CS551 Advanced Software Engineering

Final Project Submission

Best Buddy

===========*===========

Team: 25

Member1: Yeruva, Vijaya Kumari (Id: 94)

Member2: Goudarzvand, Saria (Id: 95)

Index

I. Project Deployment

Introduction:

The purpose of the project is to create an application that predict the user behavior (happy or unhappy) based on his/her tweets/text.

Deployment:

User need to down load the project from GitHub link

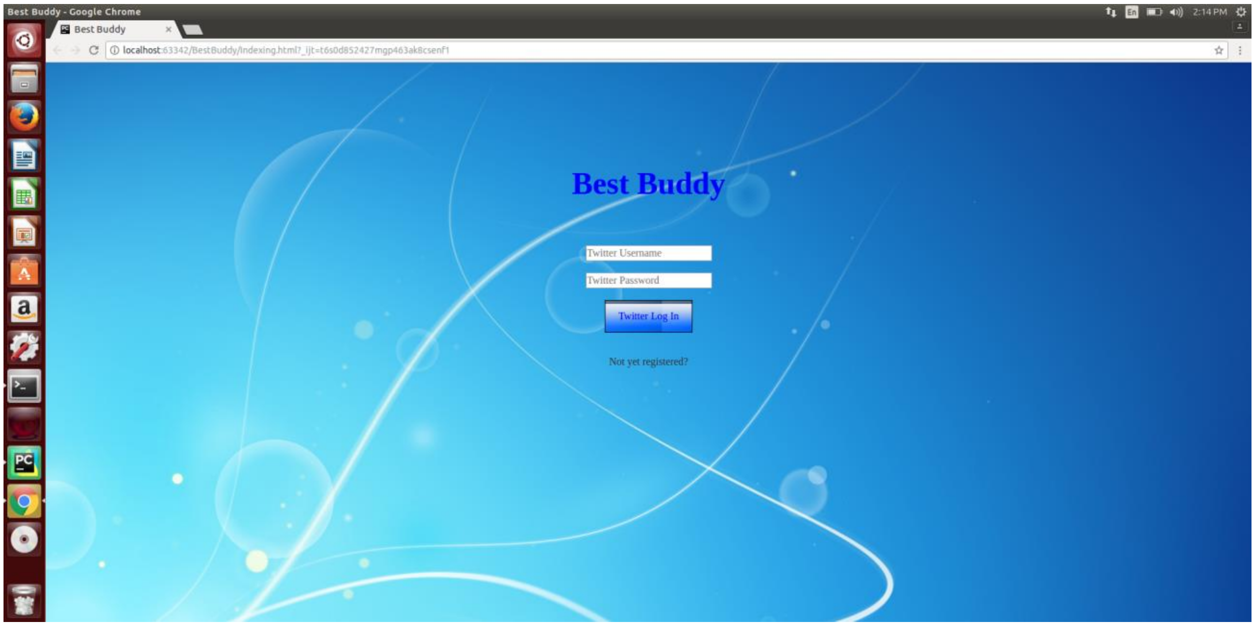
https://github.com/VIJAYAYERUVA/BestBuddy/tree/master/Sourcecode/Final_Project_Package

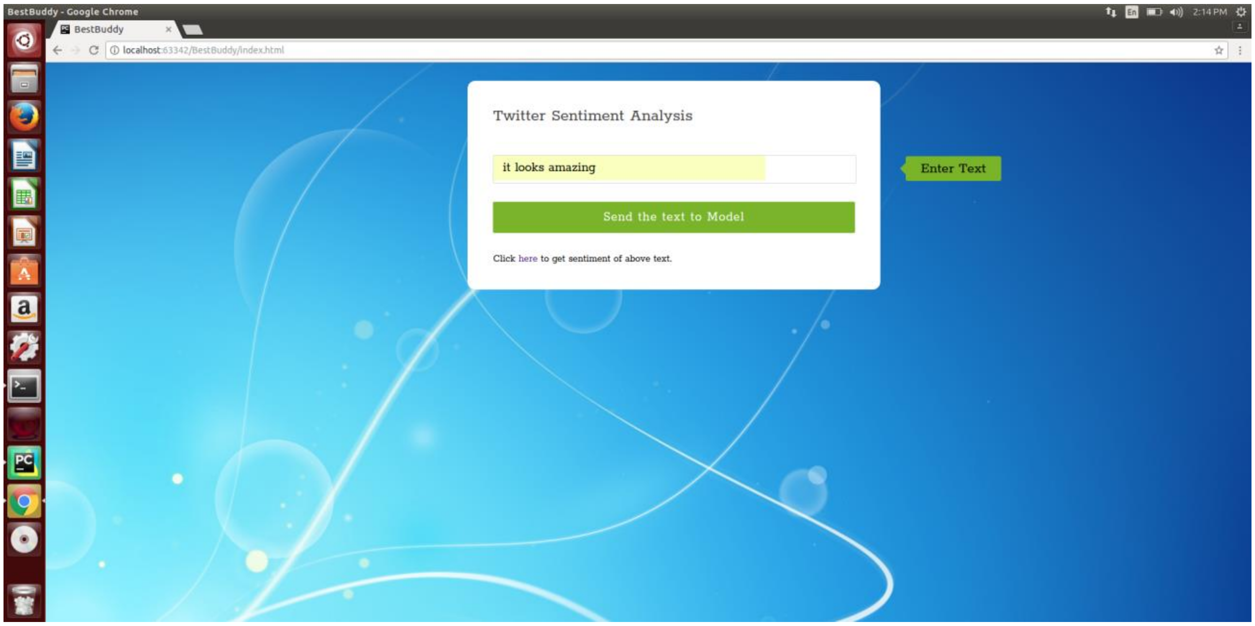
Minimum requirements to start the project:

- NPM
- Node JS
- MongoDB
- Python 3.4
- Tensor Flow 1.1.0

First user need to start the mongo.js server to start the data base. After that user need to start the “Indexing.html” file to access the application.

Sample Screens:

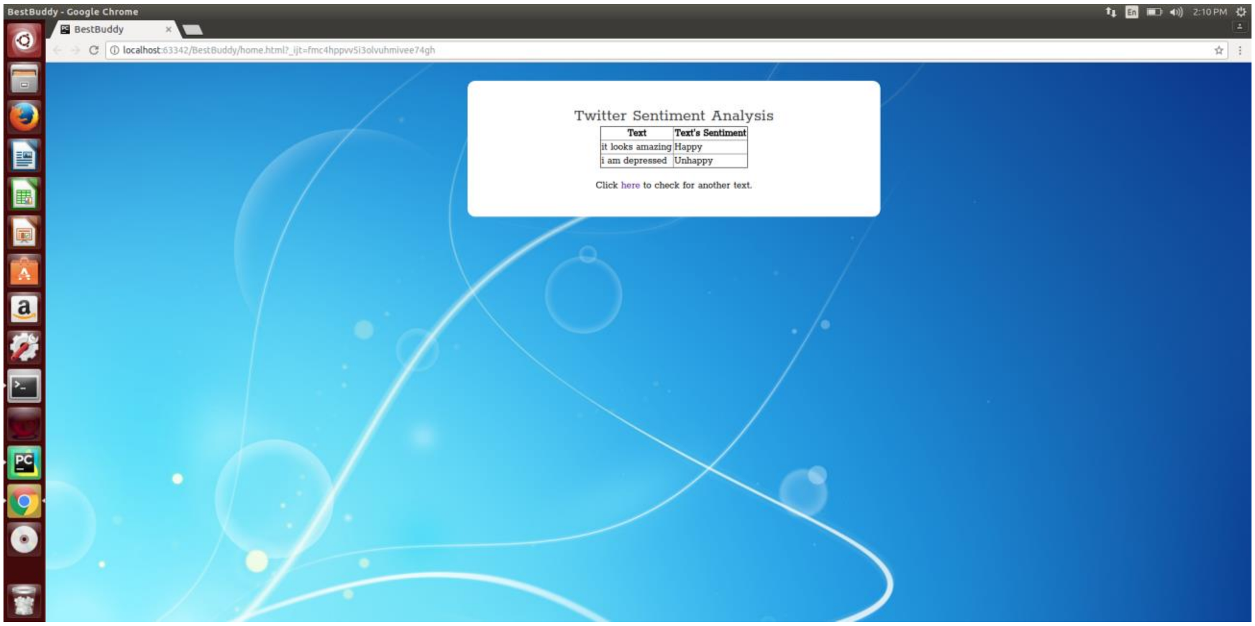

Best Buddy - Google Chrome
2:14 PM
Best Buddy
localhost:63342/BestBuddy/Indexing.html?_ijt=t6s0d852427mgp463ak8csenf1
Best Buddy
Twitter Username
Twitter Password
Twitter Log In
Not yet registered?


