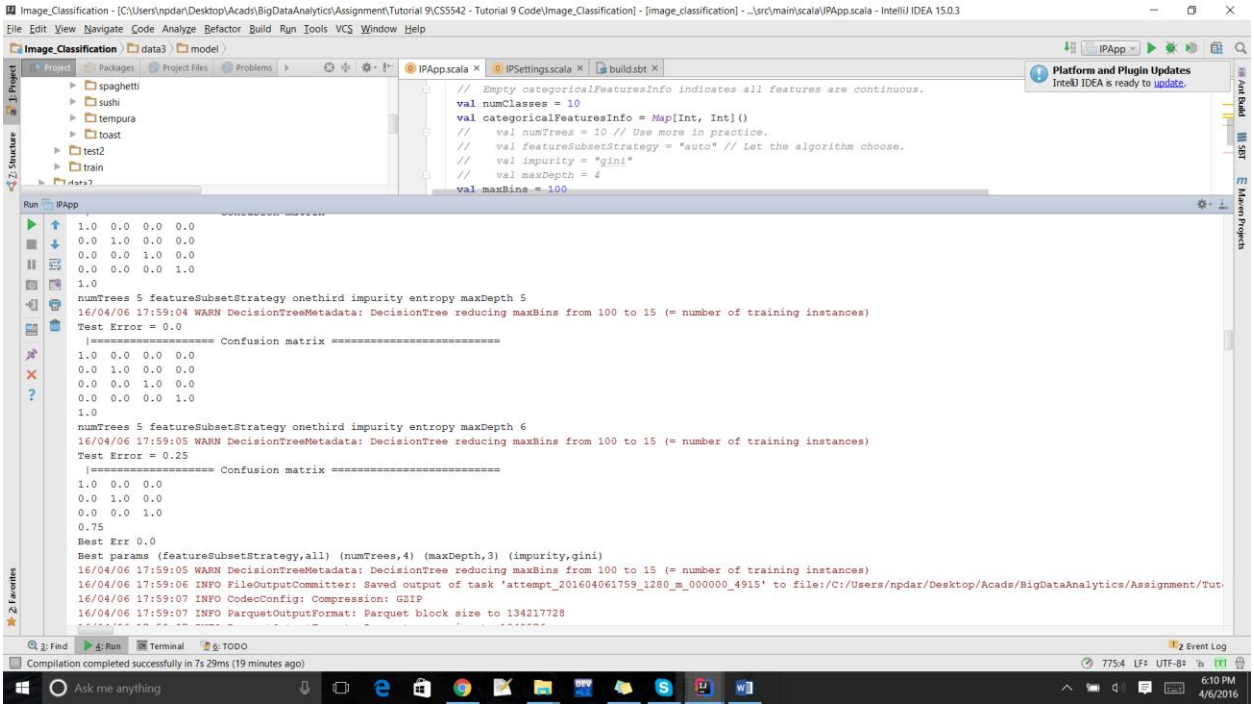


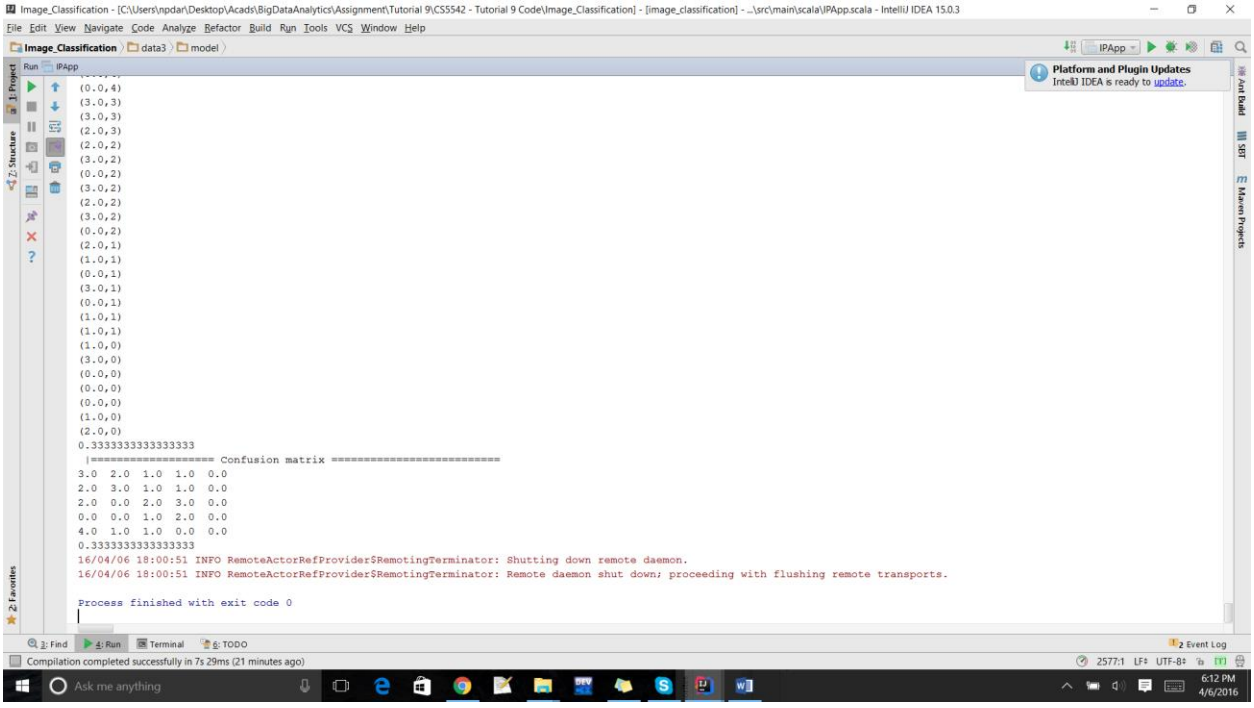
Model has been created based on the **Random Forest Classifier** Algorithm



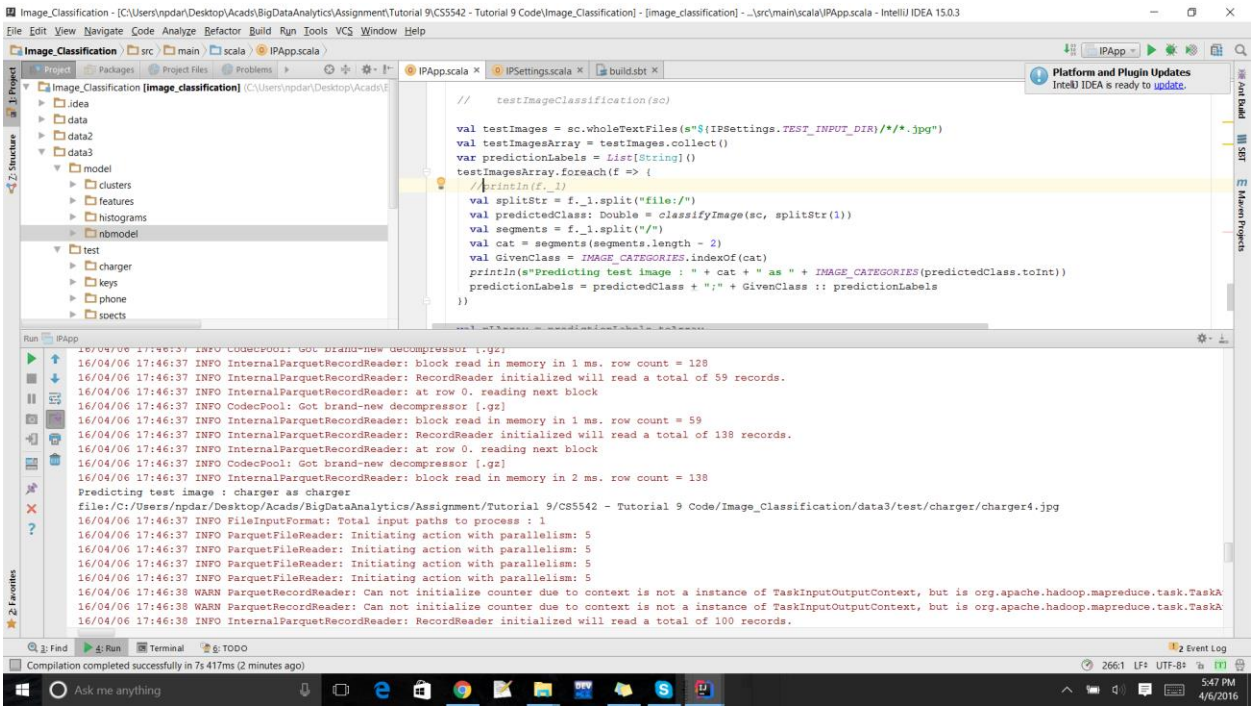


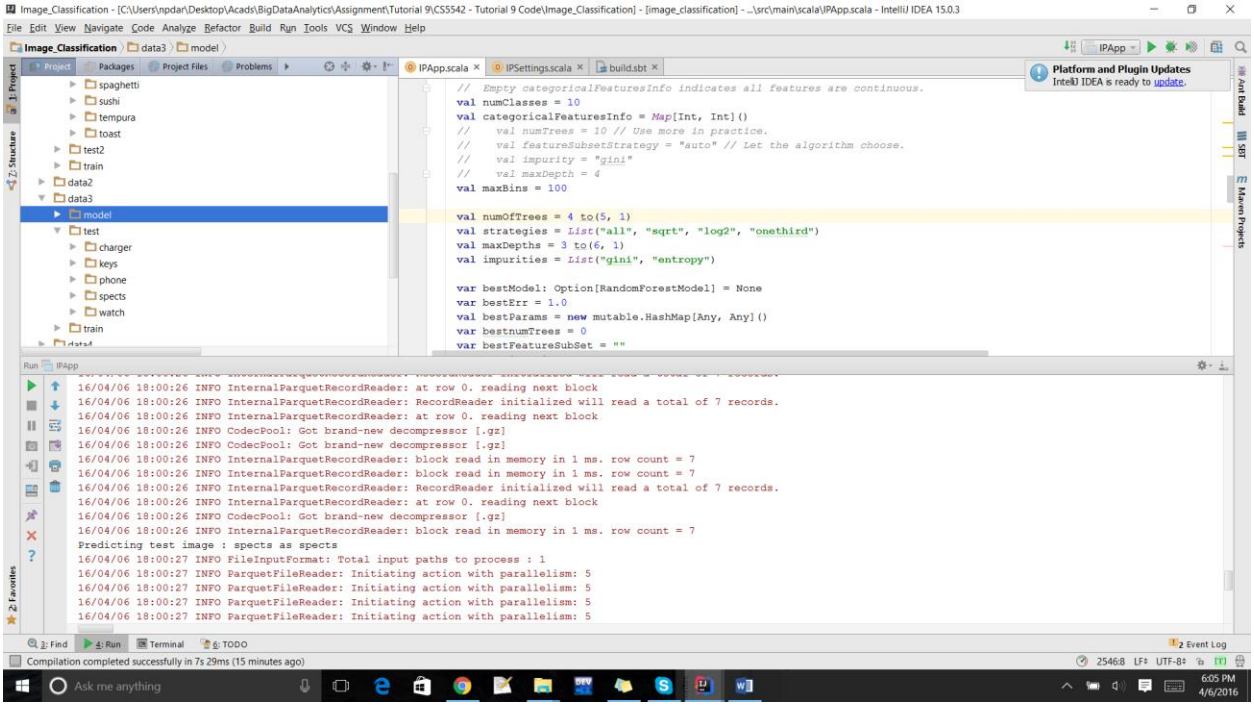
Confusion Matrix:

