

Report for Lab Assignments 5 & 6

1.

QUESTION:

Spark and Smartphone/Watch Application:

Implement a smart application with big data analytics related to your project showing the collaboration between Spark and Smart Apps. Implement Twitter Streaming and perform word count on it and publish the results and showcase it in your Smart Phone/Watch Application.

DESCRIPTION:

Collected hashtags for object keyword as our project deals with finding objects and navigating them to the user. Hashtags are represented by refreshing for every few seconds. Using socket connection, displayed those hashtags on SmartPhone

2.

QUESTION:

Spark ML Lib Application

Perform a machine learning algorithm with the Twitter Streaming data to categorize each Tweet

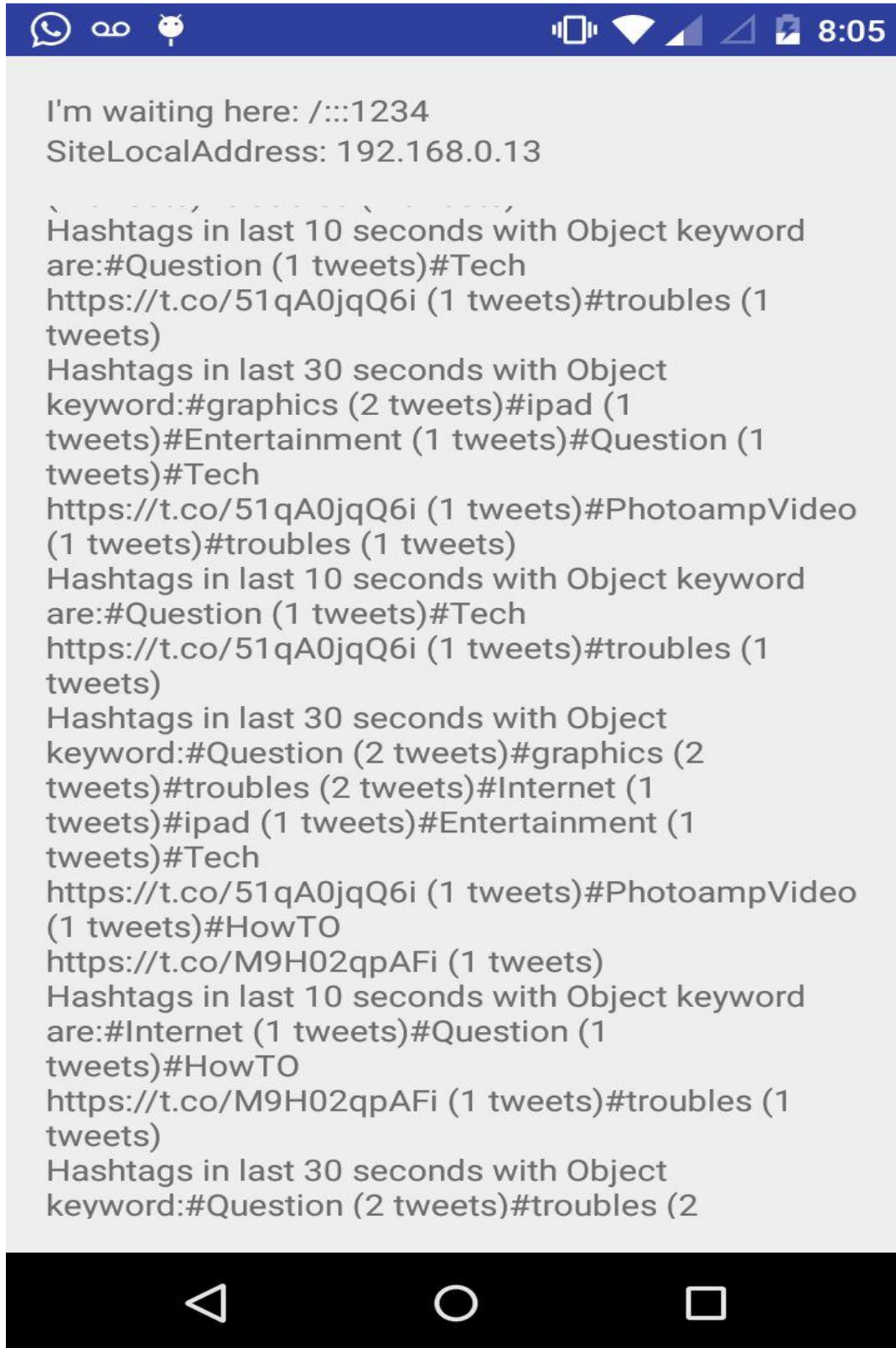
1) Training datasets: Collect different categories of Tweets related to your project. (Categories can be based on HashTags / Subjects etc.)