BestBuddy - Google Chrome
BestBuddy
localhost:63342/BestBuddy/index.html
2:14 PM
Send the text to Model
Enter Text

Twitter Sentiment Analysis

it looks amazing

Click here to get sentiment of above text.


BestBuddy - Google Chrome
BestBuddy
localhost:63342/BestBuddy/home.html?_ijt=fmc4hppvv5i3olvuhmivee74gh
2:10 PM

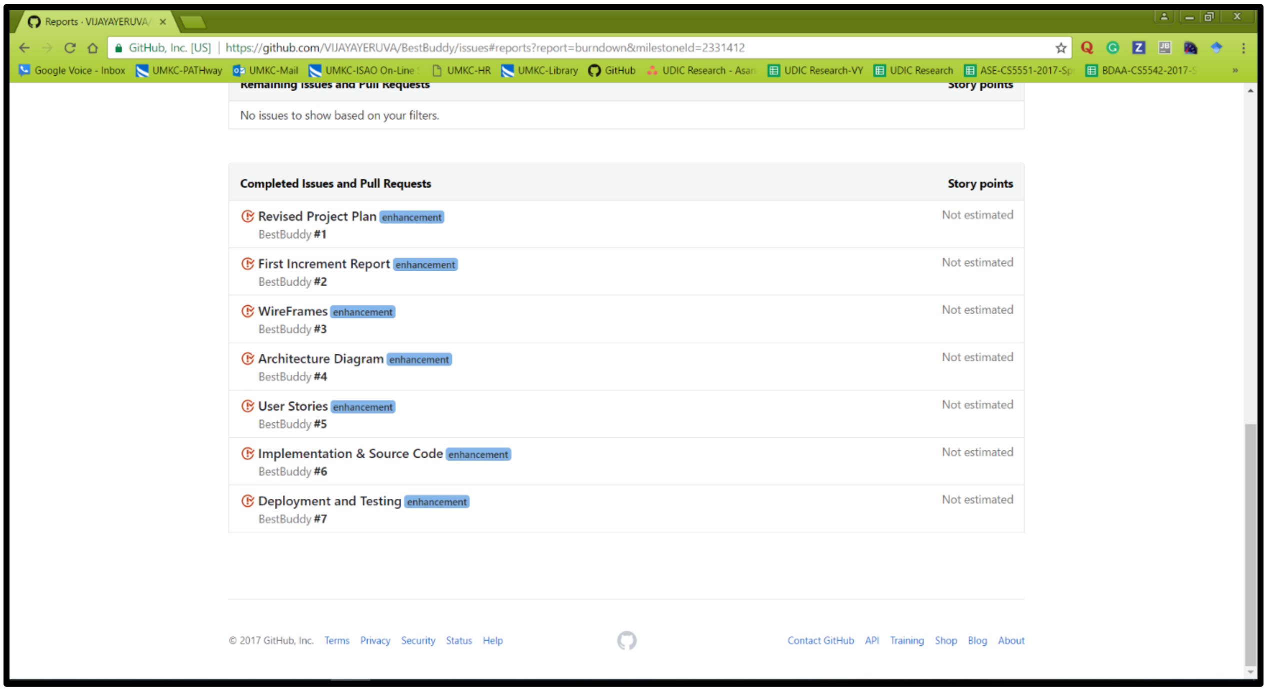
Twitter Sentiment Analysis

Text	Text's Sentiment
it looks amazing	Happy
i am depressed	Unhappy

Click here to check for another text.

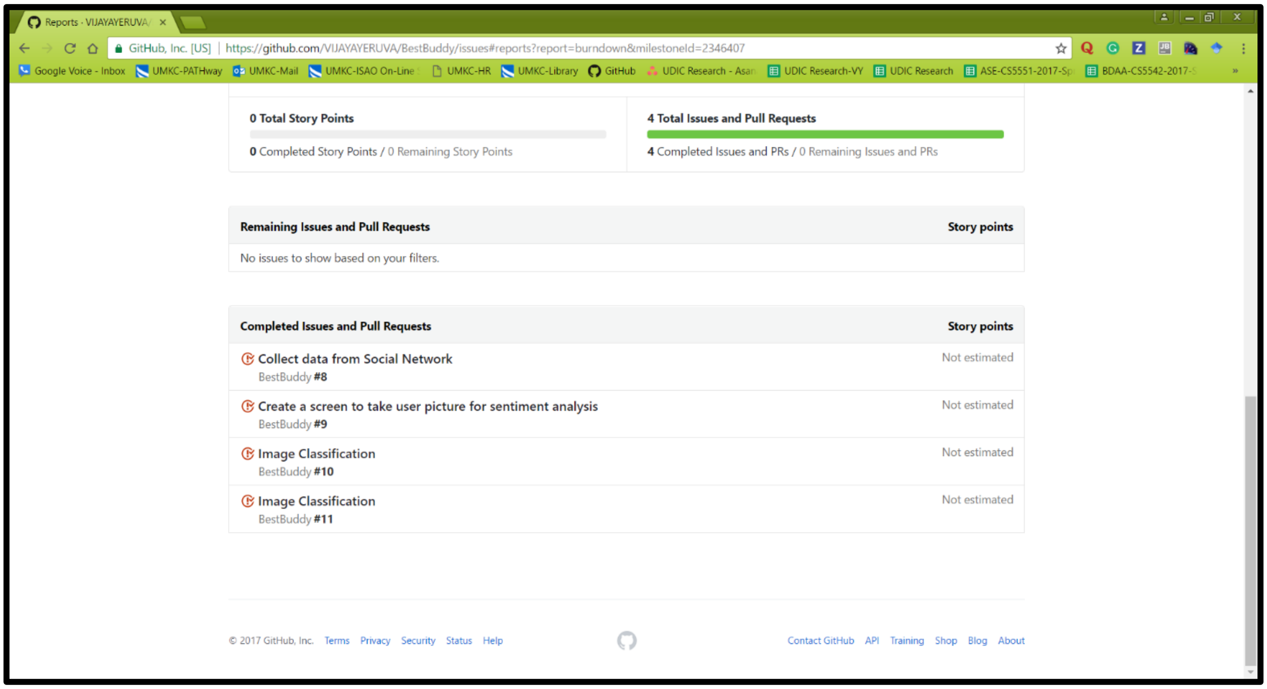
II. Project Management

Project management report: We have completed as much as possible with in given time lines. Followed the agile methodologies to accomplish our project. We have used Zen Hub and GitHub for our project management



Remaining Issues and Pull Requests	Story points
No issues to show based on your filters.	