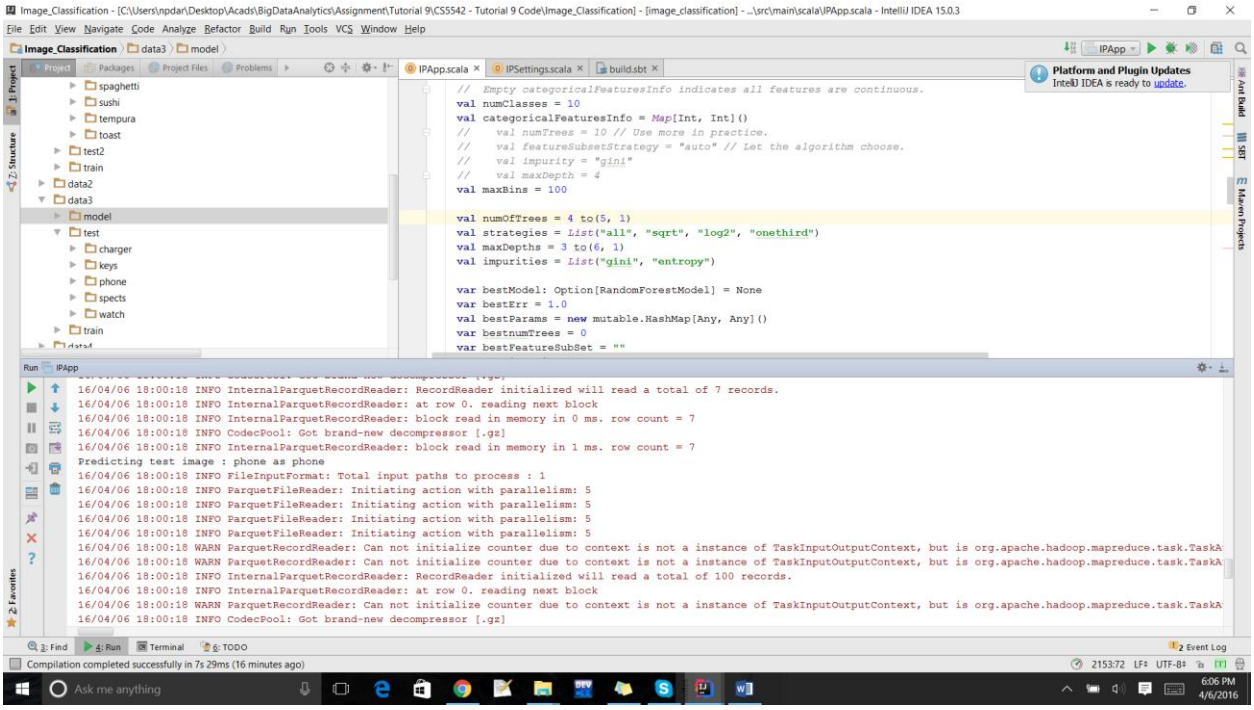


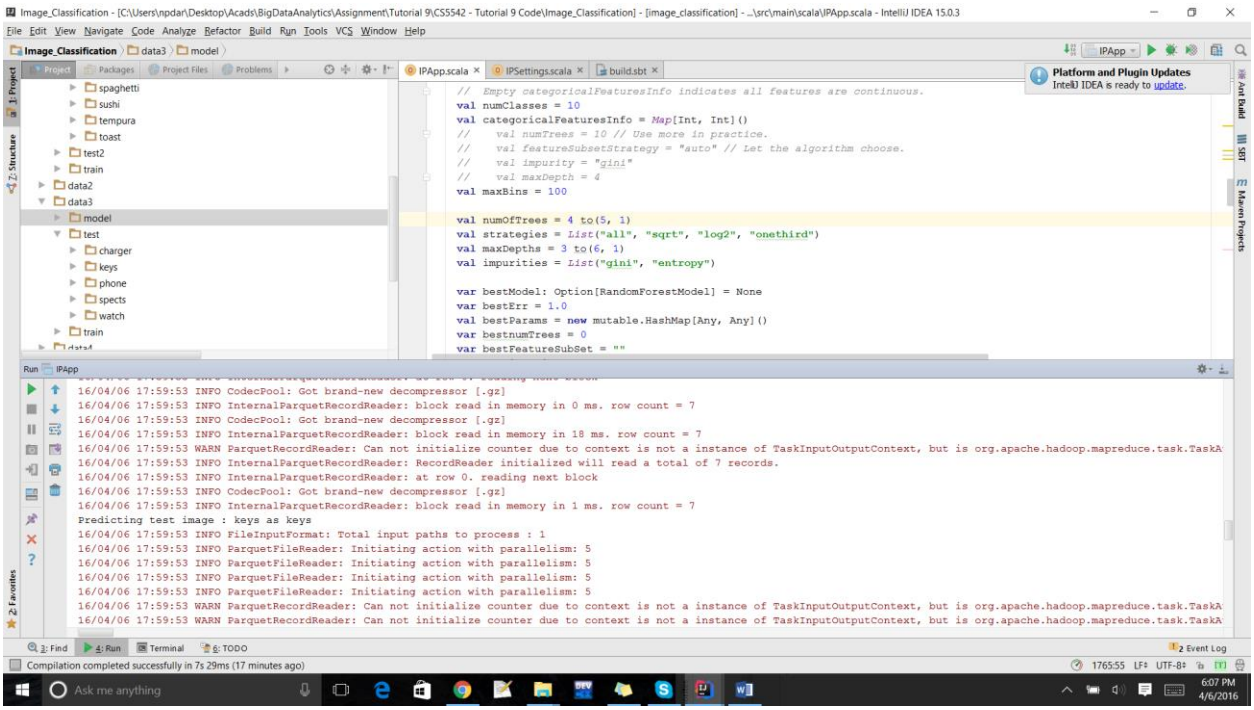


Predicted Results Snapshots from the testing dataset






Image_Classification - [C:\Users\npdar\Desktop\Acads\BigDataAnalytics\Assignment\Tutorial 9\CS5542 - Tutorial 9 Code\Image_Classification] - [image_classification] - ...\src\main\scala\IPApp.scala - IntelliJ IDEA 15.0.3
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Image_Classification data3 model
IPApp.scala IPSettings.scala build.sbt
Platform and Plugin Updates
IntelliJ IDEA is ready to update.
spaghetti
sushi
tempura
toast
test2
train
data2
data3
model
test
charger
keys
phone
spects
watch
train
// Empty categoricalFeaturesInfo indicates all features are continuous.
val numClasses = 10
val categoricalFeaturesInfo = Map[Int, Int]()
// val numTrees = 10 // Use more in practice.
// val featureSubsetStrategy = "auto" // Let the algorithm choose.
// val impurity = "gini"
// val maxDepth = 4
val maxBins = 100
val numOfTrees = 4 to(5, 1)
val strategies = List("all", "sqrt", "log2", "onethird")
val maxDepths = 3 to(6, 1)
val impurities = List("gini", "entropy")
var bestModel: Option[RandomForestModel] = None
var bestErr = 1.0
var bestParams = new mutable.HashMap[Any, Any]()
var bestnumTrees = 0
var bestFeatureSubSet = ""
Run IPApp
16/04/06 18:00:18 INFO InternalParquetRecordReader: RecordReader initialized will read a total of 7 records.
16/04/06 18:00:18 INFO InternalParquetRecordReader: at row 0. reading next block
16/04/06 18:00:18 INFO InternalParquetRecordReader: block read in memory in 0 ms. row count = 7
16/04/06 18:00:18 INFO CodecPool: Got brand-new decompressor [.gz]
16/04/06 18:00:18 INFO InternalParquetRecordReader: block read in memory in 1 ms. row count = 7
Predicting test image : phone as phone
16/04/06 18:00:18 INFO FileInputFormat: Total input paths to process : 1
16/04/06 18:00:18 INFO ParquetFileReader: Initiating action with parallelism: 5
16/04/06 18:00:18 INFO ParquetFileReader: Initiating action with parallelism: 5
16/04/06 18:00:18 INFO ParquetFileReader: Initiating action with parallelism: 5
16/04/06 18:00:18 INFO ParquetFileReader: Initiating action with parallelism: 5
16/04/06 18:00:18 WARN ParquetRecordReader: Can not initialize counter due to context is not a instance of TaskInputOutputContext, but is org.apache.hadoop.mapreduce.task.TaskA
16/04/06 18:00:18 WARN ParquetRecordReader: Can not initialize counter due to context is not a instance of TaskInputOutputContext, but is org.apache.hadoop.mapreduce.task.TaskA
16/04/06 18:00:18 INFO InternalParquetRecordReader: RecordReader initialized will read a total of 100 records.
16/04/06 18:00:18 INFO InternalParquetRecordReader: at row 0. reading next block
16/04/06 18:00:18 WARN ParquetRecordReader: Can not initialize counter due to context is not a instance of TaskInputOutputContext, but is org.apache.hadoop.mapreduce.task.TaskA
16/04/06 18:00:18 INFO CodecPool: Got brand-new decompressor [.gz]
3: Find 4: Run Terminal 6: TODO
2 Event Log
Compilation completed successfully in 7s 29ms (16 minutes ago)
2153:72 LF: UTF-8:
Ask me anything
6:06 PM
4/6/2016


Image_Classification - [C:\Users\npdar\Desktop\Acads\BigDataAnalytics\Assignment\Tutorial 9\CS5542 - Tutorial 9 Code\Image_Classification] - [image_classification] - ...\src\main\scala\IPApp.scala - IntelliJ IDEA 15.0.3
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Image_Classification data3 model
IPApp.scala IPSettings.scala build.sbt
Platform and Plugin Updates
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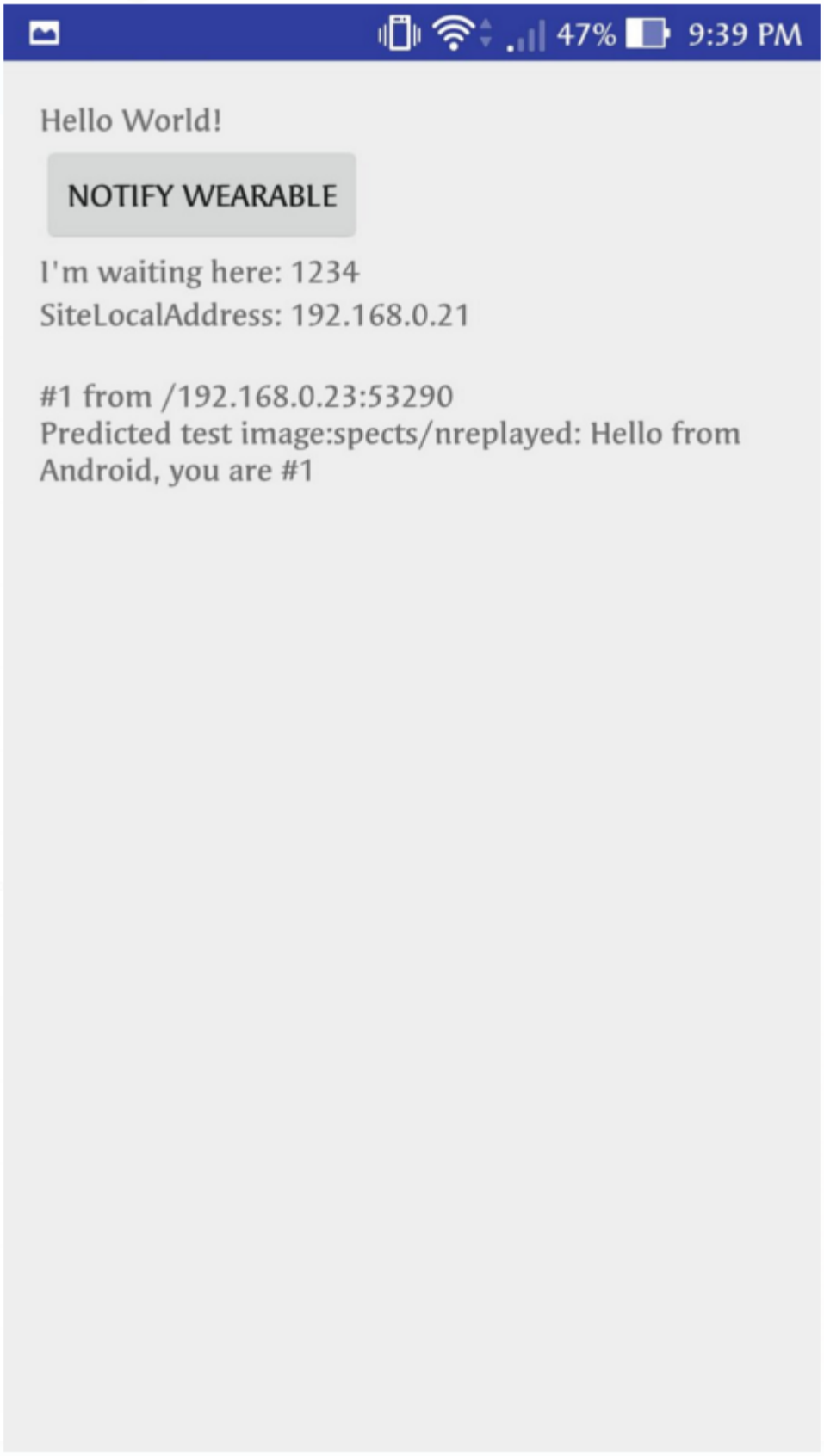
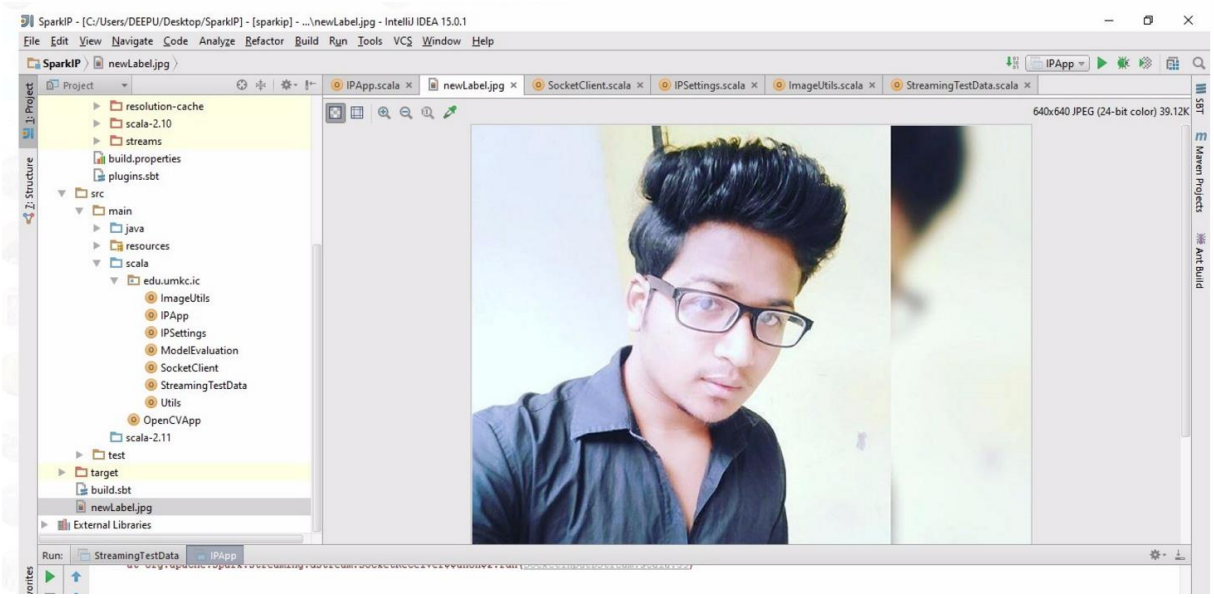
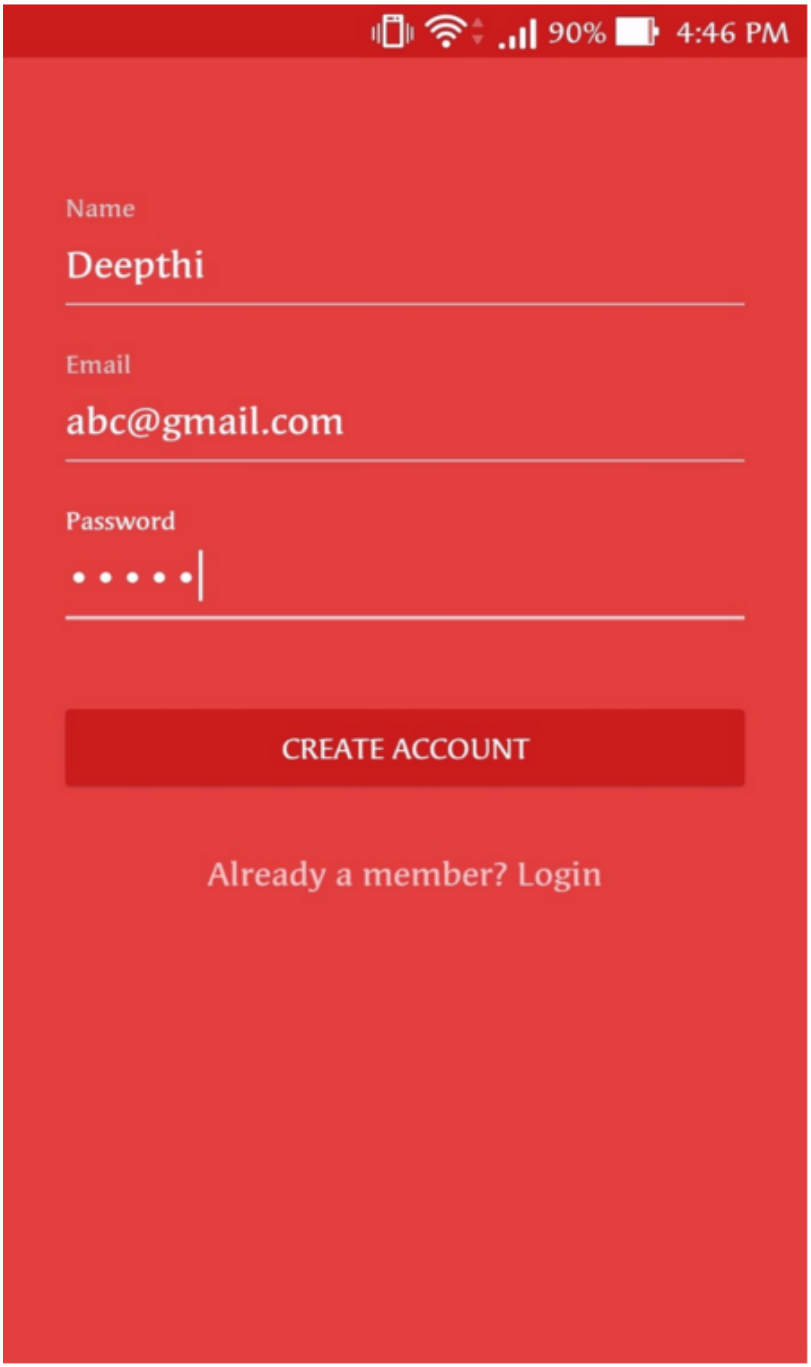
spaghetti
sushi
tempura
toast
test2
train
data2
data3
model
test
charger
keys
phone
spects
watch
train
// Empty categoricalFeaturesInfo indicates all features are continuous.
val numClasses = 10
val categoricalFeaturesInfo = Map[Int, Int]()
// val numTrees = 10 // Use more in practice.
// val featureSubsetStrategy = "auto" // Let the algorithm choose.
// val impurity = "gini"
// val maxDepth = 4
val maxBins = 100
val numOfTrees = 4 to(5, 1)
val strategies = List("all", "sqrt", "log2", "onethird")
val maxDepths = 3 to(6, 1)
val impurities = List("gini", "entropy")
var bestModel: Option[RandomForestModel] = None
var bestErr = 1.0
var bestParams = new mutable.HashMap[Any, Any]()
var bestnumTrees = 0
var bestFeatureSubSet = ""
Run IPApp
16/04/06 17:59:53 INFO CodecPool: Got brand-new decompressor [.gz]
16/04/06 17:59:53 INFO InternalParquetRecordReader: block read in memory in 0 ms. row count = 7
16/04/06 17:59:53 INFO CodecPool: Got brand-new decompressor [.gz]
16/04/06 17:59:53 INFO InternalParquetRecordReader: block read in memory in 18 ms. row count = 7
16/04/06 17:59:53 WARN ParquetRecordReader: Can not initialize counter due to context is not a instance of TaskInputOutputContext, but is org.apache.hadoop.mapreduce.task.TaskA
16/04/06 17:59:53 INFO InternalParquetRecordReader: RecordReader initialized will read a total of 7 records.
16/04/06 17:59:53 INFO InternalParquetRecordReader: at row 0. reading next block
16/04/06 17:59:53 INFO CodecPool: Got brand-new decompressor [.gz]
16/04/06 17:59:53 INFO InternalParquetRecordReader: block read in memory in 1 ms. row count = 7
Predicting test image : keys as keys
16/04/06 17:59:53 INFO FileInputFormat: Total input paths to process : 1
16/04/06 17:59:53 INFO ParquetFileReader: Initiating action with parallelism: 5
16/04/06 17:59:53 INFO ParquetFileReader: Initiating action with parallelism: 5
16/04/06 17:59:53 INFO ParquetFileReader: Initiating action with parallelism: 5
16/04/06 17:59:53 INFO ParquetFileReader: Initiating action with parallelism: 5
16/04/06 17:59:53 WARN ParquetRecordReader: Can not initialize counter due to context is not a instance of TaskInputOutputContext, but is org.apache.hadoop.mapreduce.task.TaskA
16/04/06 17:59:53 WARN ParquetRecordReader: Can not initialize counter due to context is not a instance of TaskInputOutputContext, but is org.apache.hadoop.mapreduce.task.TaskA
3: Find 4: Run Terminal 6: TODO
2 Event Log
Compilation completed successfully in 7s 29ms (17 minutes ago)
1765:55 LF: UTF-8:
Ask me anything
6:07 PM
4/6/2016