2) Test data: the upcoming twitter stream.

DESCRIPTION:

Collected tweets related to project and categorized them into Training and testing data. Performed machine learning with the categorized data.

SCREENSHOT FOR QUESTION 1:



SCREENSHOT FOR QUESTION 2:

The screenshot displays an IDE window titled "TwitterSparkStreaming - [D:\UMKC\BigData-Lee\BigDataApps-Spring2016-LabAssignments-master\Lab Assignment 6\src\Q2\Spark Streaming\TwitterSparkStreaming] - [root] - ...src\main\scala\TwitterStreaming.scala - IntelliJ...". The interface includes a menu bar (File, Edit, View, Navigate, Code, Analyze, Refactor, Build, Run, Tools, VCS, Window, Help), a toolbar, and a multi-tab editor showing "TwitterStreaming.scala", "NLPUtils.scala", "Utils.scala", "SocketClient.scala", and "build.sbt".

The left sidebar shows the "Project" structure for "TwitterSparkStreaming [root]", including folders like ".idea", "data", "testing", "training", and "src", along with files like "Box.txt", "Chair.txt", "Door.txt", "Lamp.txt", and "Stand.txt".

The main editor displays the Scala code for "TwitterStreaming.scala":

```
object TwitterStreaming {  
  
  def main(args: Array[String]) {  
  
    val trainingKeywords = Array("Box", "Chair", "Door", "Lamp", "Stand")  
  
    // Set the system properties so that Twitter4j library used by twitter stream  
    // can use them to generate OAuth credentials  
    System.setProperty("twitter4j.oauth.consumerKey", "hkce7P&PYfBvHjrLGh8Uu4FD1")  
    System.setProperty("twitter4j.oauth.consumerSecret", "PGix2mcPegGbOpPh2HT7UJNkzmQ1fT8MNEcqDKvXP99gPmVUZ")  
    System.setProperty("twitter4j.oauth.accessToken", "3535791433-5Xm2qLXXMDJNkjc2BO3gOGuQDVeBuWccDOFKfAx")  
    System.setProperty("twitter4j.oauth.accessTokenSecret", "LharOP5IVt00dkASDFCq1lME2xvBsyE9gPPuX3MuJcXmm")  
  
    //Create a spark configuration with a custom name and master  
    // For more master configuration see https://spark.apache.org/docs/1.2.0/submitting-applications.html#master-urls  
    val sparkConf = new SparkConf().setAppName("TweetsApp").setMaster("local[*]")  
    //Create a Streaming Context with 2 second window  
    val ssc = new StreamingContext(sparkConf, Seconds(2))  
  
  }  
}
```

The bottom panel shows the "Run" output for "TwitterStreaming":

```
16/03/03 20:54:57 INFO Utils: Successfully started service 'SparkUI' on port 4040.  
16/03/03 20:54:57 INFO SparkUI: Started SparkUI at http://192.168.52.1:4040  
16/03/03 20:54:57 INFO Executor: Starting executor ID driver on host localhost  
16/03/03 20:54:57 INFO Utils: Successfully started service 'org.apache.spark.network.netty.NettyBlockTransferService' on port 53560.  
16/03/03 20:54:57 INFO NettyBlockTransferService: Server created on 53560  
16/03/03 20:54:57 INFO BlockManagerMaster: Trying to register BlockManager  
16/03/03 20:54:57 INFO BlockManagerMasterEndpoint: Registering block manager localhost:53560 with 1127.3 MB RAM, BlockManagerId(driver, localhost, 53560)  
16/03/03 20:54:57 INFO BlockManagerMaster: Registered BlockManager  
Box  
Chair  
Door  
Lamp  
Stand
```

The status bar at the bottom indicates "Compilation completed successfully in 2s 991ms (a minute ago)" and "51:1 LF: UTF-8".