Completed Issues and Pull Requests	Story points
Revised Project Plan enhancement BestBuddy #1	Not estimated
First Increment Report enhancement BestBuddy #2	Not estimated
WireFrames enhancement BestBuddy #3	Not estimated
Architecture Diagram enhancement BestBuddy #4	Not estimated
User Stories enhancement BestBuddy #5	Not estimated
Implementation & Source Code enhancement BestBuddy #6	Not estimated
Deployment and Testing enhancement BestBuddy #7	Not estimated



0 Total Story Points

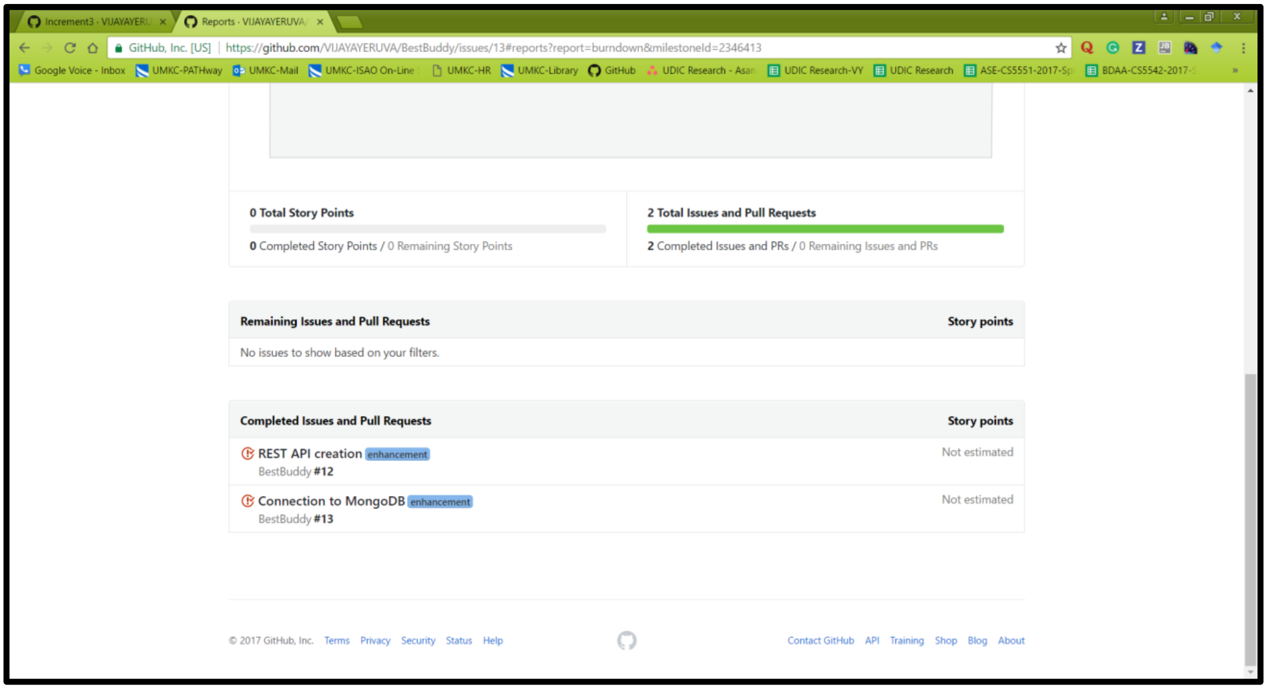
0 Completed Story Points / 0 Remaining Story Points

4 Total Issues and Pull Requests

4 Completed Issues and PRs / 0 Remaining Issues and PRs

Remaining Issues and Pull Requests	Story points
No issues to show based on your filters.	

Completed Issues and Pull Requests	Story points
Collect data from Social Network BestBuddy #8	Not estimated
Create a screen to take user picture for sentiment analysis BestBuddy #9	Not estimated
Image Classification BestBuddy #10	Not estimated
Image Classification BestBuddy #11	Not estimated


Increment3 - VIJAYAYERU
Reports - VIJAYAYERUVA
GitHub, Inc. [US] | https://github.com/VIJAYAYERUVA/BestBuddy/issues/13#reports?report=burndown&milestoneId=2346413
Google Voice - Inbox
UMKC-PATHway
UMKC-Mail
UMKC-ISAO On-Line
UMKC-HR
UMKC-Library
GitHub
UDIC Research - Asan
UDIC Research-VY
UDIC Research
ASE-CS5551-2017-Sp
BDAA-CS5542-2017-
© 2017 GitHub, Inc. Terms Privacy Security Status Help
Contact GitHub API Training Shop Blog About

0 Total Story Points

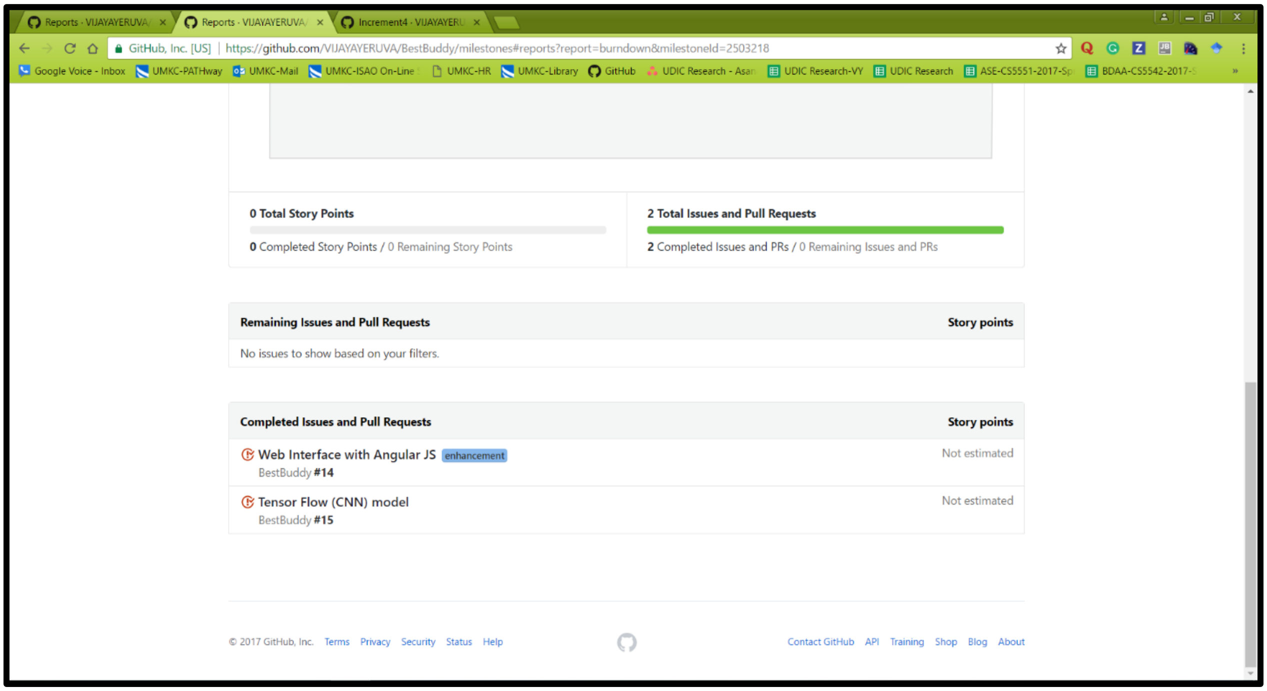
0 Completed Story Points / 0 Remaining Story Points

2 Total Issues and Pull Requests

2 Completed Issues and PRs / 0 Remaining Issues and PRs

Remaining Issues and Pull Requests	Story points
No issues to show based on your filters.	

Completed Issues and Pull Requests	Story points
REST API creation enhancement BestBuddy **#12**	Not estimated
Connection to MongoDB enhancement BestBuddy **#13**	Not estimated



0 Total Story Points

0 Completed Story Points / 0 Remaining Story Points

2 Total Issues and Pull Requests

2 Completed Issues and PRs / 0 Remaining Issues and PRs

Remaining Issues and Pull Requests	Story points
No issues to show based on your filters.	

Completed Issues and Pull Requests	Story points
Web Interface with Angular JS enhancement BestBuddy **#14**	Not estimated
Tensor Flow (CNN) model BestBuddy **#15**	Not estimated

Final project evaluation: The main goal of our project is to develop user recommendation system. Basically, it has two parts, first is to identify the user behavior and second is to develop the user recommendation system based on the user behavior. Because of time constraints we are accomplished only first part of our project and we are willing to extend our project to next step.

The agile methodology we followed helped us a lot in project journey. But failed to complete the things that are planned for different increments because of technical and resources issues.

III. Project Proposal

I. **Team #:** 25

II. Members:

1. Yeruva, Vijaya Kumari (S. Id: 94)
2. Saria Goudarzvand (S. Id: 95)

III. Project Goal and Objectives

- **Motivation:**

  The Main motivation of this application is to track the user mood to see how is her mood during the day and learning more of the user then make a comparison with other people profile and output, with that, we can find the most similar adults that are as the same in mood and emotional aspects.

- **Significance/Uniqueness:**

  The other App has nothing to do with the tracking of the emotional changing. They just track the activities a person should do then notifying the user at the right time about those activities as walking, having lunch. Another app also works just based on the profile a user make when she or he is in good mood.

- **Objectives:**

  To provide a good approach to matching people that are as the same in the emotional aspects according to their emotions in real life, for example, their reaction to sleeping late in the night then getting up soon in the morning.