47% 9:39 PM
Hello World!
NOTIFY WEARABLE
I'm waiting here: 1234
SiteLocalAddress: 192.168.0.21
#1 from /192.168.0.23:53290
Predicted test image:spects/nreplayed: Hello from Android, you are #1

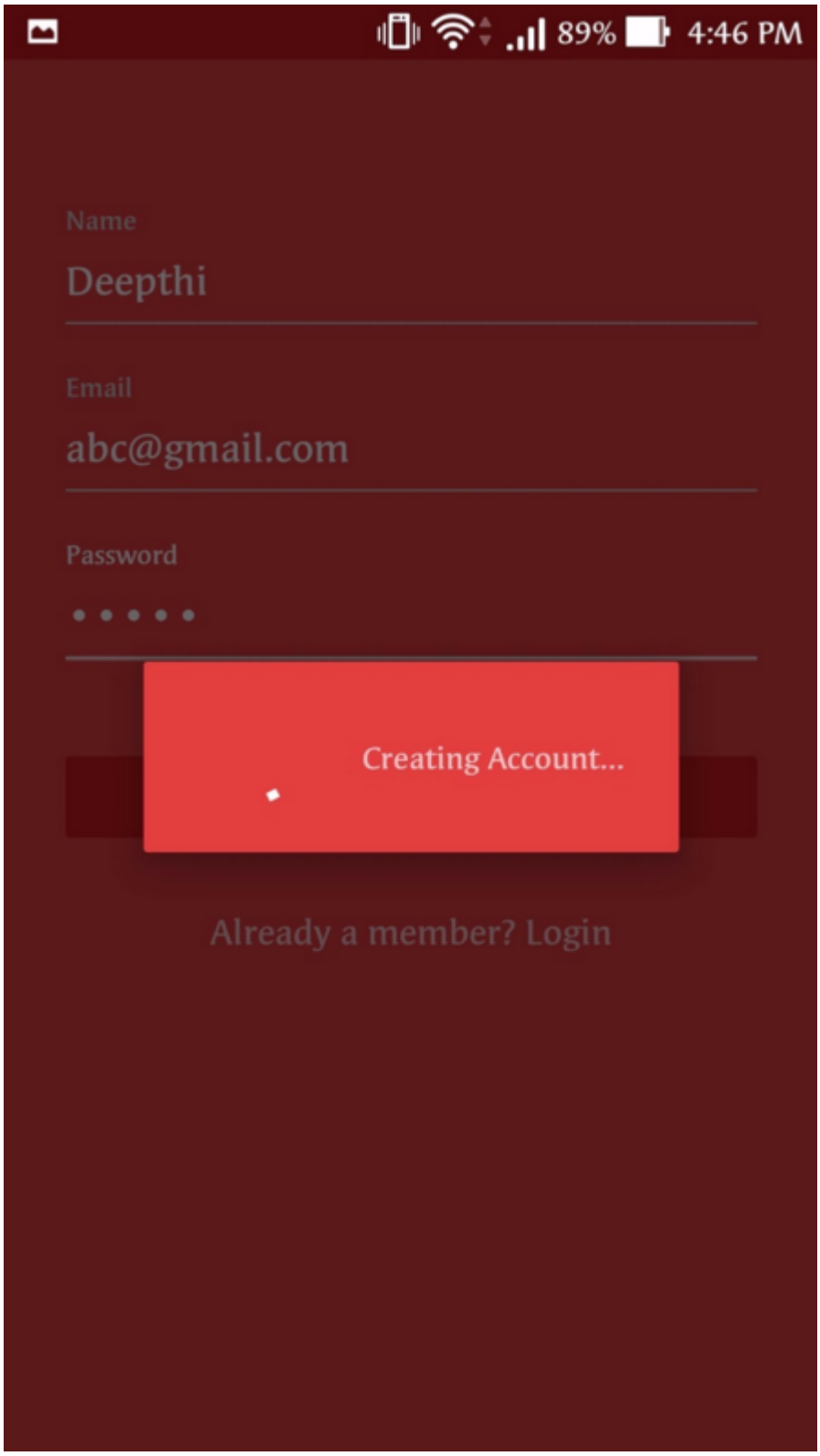

SparkIP - [C:/Users/DEEPU/Desktop/SparkIP] - [sparkip] - ...\newLabel.jpg - IntelliJ IDEA 15.0.1
File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
SparkIP newLabel.jpg
IPApp
Project
IPApp.scala
newLabel.jpg
SocketClient.scala
IPSettings.scala
ImageUtils.scala
StreamingTestData.scala
640x640 JPEG (24-bit color) 39.12K
resolution-cache
scala-2.10
streams
build.properties
plugins.sbt
src
main
java
resources
scala
edu.umkc.ic
ImageUtils
IPApp
IPSettings
ModelEvaluation
SocketClient
StreamingTestData
Utils
OpenCVApp
scala-2.11
test
target
build.sbt
newLabel.jpg
External Libraries
Run:
StreamingTestData
IPApp
1: Project
2: Structure
SBT
Maven Projects
Ant Build

Final Phase Snapshots:

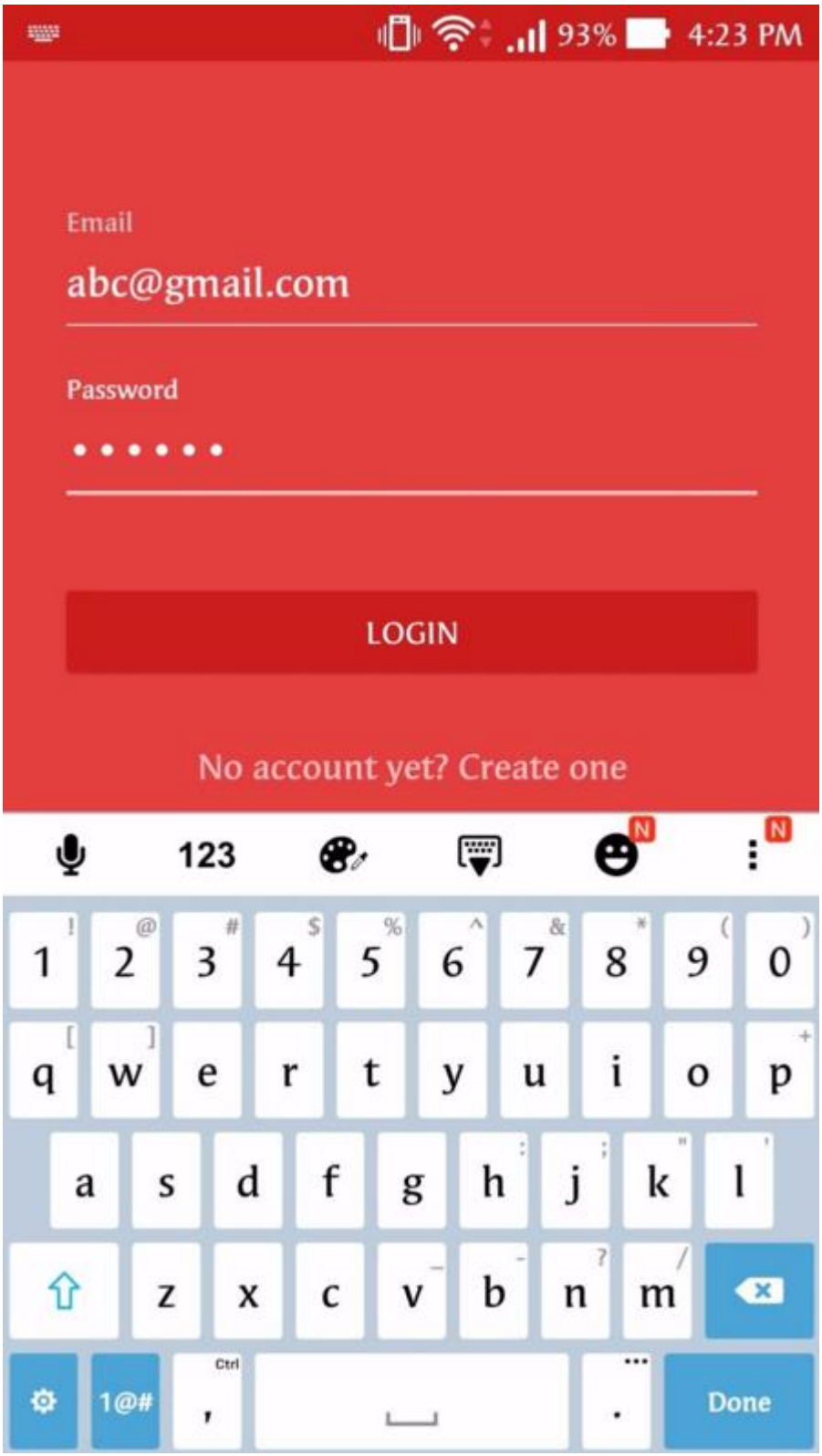
Android application - Registration page



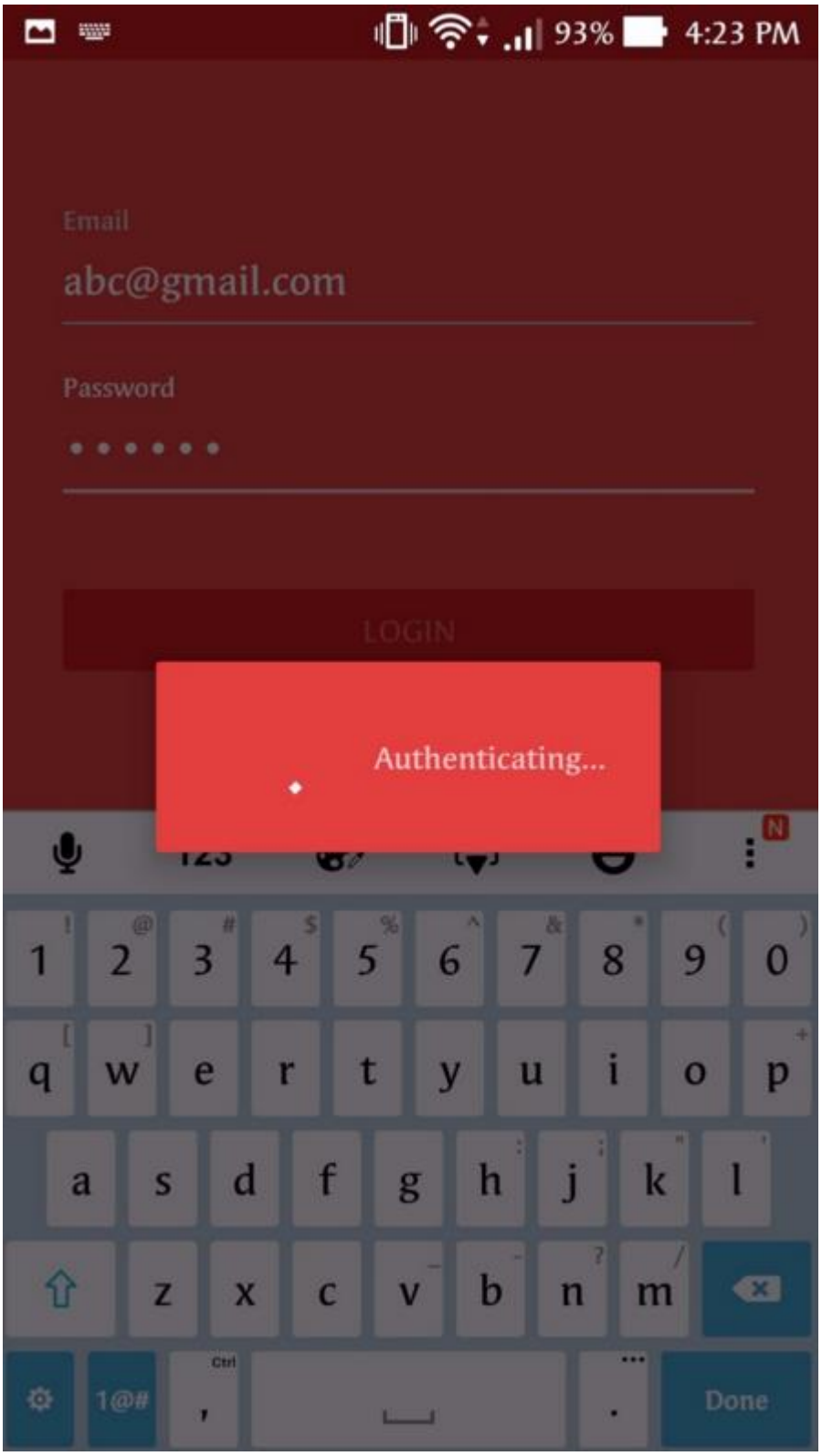
Snapshot to show that the account is being creating.



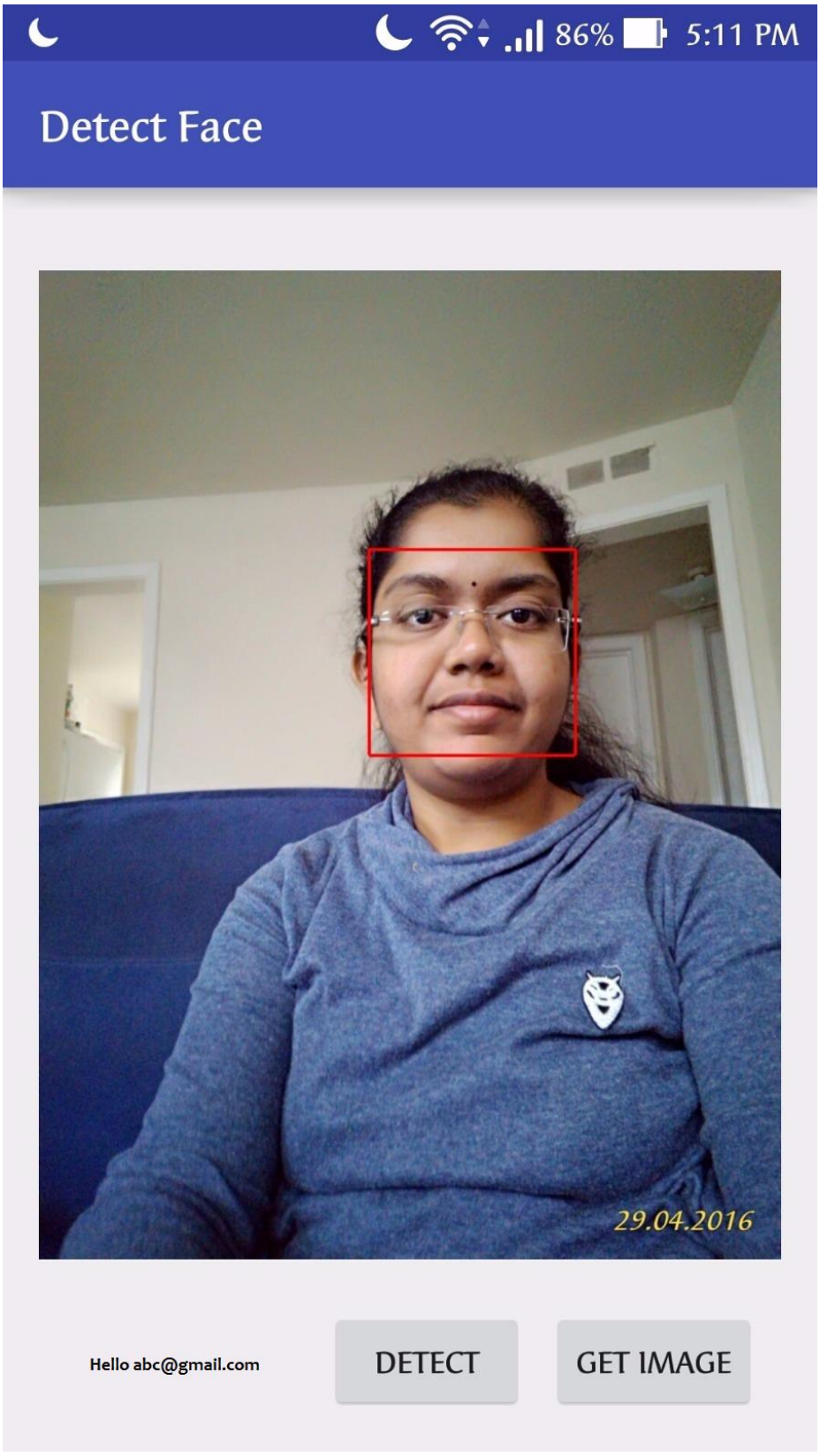
User login page after registration.