- **System Features:**

  The system will contain each emotions user experience during the day, pre-required technologies, previous IEEE papers, previous publications, previous lab assignments and previous projects. Apart from this, the system will provide available resources and references for that course. Reference textbooks. Sample exam question papers and expected solution.

- **Challenges:**
  The most critical issue in this project is finding the similarity between profiles of the person as we don't know yet about which output we will get in the previous step. For example, it may be document or database. What's more, if the features are dynamic or some static variables.

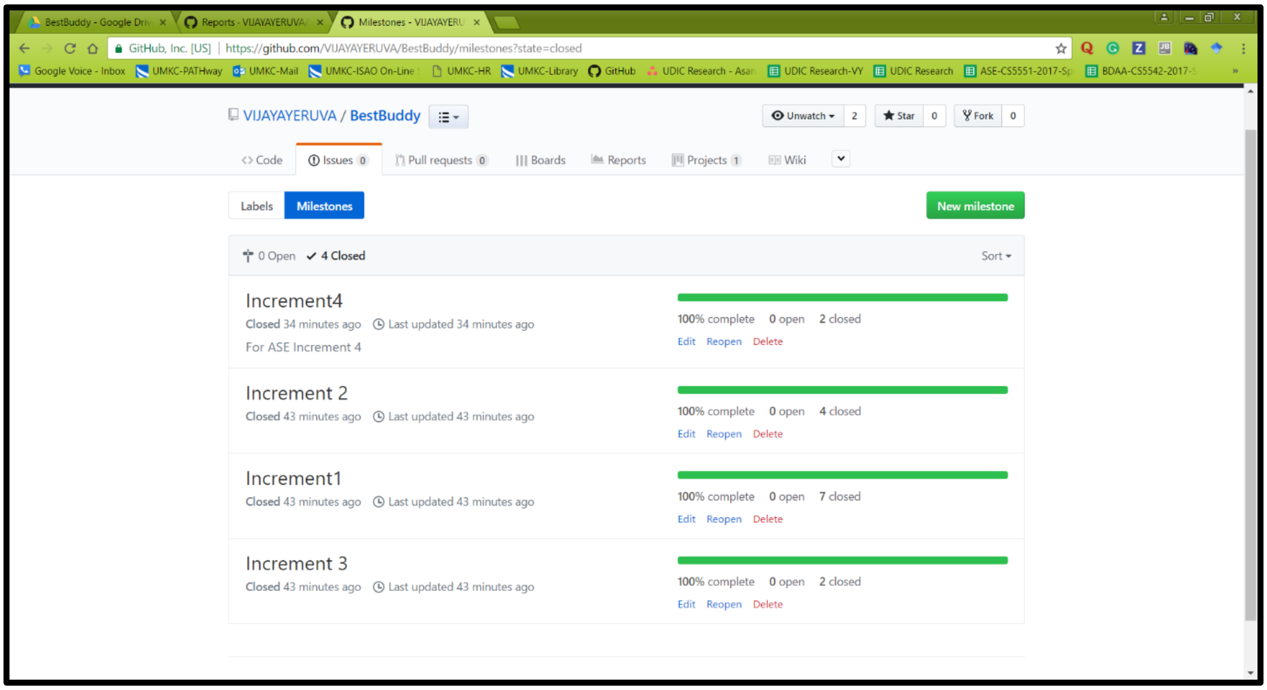
IV. Related Work

- **Projects done by others (include the URLs in Bibliography): NA**

V. Bibliography

- Voice to text - Cloud Speech API by Google (https://cloud.google.com/speech/)
- Voice to text – Alchemy API (https://speech-to-text-demo.mybluemix.net/)
- Text to sentiment – Cloud Natural Language API by Google (https://cloud.google.com/natural-language/)
- Text to sentiment – Alchemy API (https://www.ibm.com/watson/developercloud/tone-analyzer.html)
- Similarity between text/documents - Find Similar (https://dev.havenondemand.com/apis/findsimilar#overview)
- Demo of Similar Projects
- https://youtu.be/8PvDgS6vCkQ
- https://www.youtube.com/watch?v=VazSEtXHDcI

IV. Project Plan



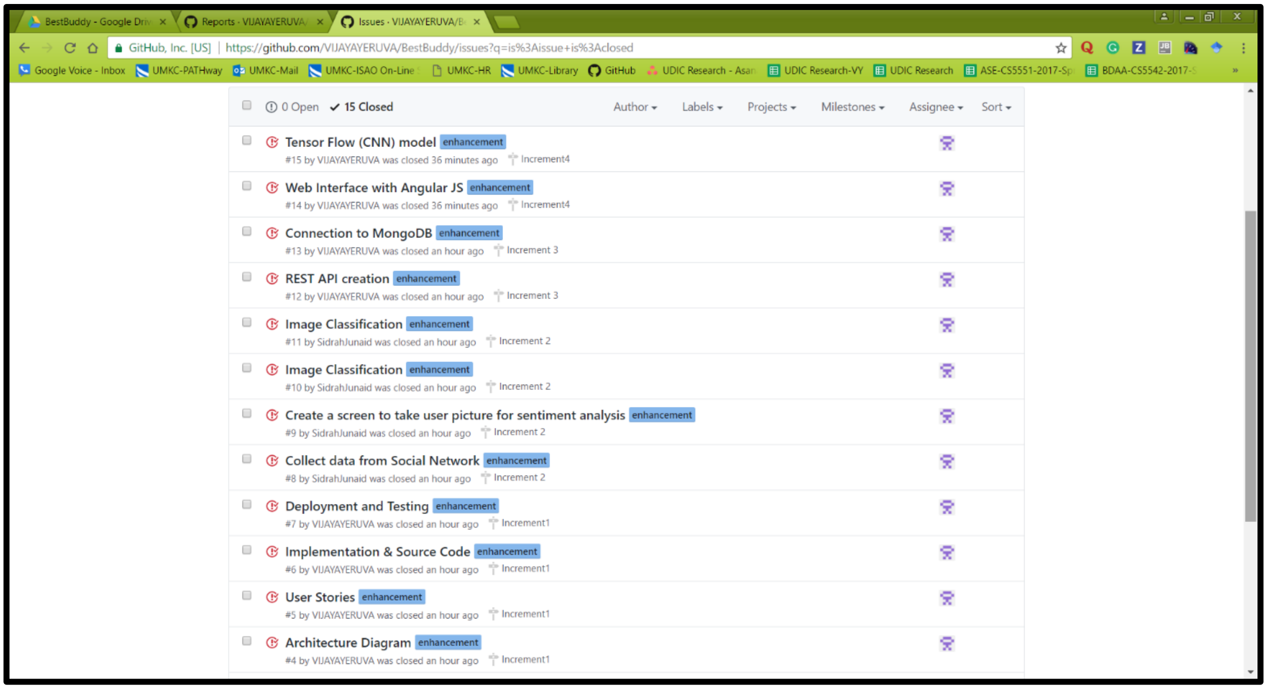
0 Open ✓ 4 Closed

Increment4
Closed 34 minutes ago Last updated 34 minutes ago
For ASE Increment 4
100% complete 0 open 2 closed
Edit Reopen Delete

Increment 2
Closed 43 minutes ago Last updated 43 minutes ago
100% complete 0 open 4 closed
Edit Reopen Delete

Increment1
Closed 43 minutes ago Last updated 43 minutes ago
100% complete 0 open 7 closed
Edit Reopen Delete

Increment 3
Closed 43 minutes ago Last updated 43 minutes ago
100% complete 0 open 2 closed
Edit Reopen Delete



□ 0 Open ✓ 15 Closed

□ Tensor Flow (CNN) model enhancement
#15 by VIJAYAYERUVA was closed 36 minutes ago Increment4

□ Web Interface with Angular JS enhancement
#14 by VIJAYAYERUVA was closed 36 minutes ago Increment4

□ Connection to MongoDB enhancement
#13 by VIJAYAYERUVA was closed an hour ago Increment 3

□ REST API creation enhancement
#12 by VIJAYAYERUVA was closed an hour ago Increment 3

□ Image Classification enhancement
#11 by SidrahJunaid was closed an hour ago Increment 2

□ Image Classification enhancement
#10 by SidrahJunaid was closed an hour ago Increment 2

□ Create a screen to take user picture for sentiment analysis enhancement
#9 by SidrahJunaid was closed an hour ago Increment 2

□ Collect data from Social Network enhancement
#8 by SidrahJunaid was closed an hour ago Increment 2

□ Deployment and Testing enhancement
#7 by VIJAYAYERUVA was closed an hour ago Increment1

□ Implementation & Source Code enhancement
#6 by VIJAYAYERUVA was closed an hour ago Increment1

□ User Stories enhancement
#5 by VIJAYAYERUVA was closed an hour ago Increment1

□ Architecture Diagram enhancement
#4 by VIJAYAYERUVA was closed an hour ago Increment1

V. First Increment Report

Existing Services/REST API:

Not used any APIs are used to implement increment1

Detail Design of Features (using tools):

Wire Frames:

https://github.com/VIJAYAYERUVA/BestBuddy/tree/master/Documentation/WireFrames

Architecture diagram:

https://github.com/VIJAYAYERUVA/BestBuddy/blob/master/Documentation/Architecture.pdf

Write User Stories:

https://github.com/VIJAYAYERUVA/BestBuddy/blob/master/Documentation/User%20Stories.docx

Testing:

Unit testing

Implementation:

Implemented the mobile application with Android Studio

Source Code:

https://github.com/VIJAYAYERUVA/BestBuddy/tree/master/Sourcecode/BestBuddy

Deployment:

Deployed the application into both Android Mobile and Simulator

Posted the first increment report and source code to GitHub

GitHub Wiki URL: https://github.com/VIJAYAYERUVA/BestBuddy/wiki/Increment1

Project Management:

Work completed:

1. We have created Wire Frames, Sequence diagram and User Stories for our project
2. Implemented small part of our application using android studio
3. Deployed that application to Android mobile and Emulator

4. Tested the application with some test data

Issues/Concerns:

Sometimes accuracy was missed. We need to improve the application to get accurate results

Bibliography:

https://www.youtube.com/watch?v=nzkrRQgCEmE

https://www.android.com/

VI. Second Increment Report

Second Increment Report:

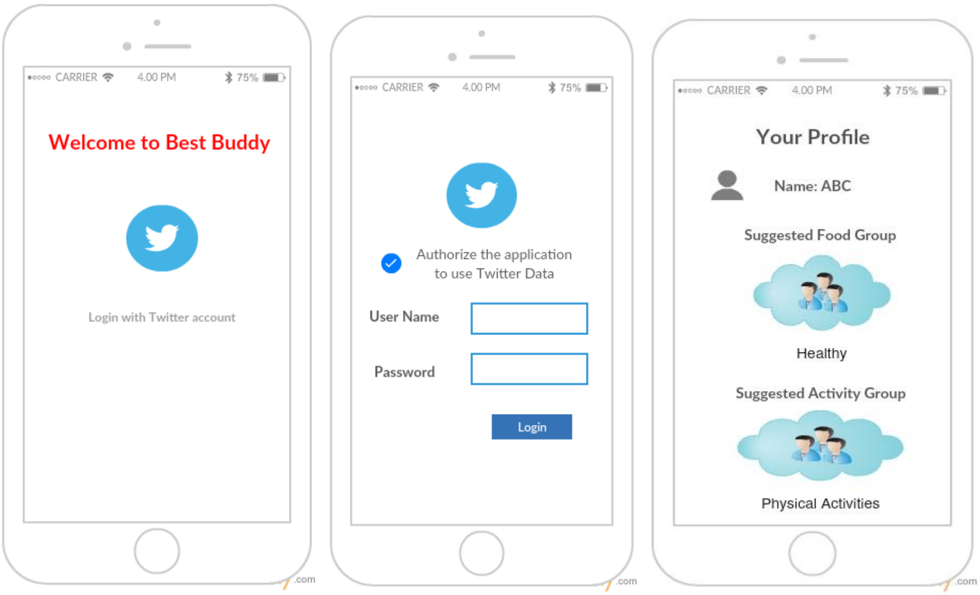
In this increment we have completed the interface for log into the application with Twitter Account. User will log into the application with twitter account.

Existing Services/REST API

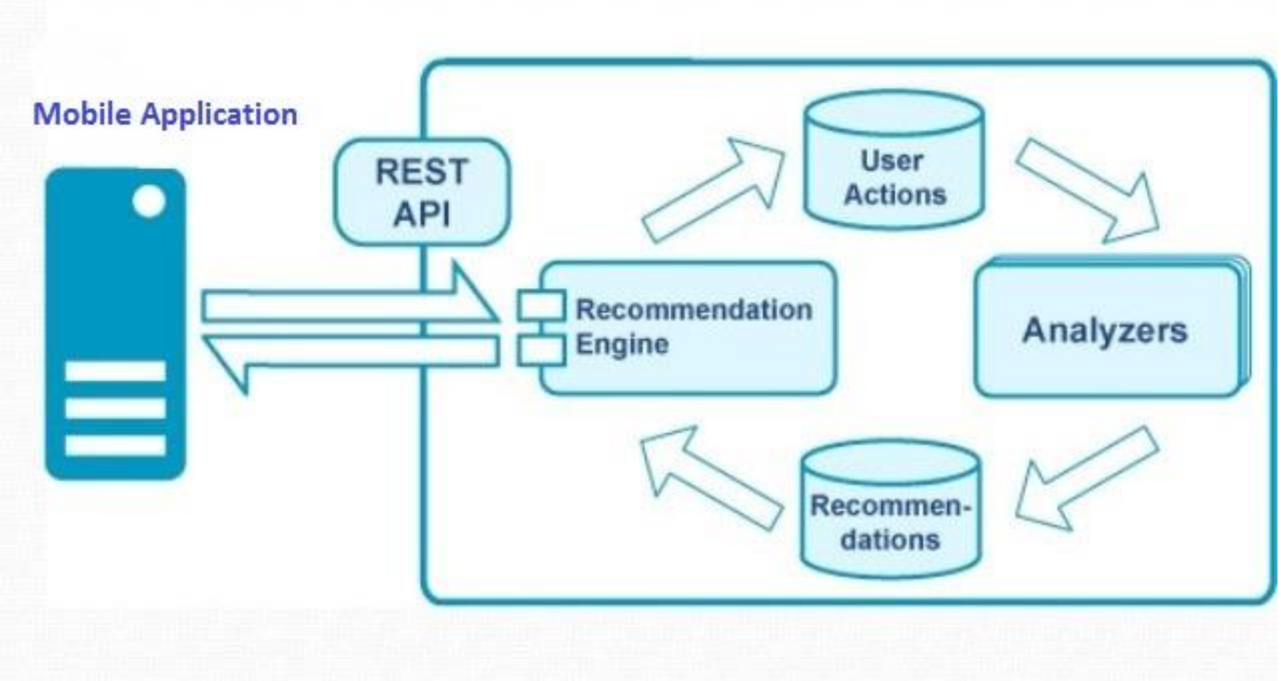
- Using Twitter API to log into the Android Application