Account authentication Snapshot

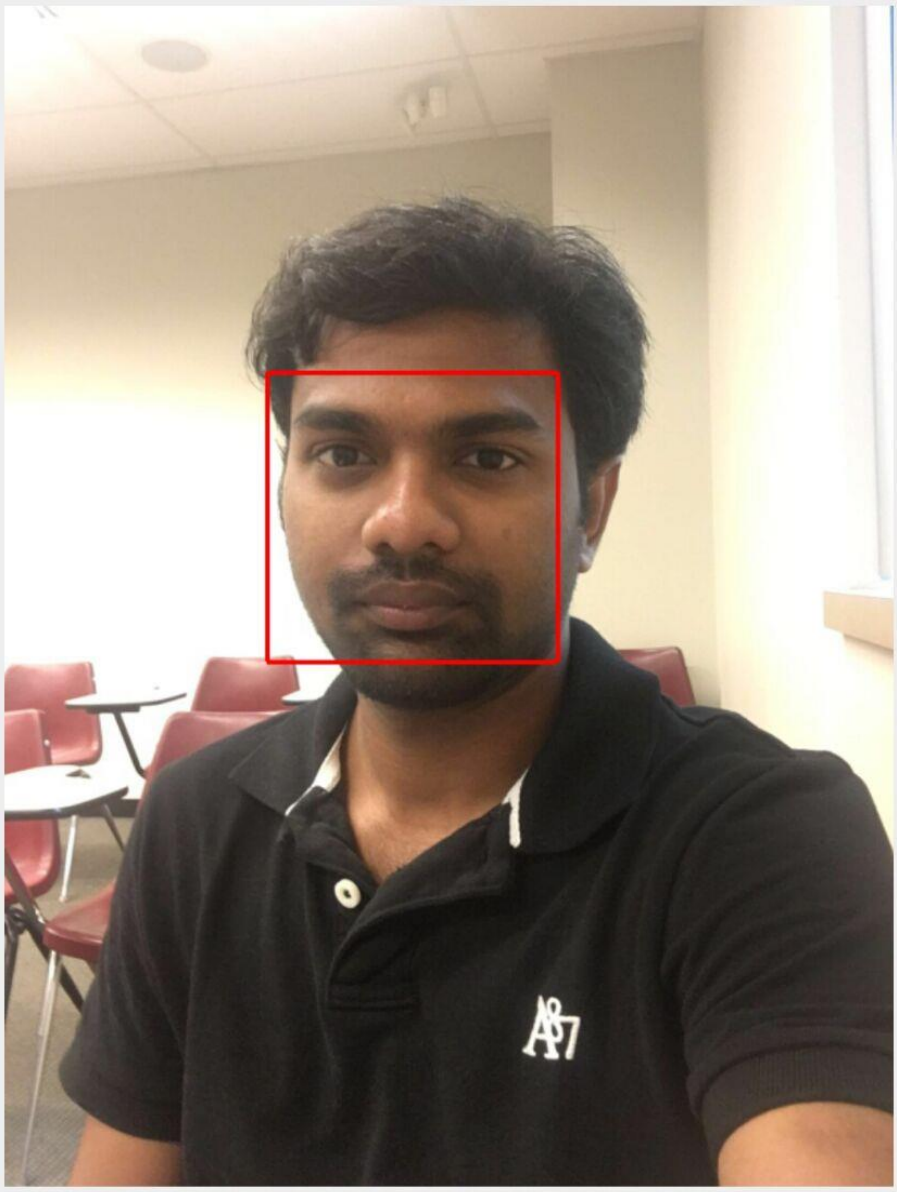


Facial Recognition



78% 8:34 PM

Detect Face

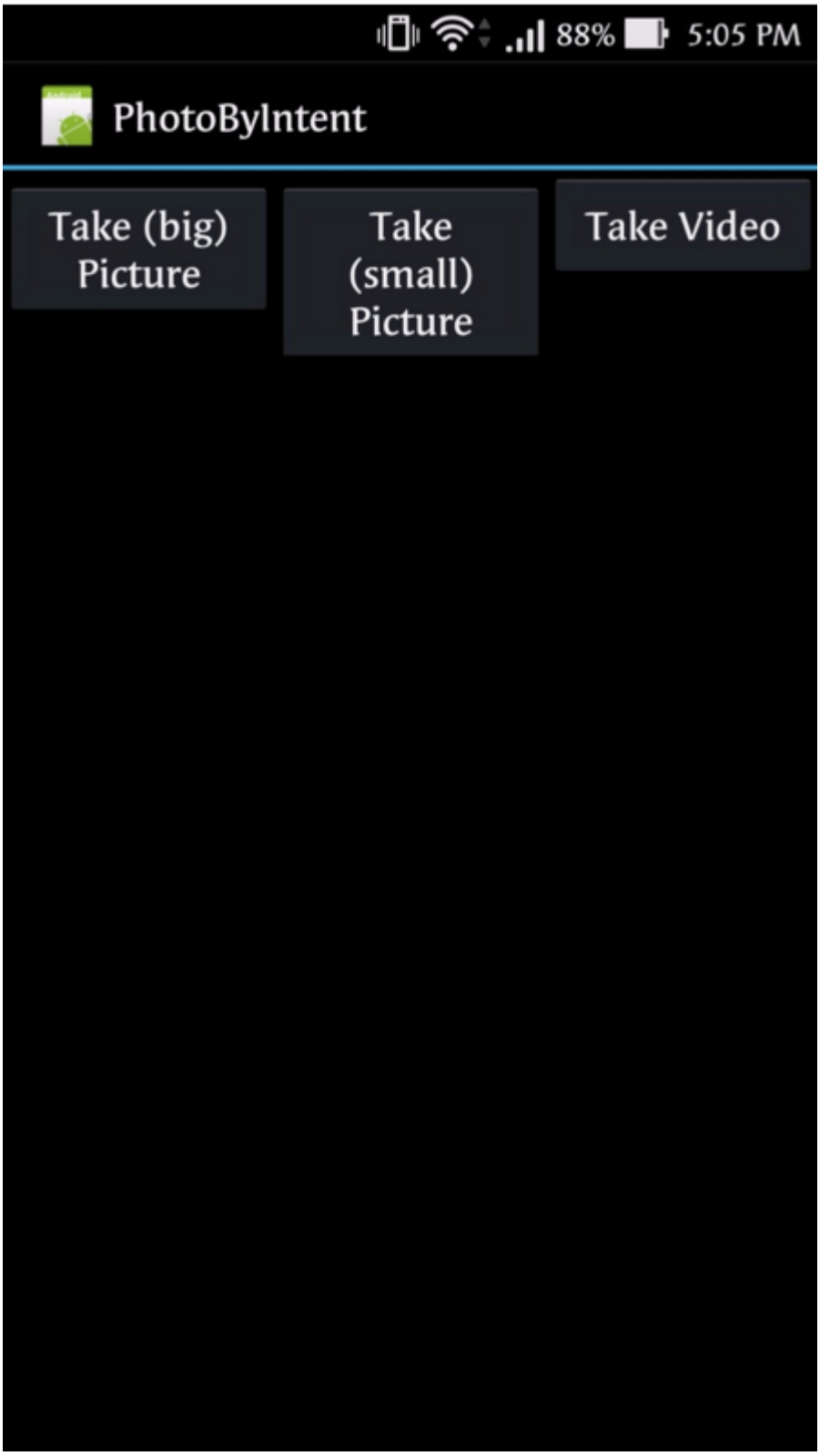


Hello tej@gmail.com

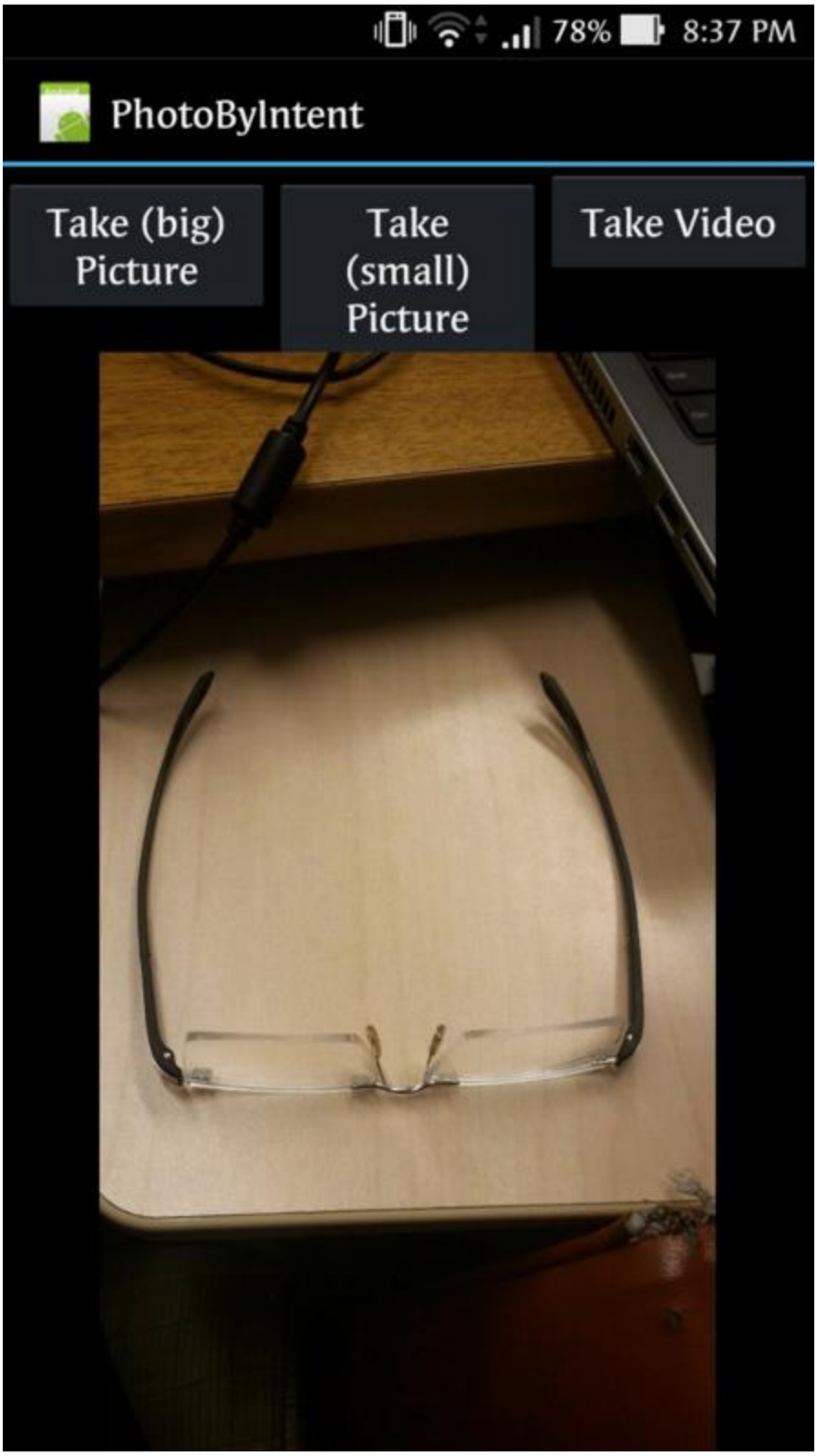
DETECT

GET IMAGE

Option to take an image




87%
5:06 PM
PhotoByIntent
Take (big) Picture
Take (small) Picture
Take Video


78% 8:37 PM
PhotoByIntent
Take (big) Picture
Take (small) Picture
Take Video

Snapshot shows that the image has been saved into the Spark directory after receiving from Android client.

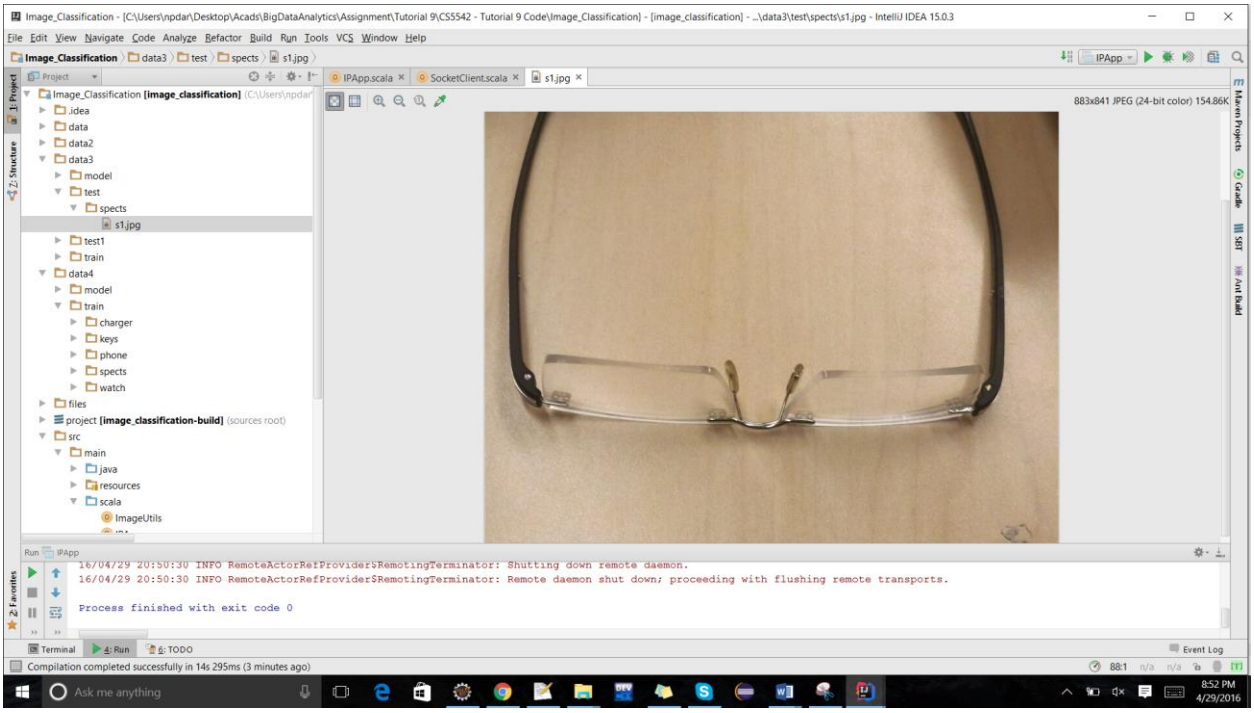
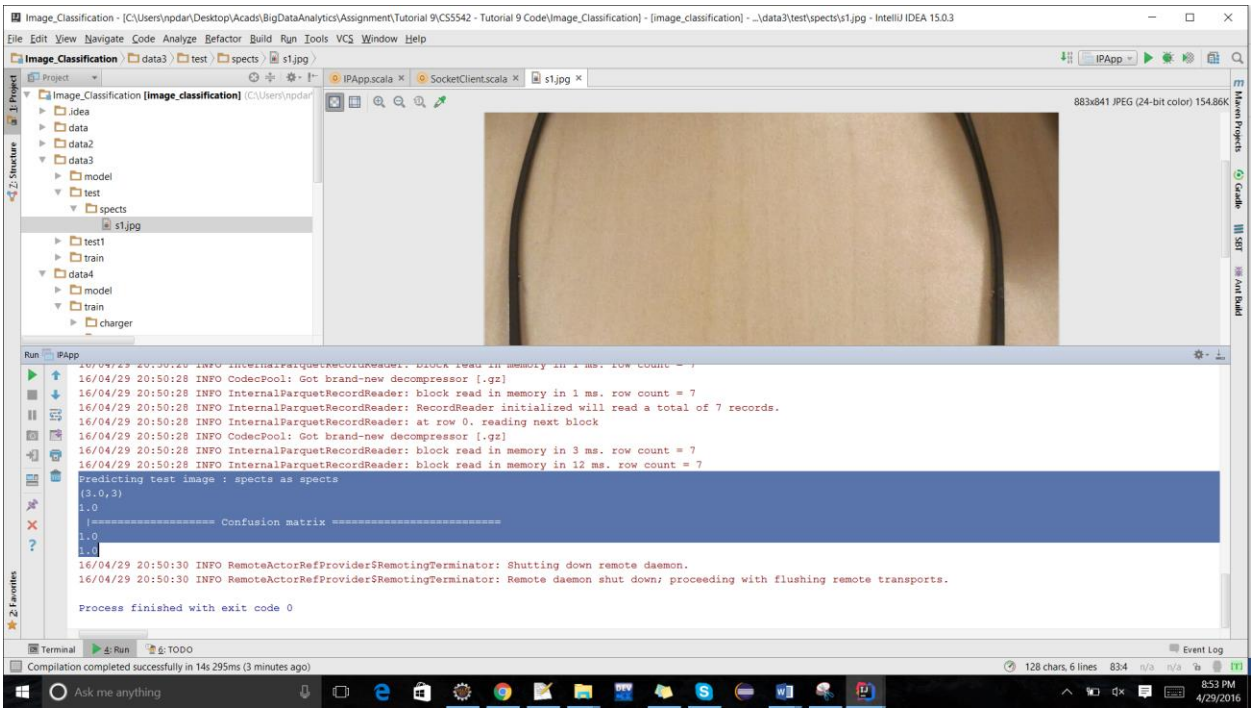
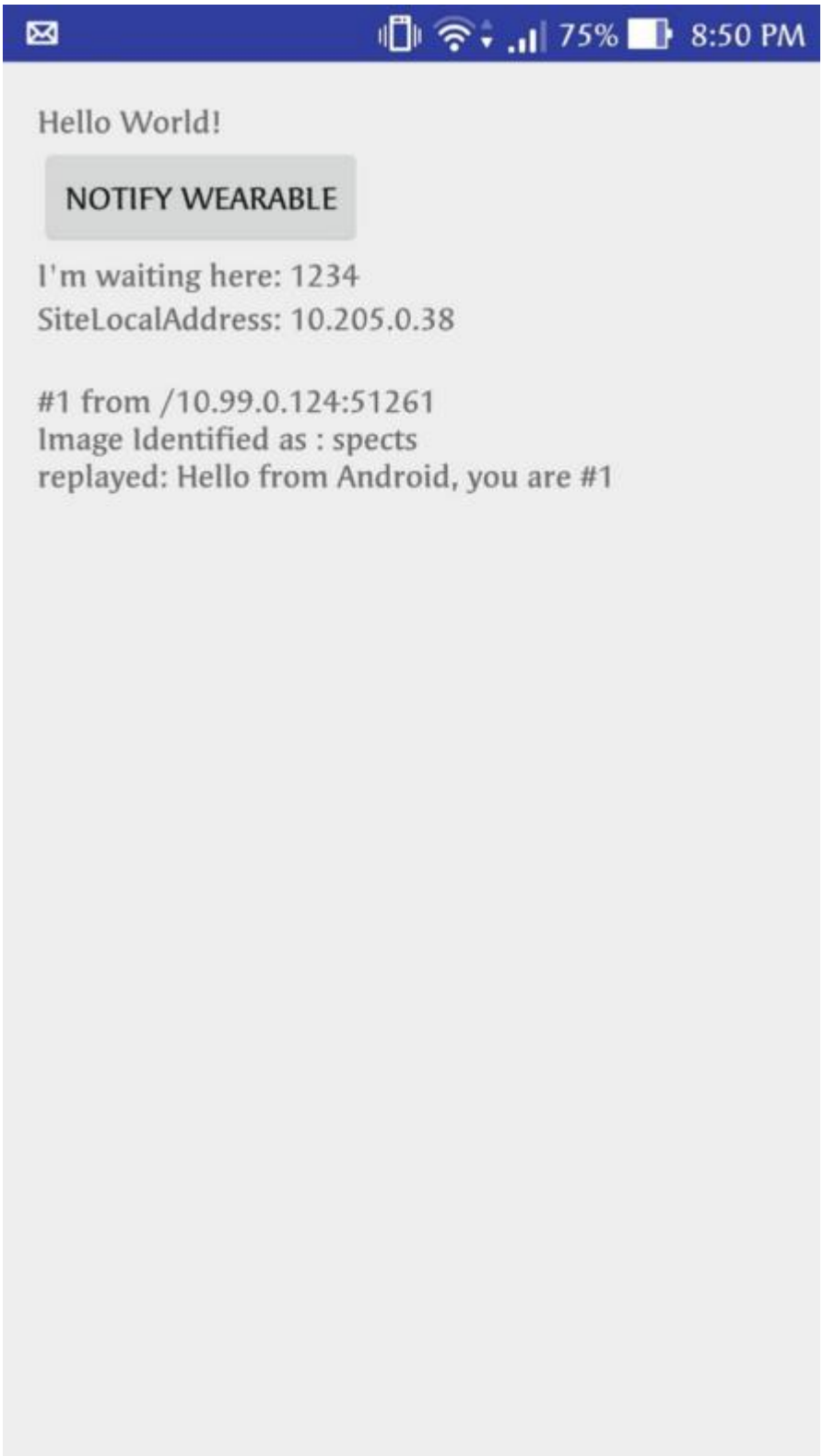