Detail Design of Features

Wireframes



Architecture diagram



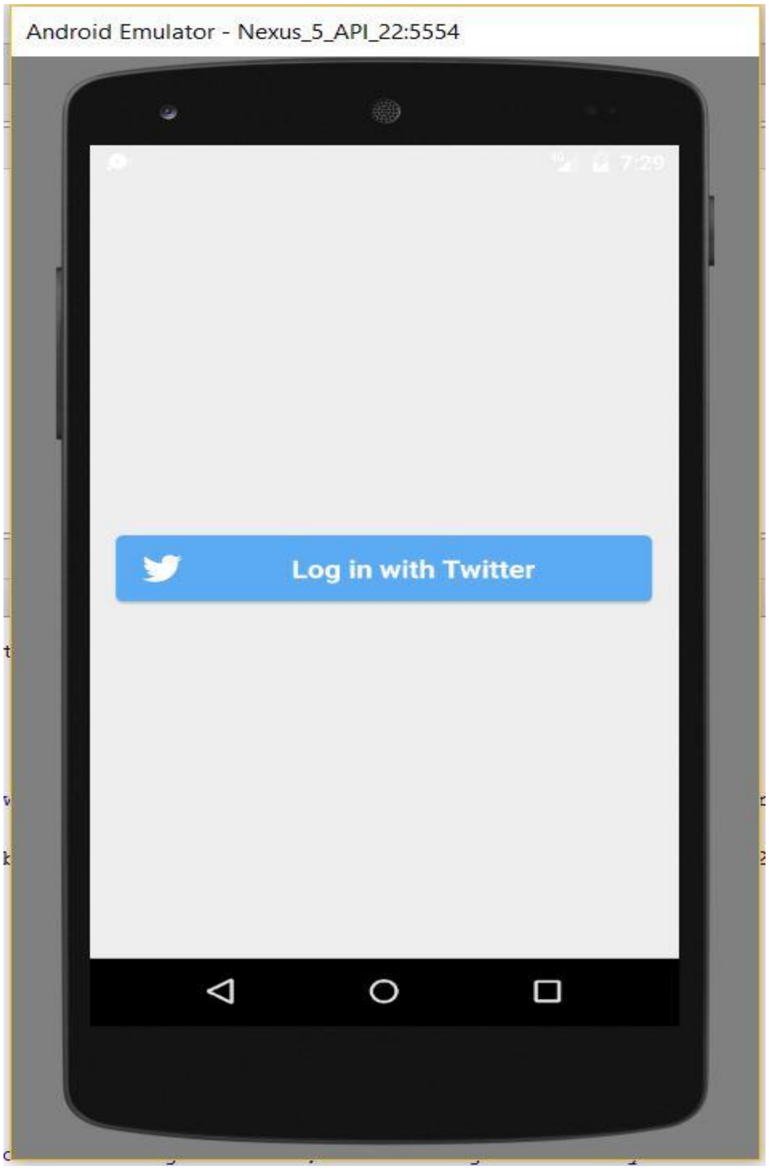
User Stories

https://github.com/VIJAYAYERUVA/BestBuddy/blob/master/Documentation/User%20Stories%20Increment2.docx

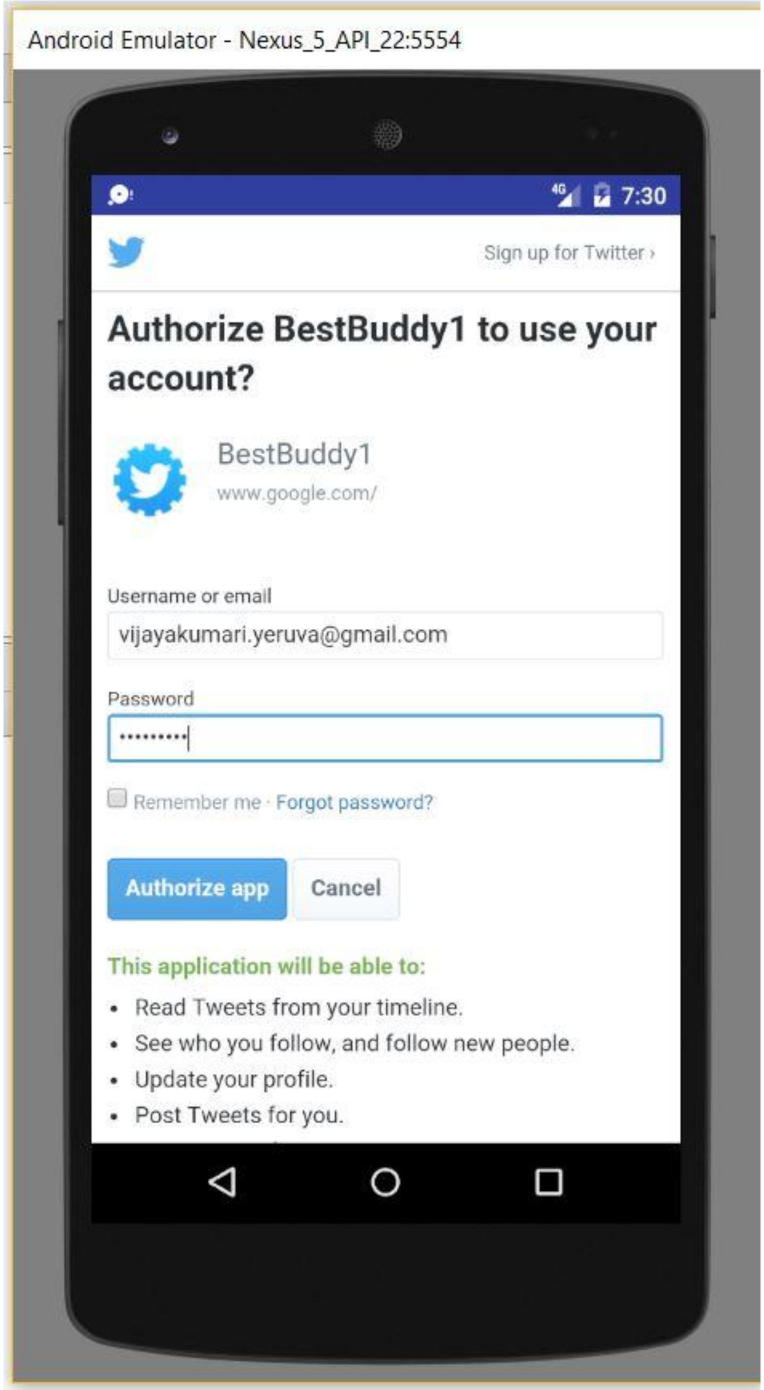
Implementation

https://github.com/VIJAYAYERUVA/BestBuddy/tree/master/Sourcecode/Increment2/BestBuddy

Deployment



Android Emulator - Nexus_5_API_22:5554



Android Emulator - Nexus_5_API_22:5554

Authorize BestBuddy1 to use your account?

BestBuddy1

www.google.com/

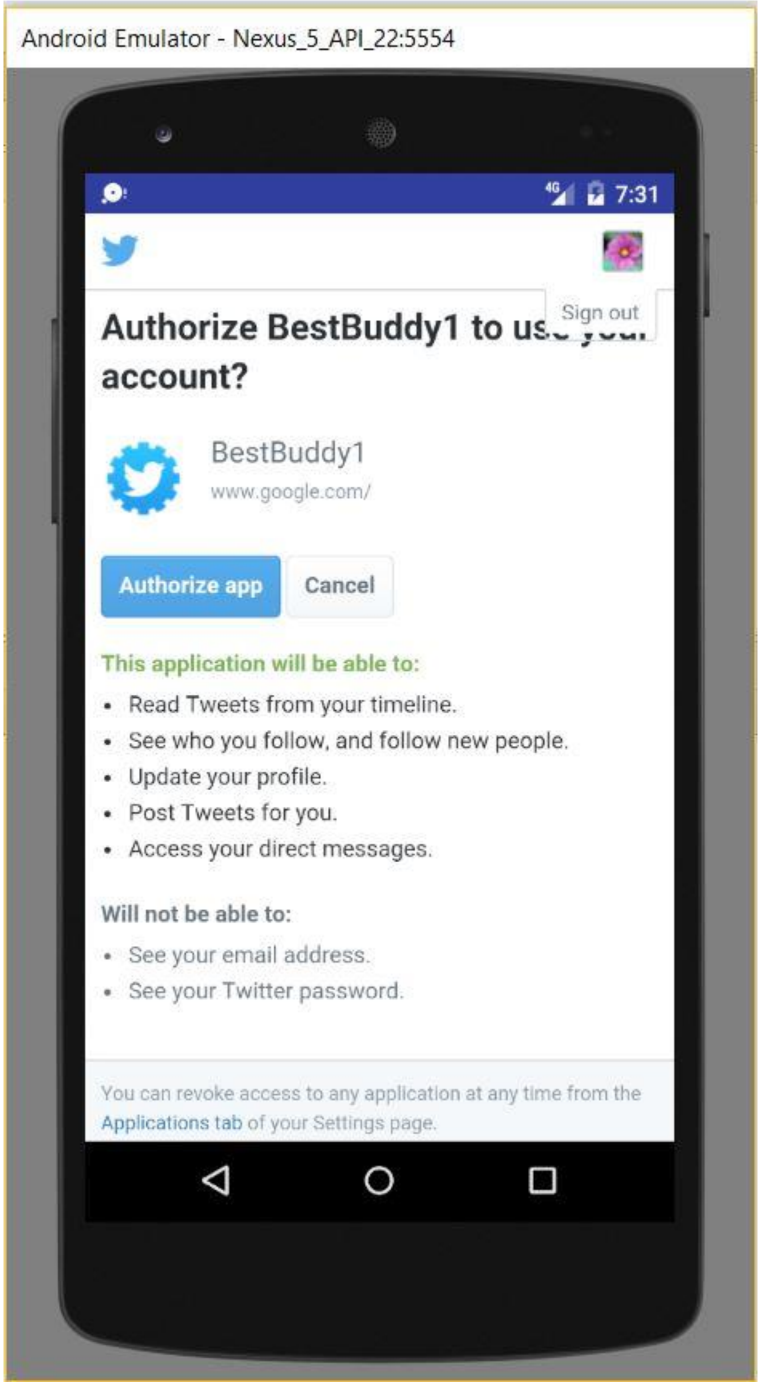
Username or email: vijayakumari.yeruva@gmail.com

Password: •••••••••

□ Remember me · Forgot password?