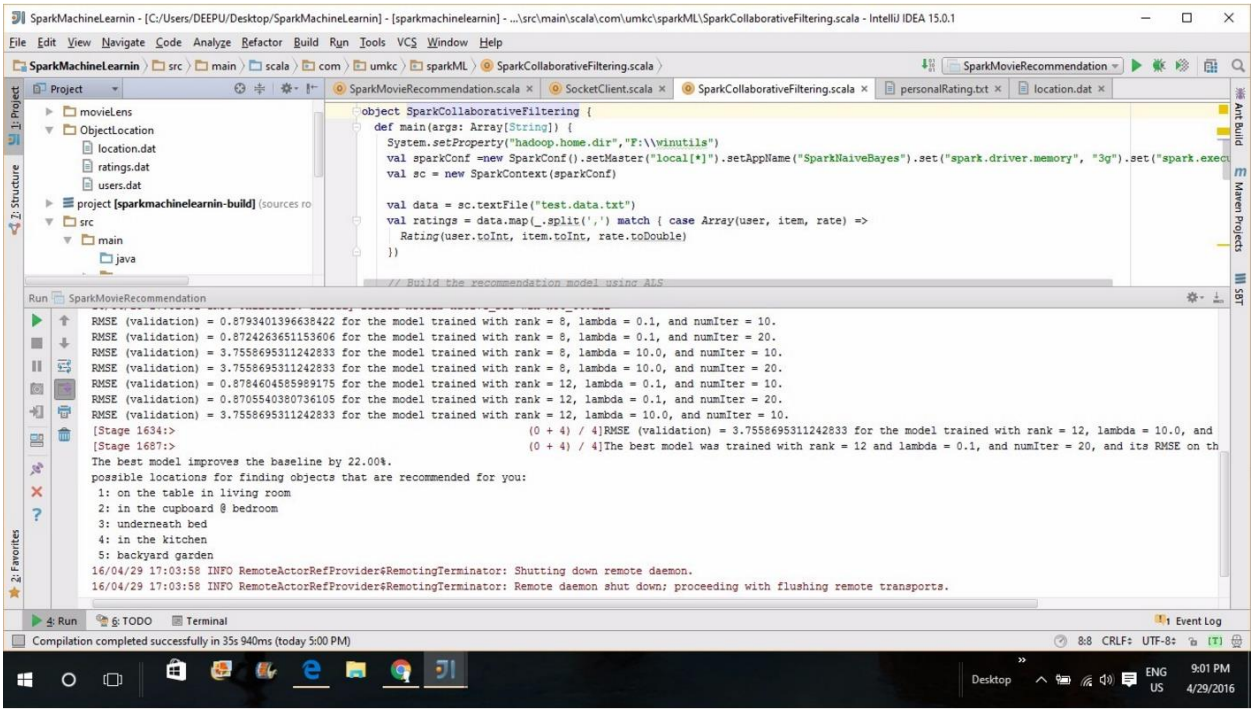
Image classification – Object classified as Spects



Notification to smart phone.



Recommendation system – To recommend the location of the object classified.



Notification to Smart phone about recommendation

5.4 Deployment:

Git Hub Link:

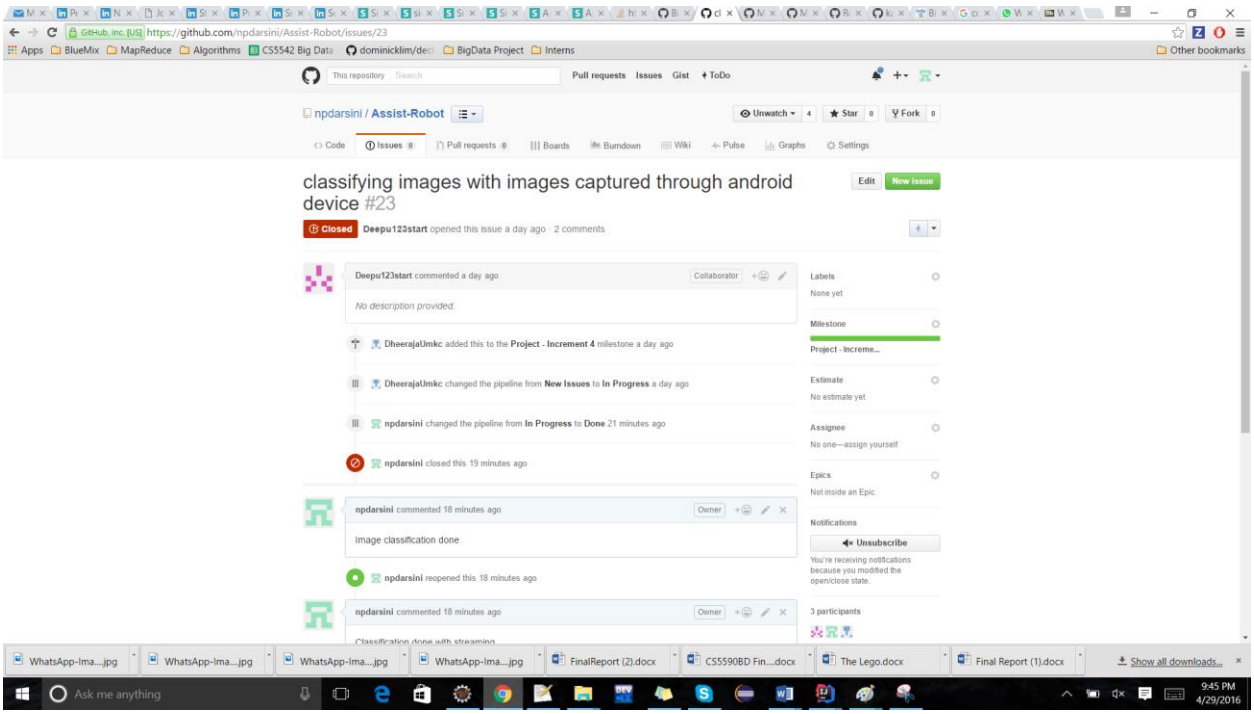
https://github.com/npdarsini/Assist-Robot

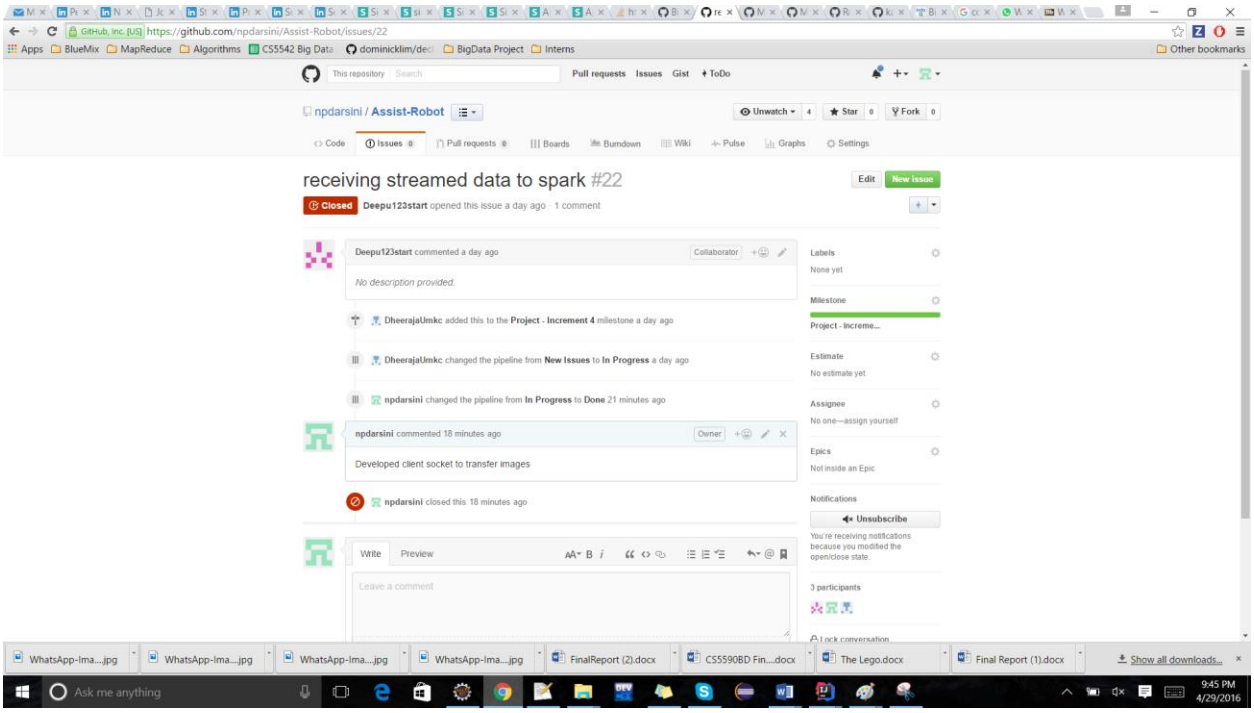
6. Project Management:

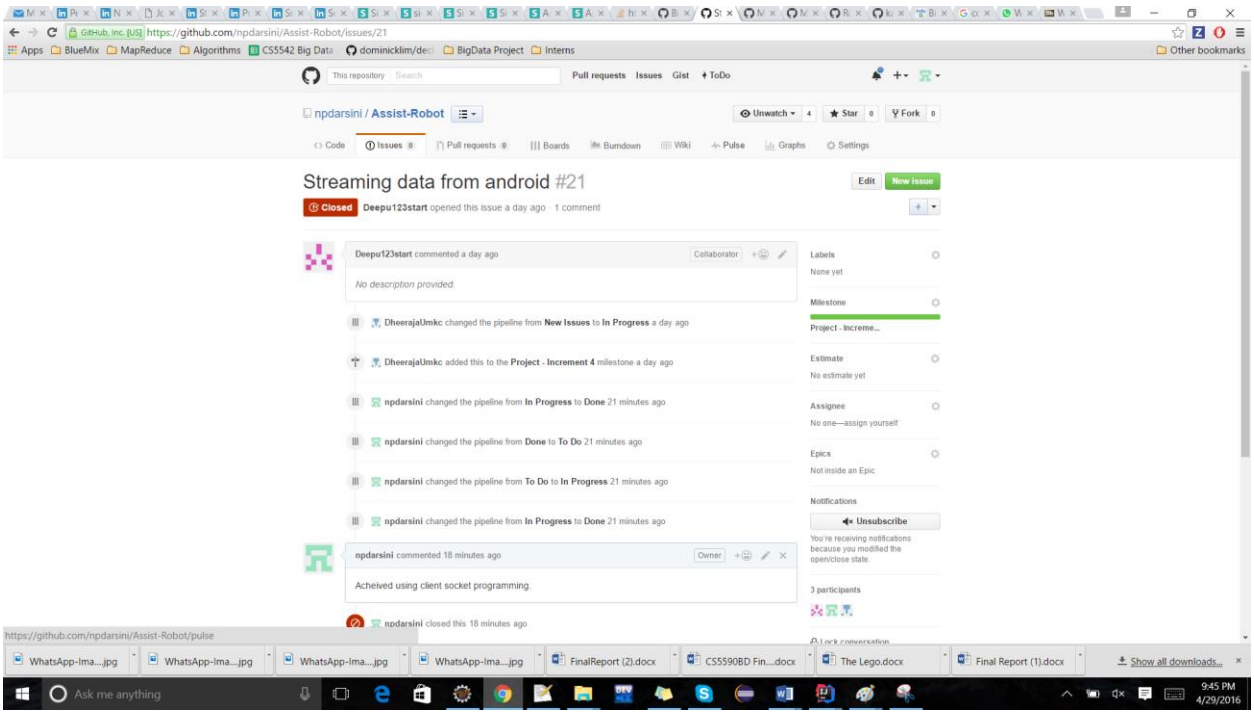
6.1 Implementation status report:

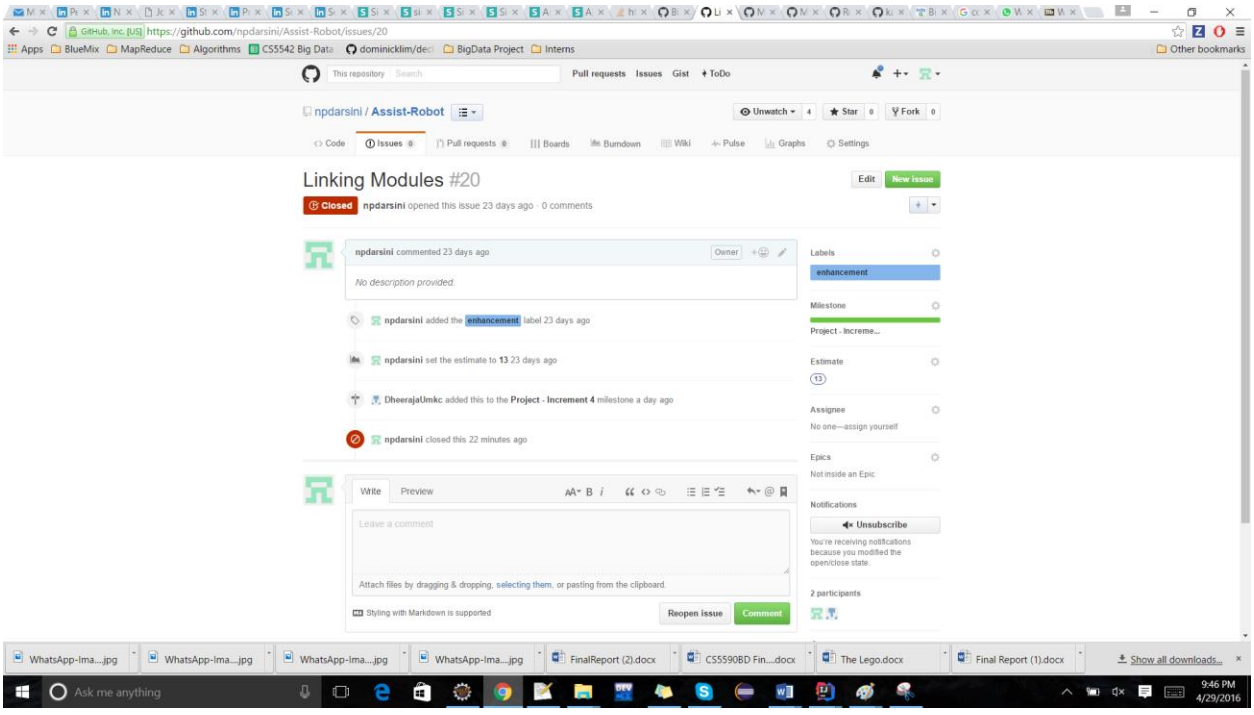
This phase involves the development of Image classification report with the streaming data. Basically the system will classify the object based on the provided image and will notify the user about the object. The image streaming is done from the android device for which we had created an application with the login option. This application can capture the image and transfers the image to the Spark IP address. Upon classifying the image the notification will be sent to the user device. Also a smart recommendation system has been developed which takes the classified image as a base input. Using this input data, it recommends the object location to the user. Assuming the user will be carrying the smart android device every single time, we thought that this could be as an innovative thought as the user don't need to spend a lot of time for finding the lost objects.

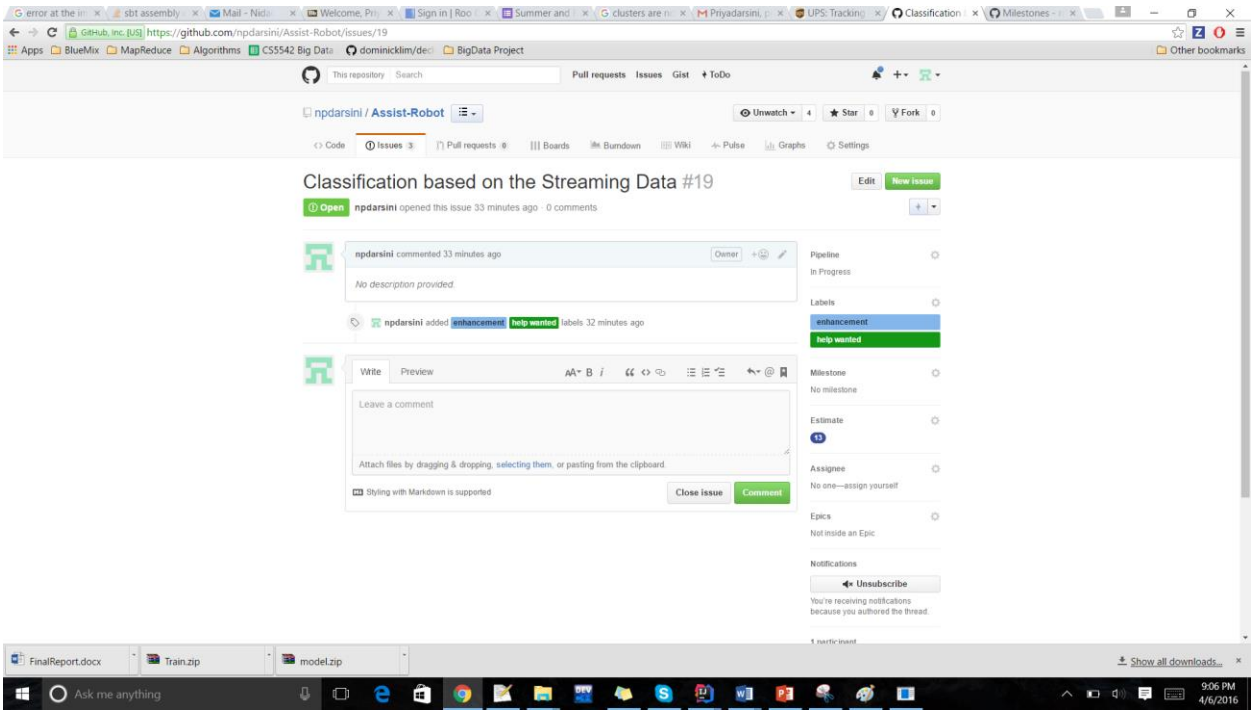
Name	Task	Contribution	Time Spent
Priyadarsini N	**1. Data Streaming from Android to Spark through Socket communication.** **2. Image Classification with streaming data from Android using Random Forest Algorithm technique.**	**100**	**25**
Deepthi P	**1. Data Streaming from Android to Spark through Socket communication.** **2. Recommendation System for finding object location with ALS collaborative filtering technique.**	**100**	**25**
Tej Kumar Y	**1. Android camera module implementation to capture images.** **2. Face recognition login.**	**100**	**20**
Dheeraja V	**1. Android login page** **2. Notification on android device.**	**100**	**15**

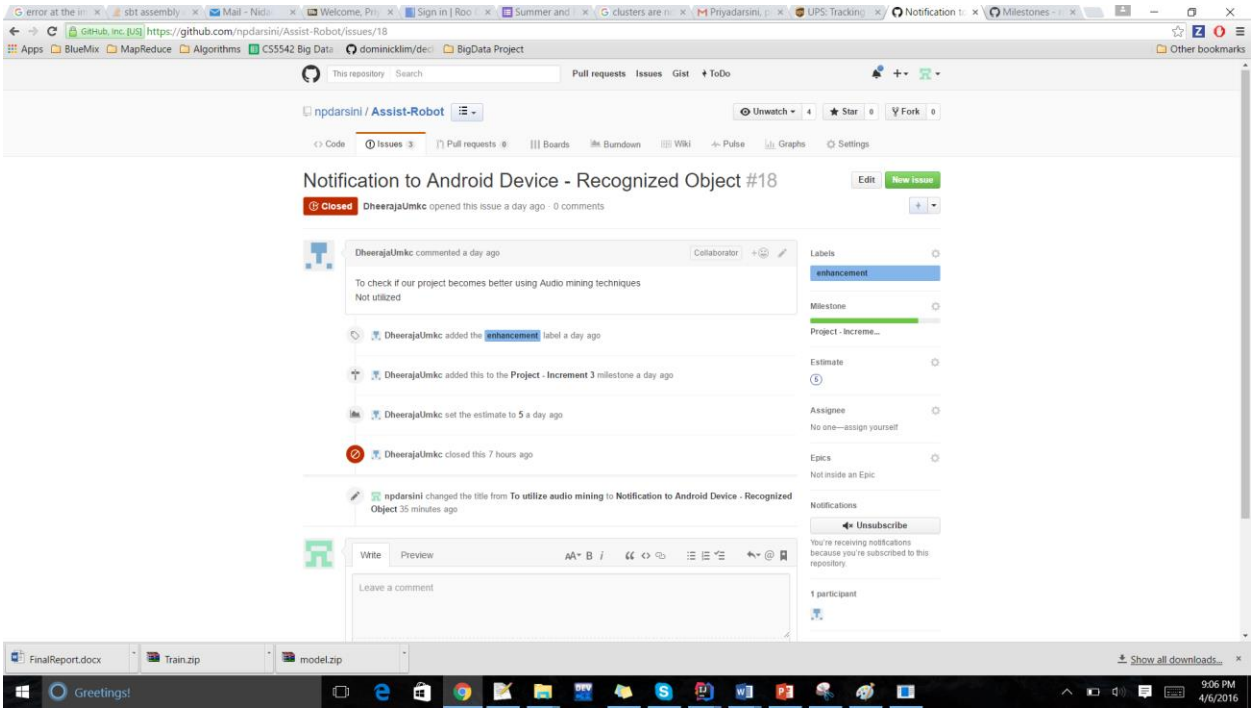

https://github.com/npdarsini/Assist-Robot/issues/23
npdarsini / Assist-Robot
classifying images with images captured through android device #23
Closed
Deepu123start opened this issue a day ago · 2 comments
Deepu123start commented a day ago
No description provided.
DheerajaUmkc added this to the Project - Increment 4 milestone a day ago
DheerajaUmkc changed the pipeline from New Issues to In Progress a day ago
npdarsini changed the pipeline from In Progress to Done 21 minutes ago
npdarsini closed this 19 minutes ago
npdarsini commented 18 minutes ago
Image classification done
npdarsini reopened this 18 minutes ago
npdarsini commented 18 minutes ago
Labels
None yet
Milestone
Estimate
No estimate yet
Assignee
No one—assign yourself
Epics
Not inside an Epic
Notifications
Unsubscribe
3 participants

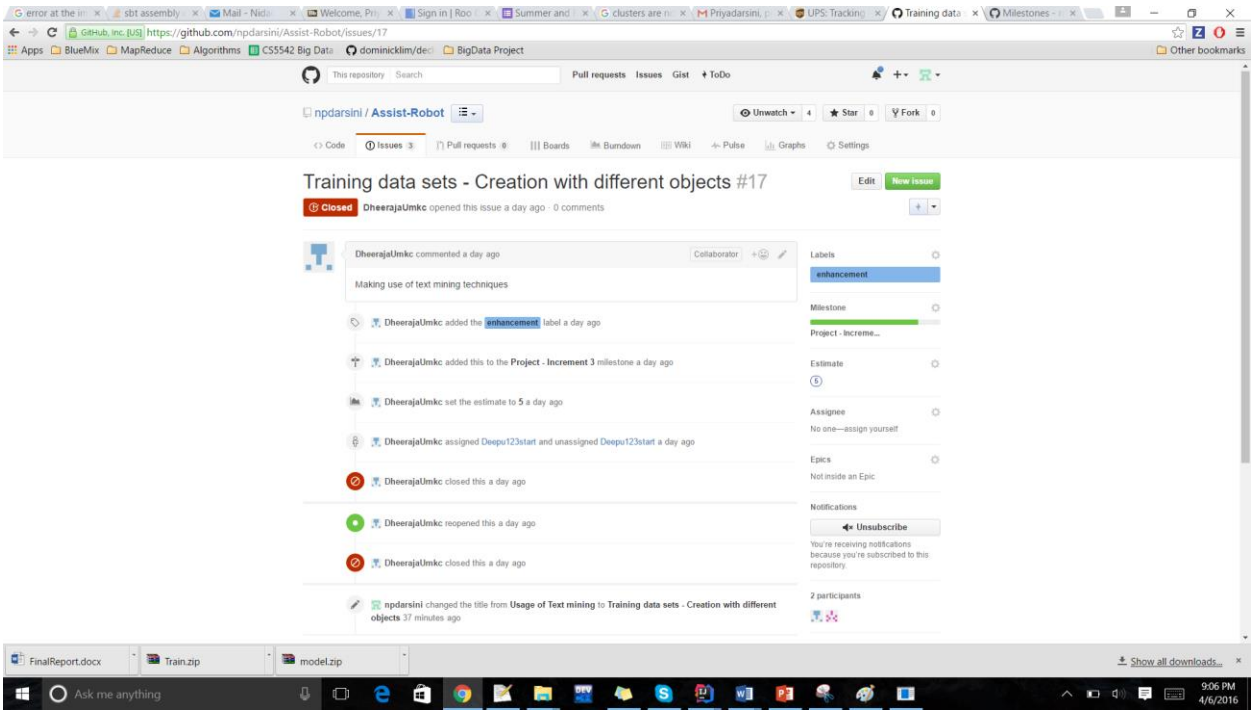

https://github.com/npdarsini/Assist-Robot/issues/22
npdarsini / Assist-Robot
receiving streamed data to spark #22
Closed
Deepu123start opened this issue a day ago · 1 comment
Deepu123start commented a day ago
No description provided.
DheerajaUmkc added this to the Project - Increment 4 milestone a day ago
DheerajaUmkc changed the pipeline from New Issues to In Progress a day ago
npdarsini changed the pipeline from In Progress to Done 21 minutes ago
npdarsini commented 18 minutes ago
Developed client socket to transfer images
npdarsini closed this 18 minutes ago
Write
Preview
Leave a comment
Labels
None yet
Milestone
Estimate
No estimate yet
Assignee
No one—assign yourself
Epics
Not inside an Epic
Notifications
Unsubscribe
3 participants

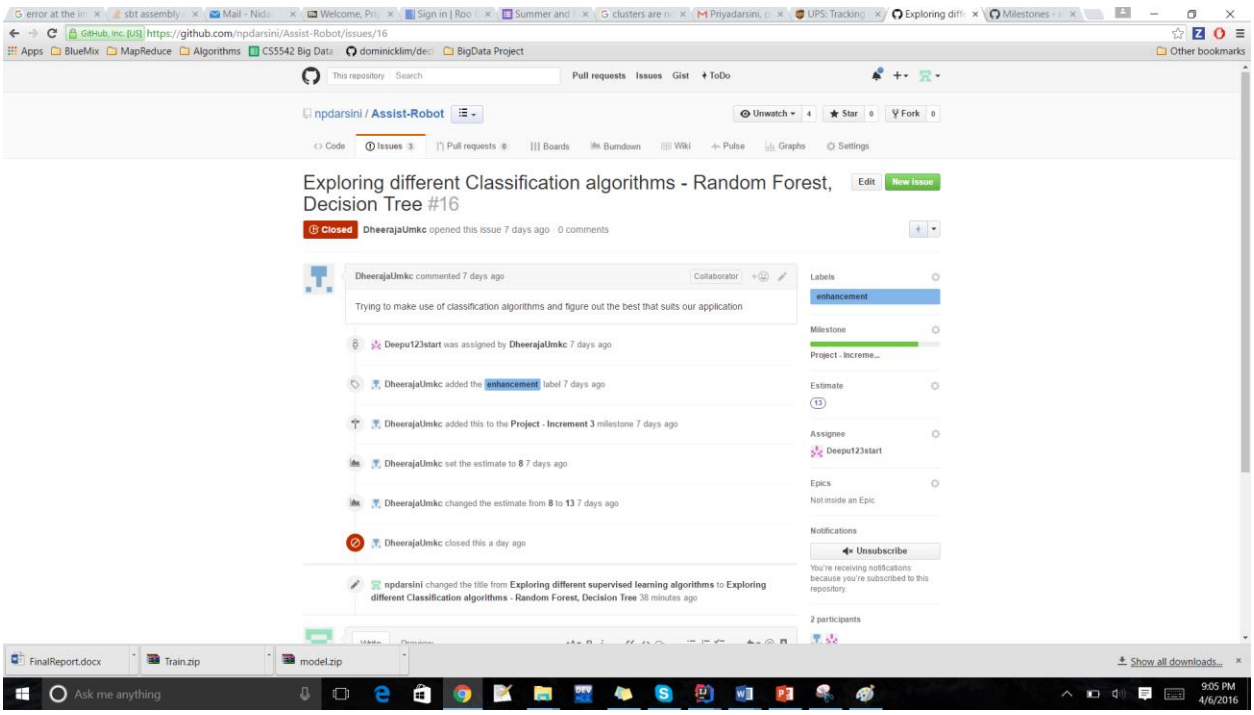

https://github.com/npdarsini/Assist-Robot/issues/21
npdarsini / Assist-Robot
Streaming data from android #21
Closed
Deepu123start opened this issue a day ago · 1 comment
Deepu123start commented a day ago
No description provided.
DheerajaUmkc changed the pipeline from New Issues to In Progress a day ago
DheerajaUmkc added this to the Project - Increment 4 milestone a day ago
npdarsini changed the pipeline from In Progress to Done 21 minutes ago
npdarsini changed the pipeline from Done to To Do 21 minutes ago
npdarsini changed the pipeline from To Do to In Progress 21 minutes ago
npdarsini changed the pipeline from In Progress to Done 21 minutes ago
npdarsini commented 18 minutes ago
Acheived using client socket programming.
npdarsini closed this 18 minutes ago
Labels
None yet
Milestone
Project - Increme...
Estimate
No estimate yet
Assignee
No one—assign yourself
Epics
Not inside an Epic
Notifications
Unsubscribe
You're receiving notifications because you modified the open/close state.
3 participants