This application will be able to:

- Read Tweets from your timeline.
- See who you follow, and follow new people.
- Update your profile.
- Post Tweets for you.



Android Emulator - Nexus_5_API_22:5554

Authorize BestBuddy1 to use your account?

BestBuddy1

www.google.com/

This application will be able to:

- Read Tweets from your timeline.
- See who you follow, and follow new people.
- Update your profile.
- Post Tweets for you.
- Access your direct messages.

Will not be able to:

- See your email address.
- See your Twitter password.

You can revoke access to any application at any time from the Applications tab of your Settings page.

Project Management

Time taken: 20 hours

Contribution: Equal contributions from all the group members

Reference: https://github.com/VIJAYAYERUVA/BestBuddy/wiki/Increment2

VII. Third Increment Report

Third Increment Report

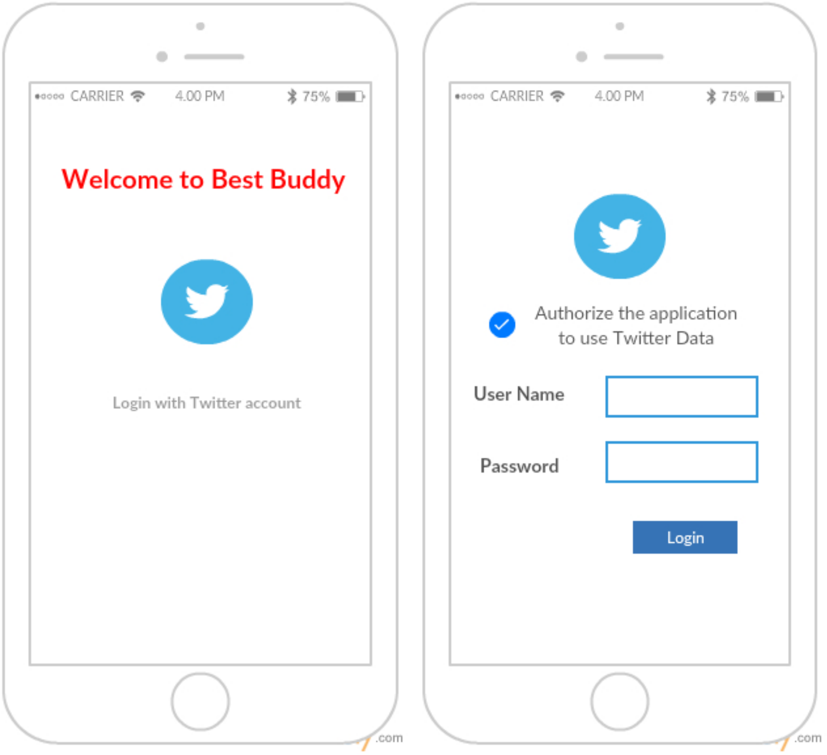
In this increment we have created one REST API using MEAN Stack, which will manipulate the twitter data. We will use this API to store and get the preprocessed twitter data whenever it is required

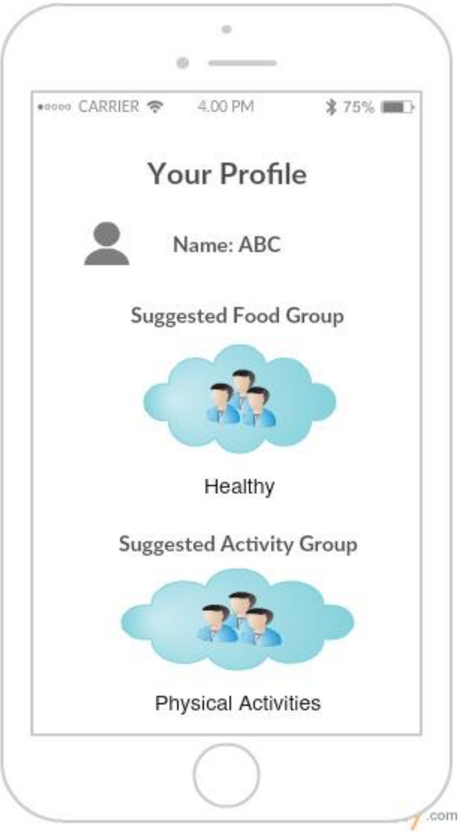
Existing Services/REST API

- Using Twitter API to log into the Android Application
- Created own REST API to manipulate the Twitter Data