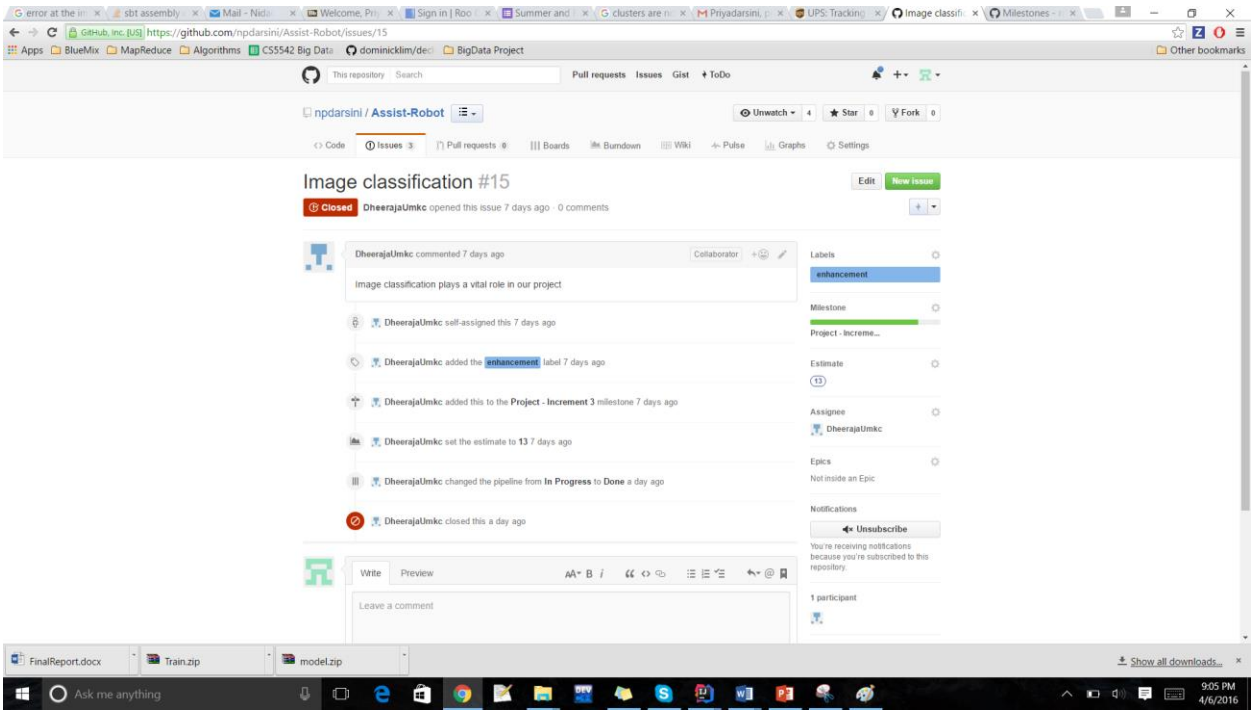

https://github.com/npdarsini/Assist-Robot/issues/20
npdarsini / Assist-Robot
Linking Modules #20
Closed
npdarsini opened this issue 23 days ago · 0 comments
npdarsini commented 23 days ago
No description provided.
npdarsini added the enhancement label 23 days ago
npdarsini set the estimate to 13 23 days ago
DheerajaUmkc added this to the Project - Increment 4 milestone a day ago
npdarsini closed this 22 minutes ago
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting them, or pasting from the clipboard.
Styling with Markdown is supported
Reopen issue
Comment
Labels
enhancement
Milestone
Project - Increme...
Estimate
13
Assignee
No one—assign yourself
Epics
Not inside an Epic
Notifications
Unsubscribe
You're receiving notifications because you modified the open/close state.
2 participants


https://github.com/npdarsini/Assist-Robot/issues/19
npdarsini / Assist-Robot
Classification based on the Streaming Data #19
Open
npdarsini opened this issue 33 minutes ago · 0 comments
npdarsini commented 33 minutes ago
No description provided.
npdarsini added enhancement help wanted labels 32 minutes ago
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting them, or pasting from the clipboard.
Styling with Markdown is supported
Close issue
Comment
Pipeline
In Progress
Labels
enhancement
help wanted
Milestone
No milestone
Estimate
13
Assignee
No one—assign yourself
Epics
Not inside an Epic
Notifications
Unsubscribe
You're receiving notifications because you authored the thread.
1 participant
FinalReport.docx
Train.zip
model.zip
Show all downloads...
Ask me anything
9:06 PM
4/6/2016


https://github.com/npdarsini/Assist-Robot/issues/18
npdarsini / Assist-Robot
Notification to Android Device - Recognized Object #18
Closed
DheerajaUmkc opened this issue a day ago · 0 comments
DheerajaUmkc commented a day ago
To check if our project becomes better using Audio mining techniques
Not utilized
DheerajaUmkc added the enhancement label a day ago
DheerajaUmkc added this to the Project - Increment 3 milestone a day ago
DheerajaUmkc set the estimate to 5 a day ago
DheerajaUmkc closed this 7 hours ago
npdarsini changed the title from To utilize audio mining to Notification to Android Device - Recognized Object 35 minutes ago
Write
Preview
Leave a comment
Labels
enhancement
Milestone
Project - Increme...
Estimate
5
Assignee
No one—assign yourself
Epics
Not inside an Epic
Notifications
Unsubscribe
You're receiving notifications because you're subscribed to this repository.
1 participant
FinalReport.docx
Train.zip
model.zip
Show all downloads...
Greetings!
9:06 PM
4/6/2016


https://github.com/npdarsini/Assist-Robot/issues/17
npdarsini / Assist-Robot
Training data sets - Creation with different objects #17
Closed
DheerajaUmkc opened this issue a day ago · 0 comments
DheerajaUmkc commented a day ago
Making use of text mining techniques
DheerajaUmkc added the enhancement label a day ago
DheerajaUmkc added this to the Project - Increment 3 milestone a day ago
DheerajaUmkc set the estimate to 5 a day ago
DheerajaUmkc assigned Deepu123start and unassigned Deepu123start a day ago
DheerajaUmkc closed this a day ago
DheerajaUmkc reopened this a day ago
DheerajaUmkc closed this a day ago
npdarsini changed the title from Usage of Text mining to Training data sets - Creation with different objects 37 minutes ago
Labels
enhancement
Milestone
Project - Increme...
Estimate
5
Assignee
No one—assign yourself
Epics
Not inside an Epic
Notifications
Unsubscribe
You're receiving notifications because you're subscribed to this repository.
2 participants
FinalReport.docx
Train.zip
model.zip
Show all downloads...
Ask me anything
9:06 PM
4/6/2016


https://github.com/npdarsini/Assist-Robot/issues/16
npdarsini / Assist-Robot
Exploring different Classification algorithms - Random Forest, Decision Tree #16
Closed
DheerajaUmkc opened this issue 7 days ago · 0 comments
DheerajaUmkc commented 7 days ago
Trying to make use of classification algorithms and figure out the best that suits our application
Deepu123start was assigned by DheerajaUmkc 7 days ago
DheerajaUmkc added the enhancement label 7 days ago
DheerajaUmkc added this to the Project - Increment 3 milestone 7 days ago
DheerajaUmkc set the estimate to 8 7 days ago
DheerajaUmkc changed the estimate from 8 to 13 7 days ago
DheerajaUmkc closed this a day ago
npdarsini changed the title from Exploring different supervised learning algorithms to Exploring different Classification algorithms - Random Forest, Decision Tree 38 minutes ago
Labels
enhancement
Milestone
Project - Increme...
Estimate
13
Assignee
Deepu123start
Epics
Not inside an Epic
Notifications
Unsubscribe
You're receiving notifications because you're subscribed to this repository.
2 participants
FinalReport.docx
Train.zip
model.zip
Show all downloads...
Ask me anything
9:05 PM
4/6/2016


https://github.com/npdarsini/Assist-Robot/issues/15
npdarsini / Assist-Robot
Image classification #15
Closed
DheerajaUmkc opened this issue 7 days ago · 0 comments
DheerajaUmkc commented 7 days ago
image classification plays a vital role in our project
DheerajaUmkc self-assigned this 7 days ago
DheerajaUmkc added the enhancement label 7 days ago
DheerajaUmkc added this to the Project - Increment 3 milestone 7 days ago
DheerajaUmkc set the estimate to 13 7 days ago
DheerajaUmkc changed the pipeline from In Progress to Done a day ago
DheerajaUmkc closed this a day ago
Labels
enhancement
Milestone
Project - Increme...
Estimate
13
Assignee
DheerajaUmkc
Epics
Not inside an Epic
Notifications
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1 participant
Write
Preview
Leave a comment
FinalReport.docx
Train.zip
model.zip
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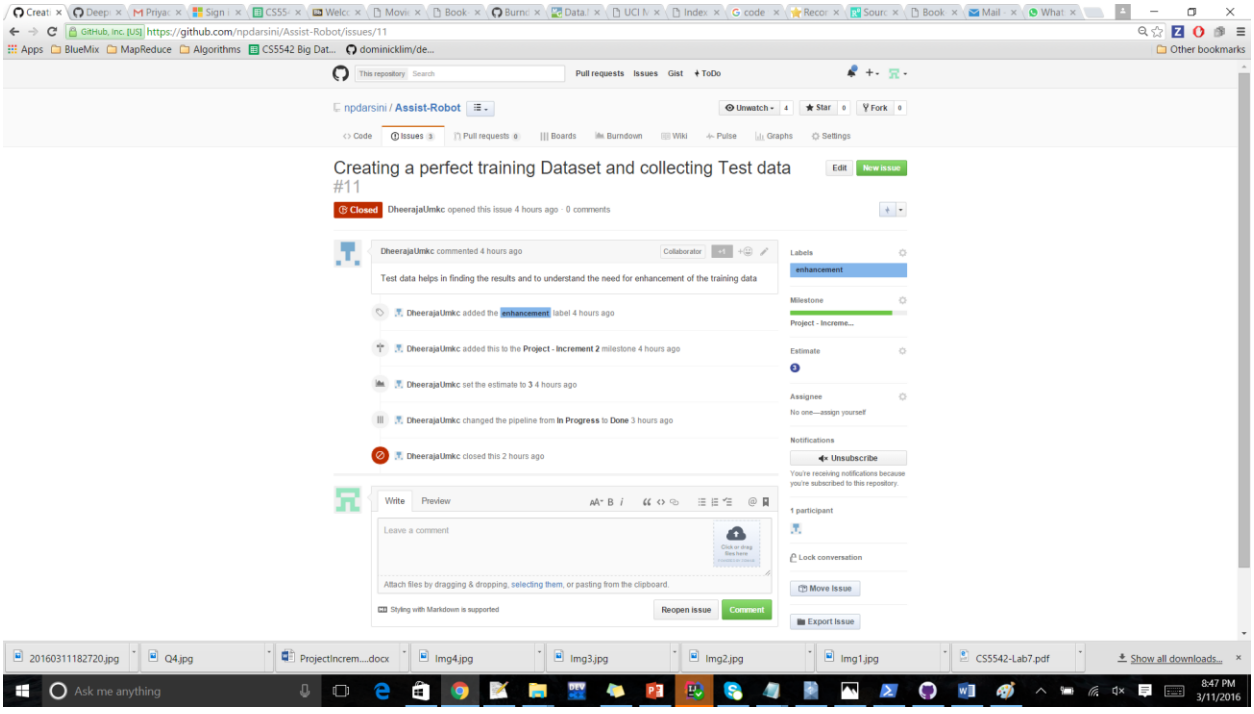
4/6/2016


https://github.com/npdarsini/Assist-Robot/issues/11
npdarsini / Assist-Robot
Creating a perfect training Dataset and collecting Test data #11
Closed
DheerajaUmkc opened this issue 4 hours ago · 0 comments
DheerajaUmkc commented 4 hours ago
Test data helps in finding the results and to understand the need for enhancement of the training data
DheerajaUmkc added the enhancement label 4 hours ago
DheerajaUmkc added this to the Project - Increment 2 milestone 4 hours ago
DheerajaUmkc set the estimate to 3 4 hours ago
DheerajaUmkc changed the pipeline from In Progress to Done 3 hours ago
DheerajaUmkc closed this 2 hours ago
Labels
enhancement
Milestone
Project - Increme...
Estimate
3
Assignee
No one—assign yourself
Notifications
Unsubscribe
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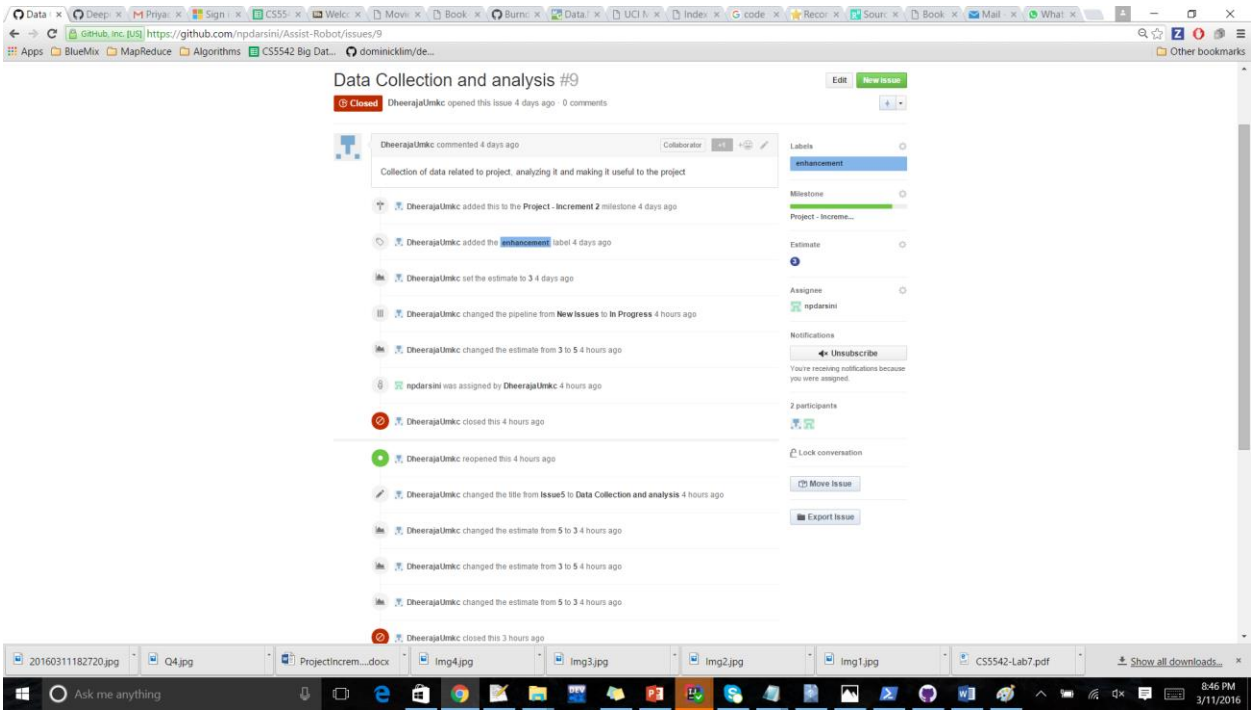
1 participant
Lock conversation
Move Issue
Export Issue
Write
Preview
Leave a comment
Attach files by dragging & dropping, selecting them, or pasting from the clipboard.
Styling with Markdown is supported
Reopen issue
Comment
20160311182720.jpg
Q4.jpg
ProjectIncrem....docx
Img4.jpg
Img3.jpg
Img2.jpg
Img1.jpg
CS5542-Lab7.pdf
Show all downloads...
Ask me anything
8:47 PM
3/11/2016


https://github.com/npdarsini/Assist-Robot/issues/9
Data Collection and analysis #9
Edit
New issue
Closed
DheerajaUmkc opened this issue 4 days ago · 0 comments
DheerajaUmkc commented 4 days ago
Collaborator
Collection of data related to project, analyzing it and making it useful to the project
DheerajaUmkc added this to the Project - Increment 2 milestone 4 days ago
DheerajaUmkc added the enhancement label 4 days ago
DheerajaUmkc set the estimate to 3 4 days ago
DheerajaUmkc changed the pipeline from New Issues to In Progress 4 hours ago
DheerajaUmkc changed the estimate from 3 to 5 4 hours ago
npdarsini was assigned by DheerajaUmkc 4 hours ago
DheerajaUmkc closed this 4 hours ago
DheerajaUmkc reopened this 4 hours ago
DheerajaUmkc changed the title from Issue5 to Data Collection and analysis 4 hours ago
DheerajaUmkc changed the estimate from 5 to 3 4 hours ago
DheerajaUmkc changed the estimate from 3 to 5 4 hours ago
DheerajaUmkc changed the estimate from 5 to 3 4 hours ago
DheerajaUmkc closed this 3 hours ago
Labels
enhancement
Milestone
Project - Increme...
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Assignee
npdarsini
Notifications
Unsubscribe
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2 participants
Lock conversation
Move Issue
Export Issue
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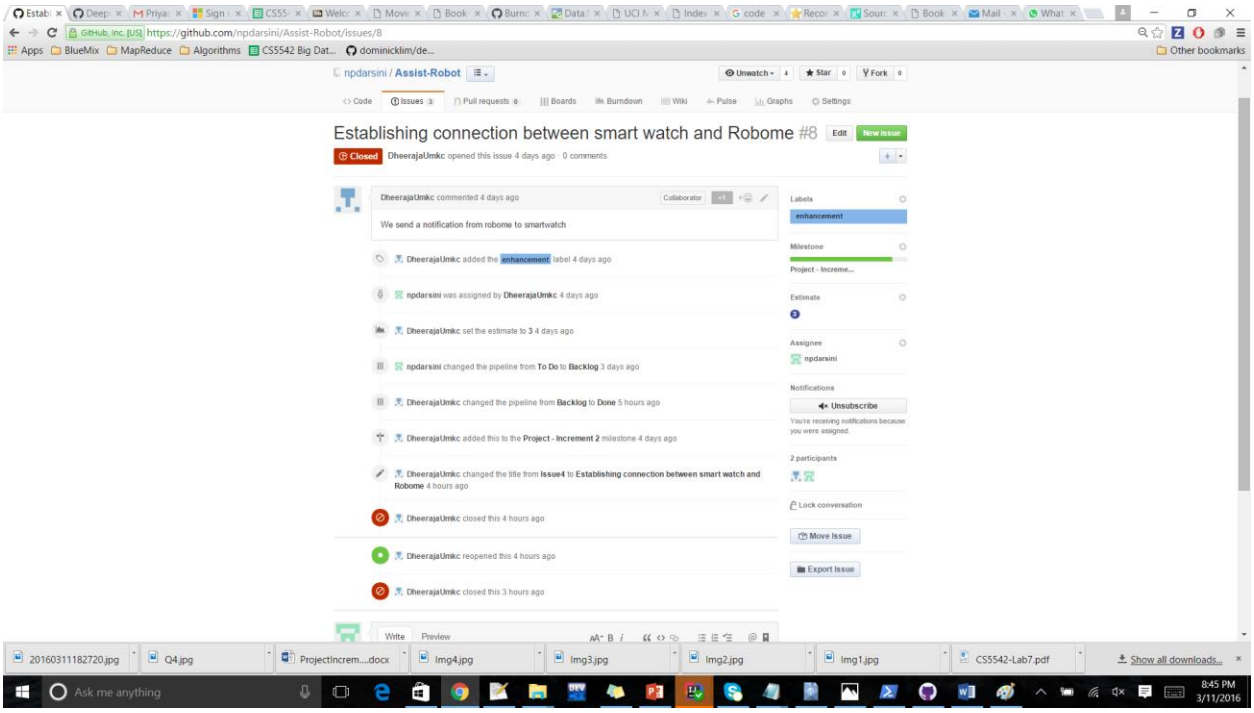
ProjectIncrem....docx
Img4.jpg
Img3.jpg
Img2.jpg
Img1.jpg
CS5542-Lab7.pdf
Show all downloads...
Ask me anything
8:46 PM
3/11/2016


https://github.com/npdarsini/Assist-Robot/issues/8
npdarsini / Assist-Robot
Unwatch
Star
Fork
Code
Issues
Pull requests
Boards
Burndown
Wiki
Pulse
Graphs
Settings
Establishing connection between smart watch and Robome #8
Edit
New issue
Closed
DheerajaUmkc opened this issue 4 days ago · 0 comments
DheerajaUmkc commented 4 days ago
Collaborator
We send a notification from robome to smartwatch
DheerajaUmkc added the enhancement label 4 days ago
npdarsini was assigned by DheerajaUmkc 4 days ago
DheerajaUmkc set the estimate to 3 4 days ago
npdarsini changed the pipeline from To Do to Backlog 3 days ago
DheerajaUmkc changed the pipeline from Backlog to Done 5 hours ago
DheerajaUmkc added this to the Project - Increment 2 milestone 4 days ago
DheerajaUmkc changed the title from Issue4 to Establishing connection between smart watch and Robome 4 hours ago
DheerajaUmkc closed this 4 hours ago
DheerajaUmkc reopened this 4 hours ago
DheerajaUmkc closed this 3 hours ago
Write
Preview
Labels
enhancement
Milestone
Project - Increme...
Estimate
Assignee
npdarsini
Notifications
Unsubscribe
You're receiving notifications because you were assigned.
2 participants
Lock conversation
Move Issue
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ProjectIncrem....docx
Img4.jpg
Img3.jpg
Img2.jpg
Img1.jpg
CS5542-Lab7.pdf
Show all downloads...
Ask me anything
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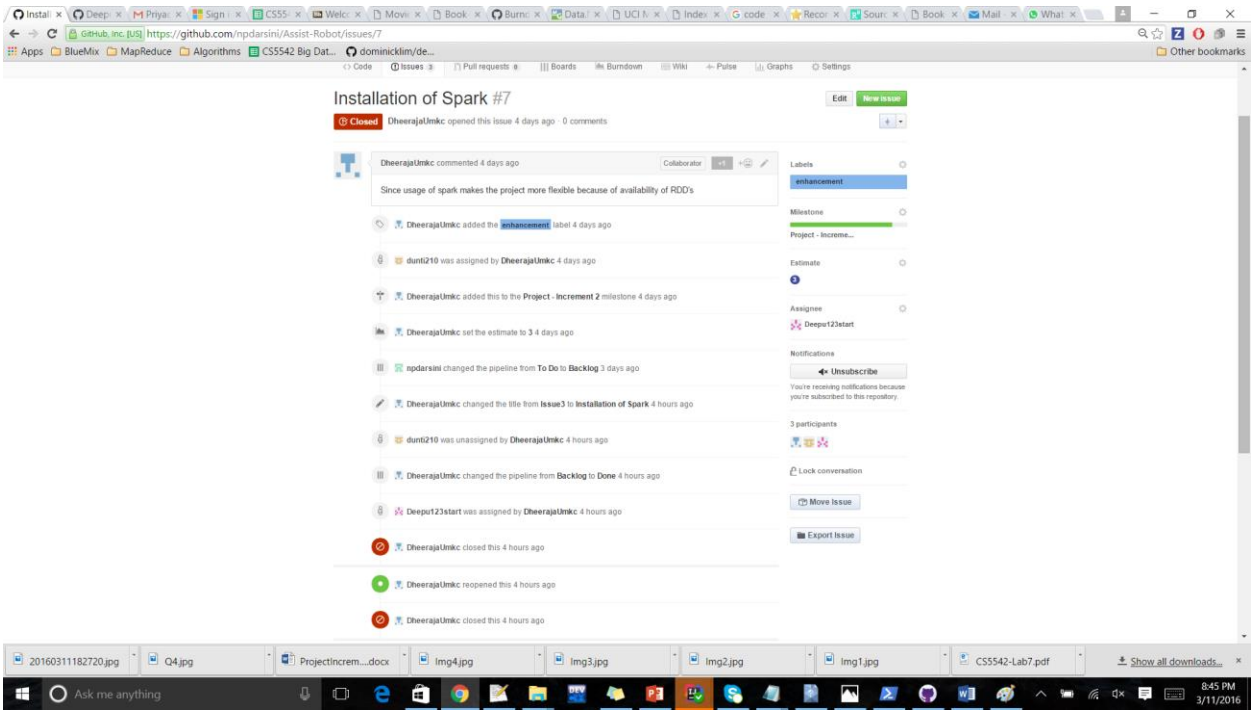
3/11/2016


https://github.com/npdarsini/Assist-Robot/issues/7
Installation of Spark #7
Closed
DheerajaUmkc opened this issue 4 days ago · 0 comments
Edit
New issue
DheerajaUmkc commented 4 days ago
Collaborator
Since usage of spark makes the project more flexible because of availability of RDD's
DheerajaUmkc added the enhancement label 4 days ago
dunti210 was assigned by DheerajaUmkc 4 days ago
DheerajaUmkc added this to the Project - Increment 2 milestone 4 days ago
DheerajaUmkc set the estimate to 3 4 days ago
npdarsini changed the pipeline from To Do to Backlog 3 days ago
DheerajaUmkc changed the title from Issue3 to Installation of Spark 4 hours ago
dunti210 was unassigned by DheerajaUmkc 4 hours ago
DheerajaUmkc changed the pipeline from Backlog to Done 4 hours ago
Deeput123start was assigned by DheerajaUmkc 4 hours ago
DheerajaUmkc closed this 4 hours ago
DheerajaUmkc reopened this 4 hours ago
DheerajaUmkc closed this 4 hours ago
Labels
enhancement
Milestone
Project - Increme...
Estimate
Assignee
Deeput123start
Notifications
Unsubscribe
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3 participants
Lock conversation
Move Issue
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Img3.jpg
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Img1.jpg
CS5542-Lab7.pdf
Show all downloads...
Ask me anything
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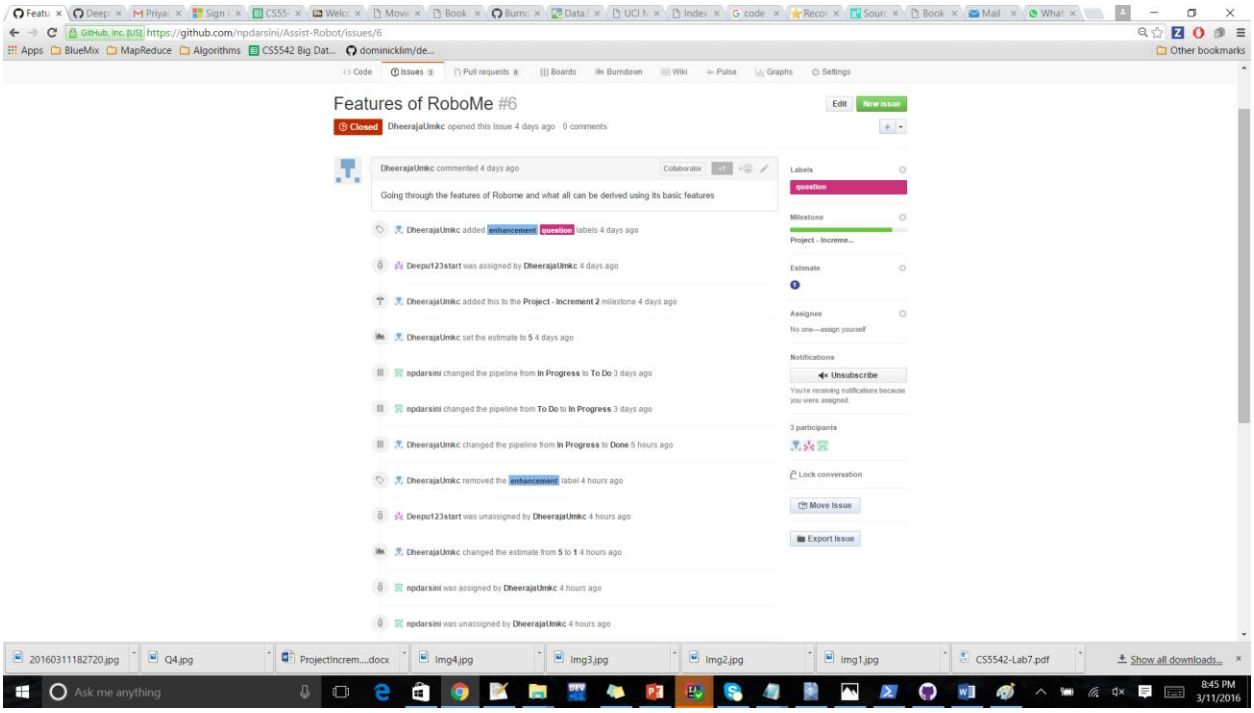
3/11/2016


https://github.com/npdarsini/Assist-Robot/issues/6
Features of RoboMe #6
Closed
DheerajaUmkc opened this issue 4 days ago · 0 comments
Edit
New issue
DheerajaUmkc commented 4 days ago
Collaborator
Going through the features of Robome and what all can be derived using its basic features
DheerajaUmkc added enhancement question labels 4 days ago
Deeput123start was assigned by DheerajaUmkc 4 days ago
DheerajaUmkc added this to the Project - Increment 2 milestone 4 days ago
DheerajaUmkc set the estimate to 5 4 days ago
npdarsini changed the pipeline from In Progress to To Do 3 days ago
npdarsini changed the pipeline from To Do to In Progress 3 days ago
DheerajaUmkc changed the pipeline from In Progress to Done 5 hours ago
DheerajaUmkc removed the enhancement label 4 hours ago
Deeput123start was unassigned by DheerajaUmkc 4 hours ago
DheerajaUmkc changed the estimate from 5 to 1 4 hours ago
npdarsini was assigned by DheerajaUmkc 4 hours ago
npdarsini was unassigned by DheerajaUmkc 4 hours ago
Labels
question
Milestone
Project - Increme...
Estimate
Assignee
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3 participants
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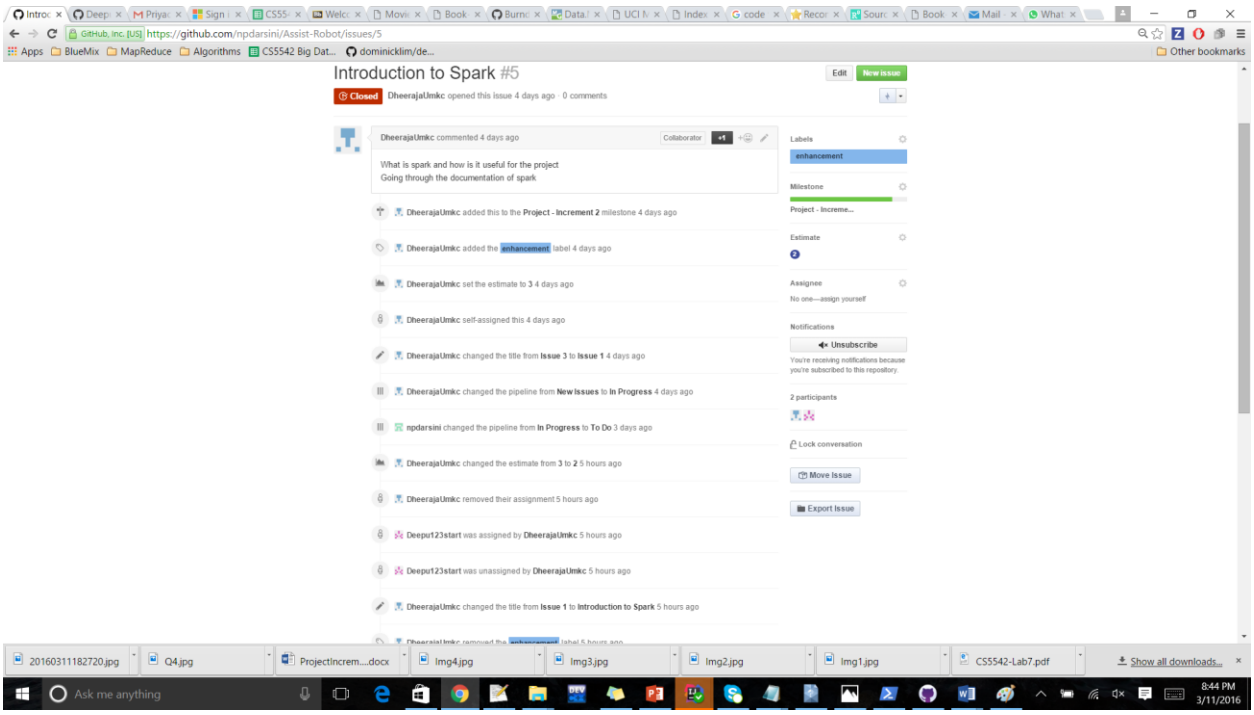

7. Future Scope:

To implement a Robo based system that can move around and track the objects. Upon tracking, the user will be notified about the object location. To explore SparkSQL to store the captured images so that we will be able to deal with the massive data. To explore much about the Machine learning algorithms so as to achieve better accuracy in Image Classification. To embed Natural Language Processing techniques into the current working project.

8. Bibliography:

Lab Tutorials and the material provided by Dr. Lee.

SPARK - https://spark.apache.org/docs/latest/programming-guide.html#external-datasets

Spark Recommendation - http://spark.apache.org/docs/latest/mllib-collaborative-filtering.html