Detail Design of Features

Wireframes





Your Profile

Name: ABC

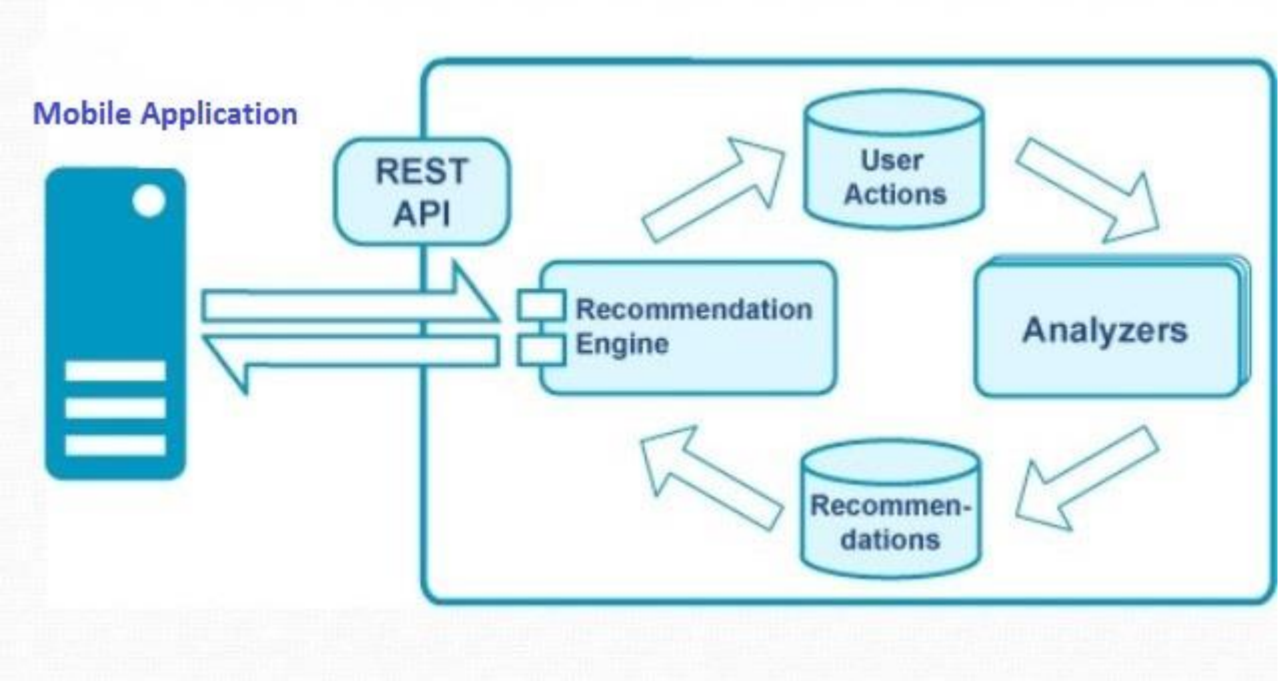
Suggested Food Group

Healthy

Suggested Activity Group

Physical Activities

Architecture diagram

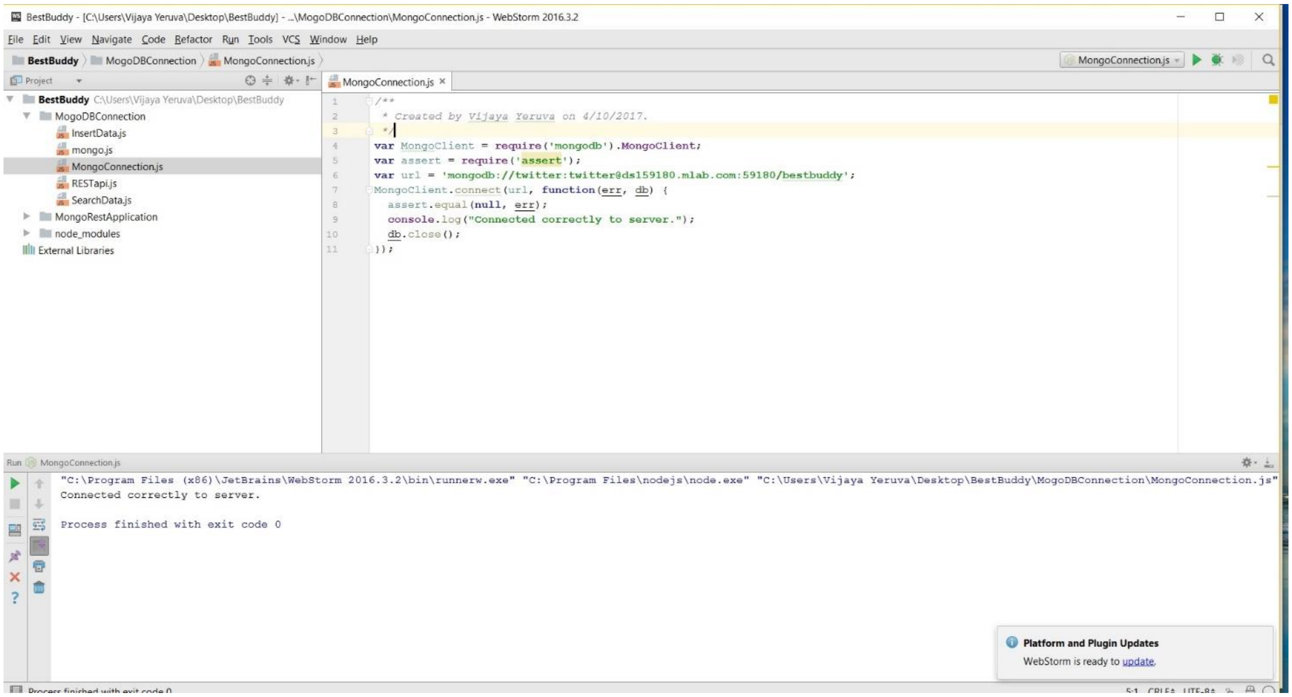


User Stories

https://github.com/VIJAYAYERUVA/BestBuddy/blob/master/Documentation/User%20Stories%20Increment2.docx

Implementation

Connetion to MongoDB:



BestBuddy - [C:\Users\Vijaya Yeruva\Desktop\BestBuddy] - ...\MogoDBConnection\MongoConnection.js - WebStorm 2016.3.2
File Edit View Navigate Code Refactor Run Tools VCS Window Help
BestBuddy 〉 MogoDBConnection 〉 MongoConnection.js
Project
BestBuddy C:\Users\Vijaya Yeruva\Desktop\BestBuddy
MogoDBConnection
InsertData.js
mongo.js
MongoConnection.js
RESTapi.js
SearchData.js
MongoRestApplication
node_modules
External Libraries
MongoConnection.js
Run MongoConnection.js

```
/**
 * Created by Vijaya Yeruva on 4/10/2017.
 */
var MongoClient = require('mongodb').MongoClient;
var assert = require('assert');
var url = 'mongodb://twitter:twitter@ds159180.mlab.com:59180/bestbuddy';
MongoClient.connect(url, function(err, db) {
  assert.equal(null, err);
  console.log("Connected correctly to server.");
  db.close();
});
```

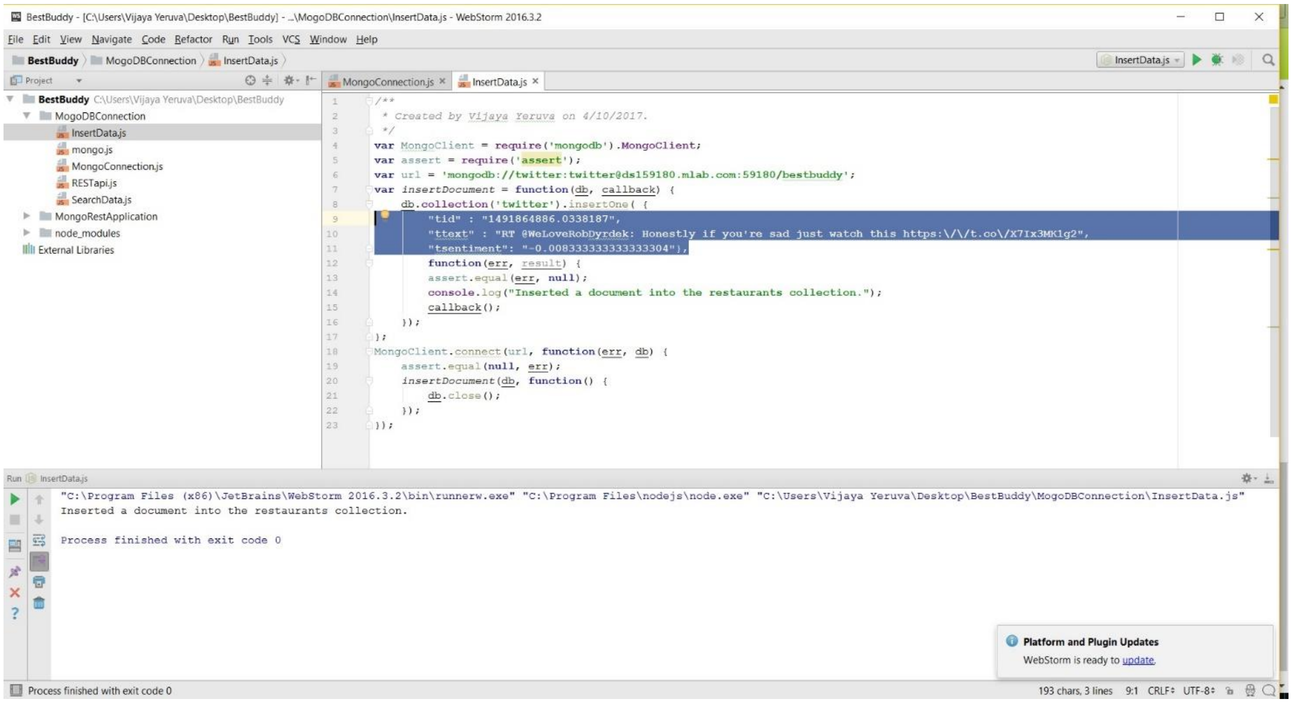
```
"C:\Program Files (x86)\JetBrains\WebStorm 2016.3.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\Desktop\BestBuddy\MogoDBConnection\MongoConnection.js"
Connected correctly to server.

Process finished with exit code 0
```

Platform and Plugin Updates
WebStorm is ready to update.

Process finished with exit code 0

Inserting Data to Mongo DB:


BestBuddy - [C:\Users\Vijaya Yeruva\Desktop\BestBuddy] - ...\MogoDBConnection\InsertData.js - WebStorm 2016.3.2
File Edit View Navigate Code Refactor Run Tools VCS Window Help
BestBuddy
MogoDBConnection
InsertData.js
mongo.js
MongoConnection.js
RESTapi.js
SearchData.js
MongoRestApplication
node_modules
External Libraries
MongoConnection.js
Platform and Plugin Updates
WebStorm is ready to update.
193 chars, 3 lines 9:1 CRLF÷ UTF-8÷

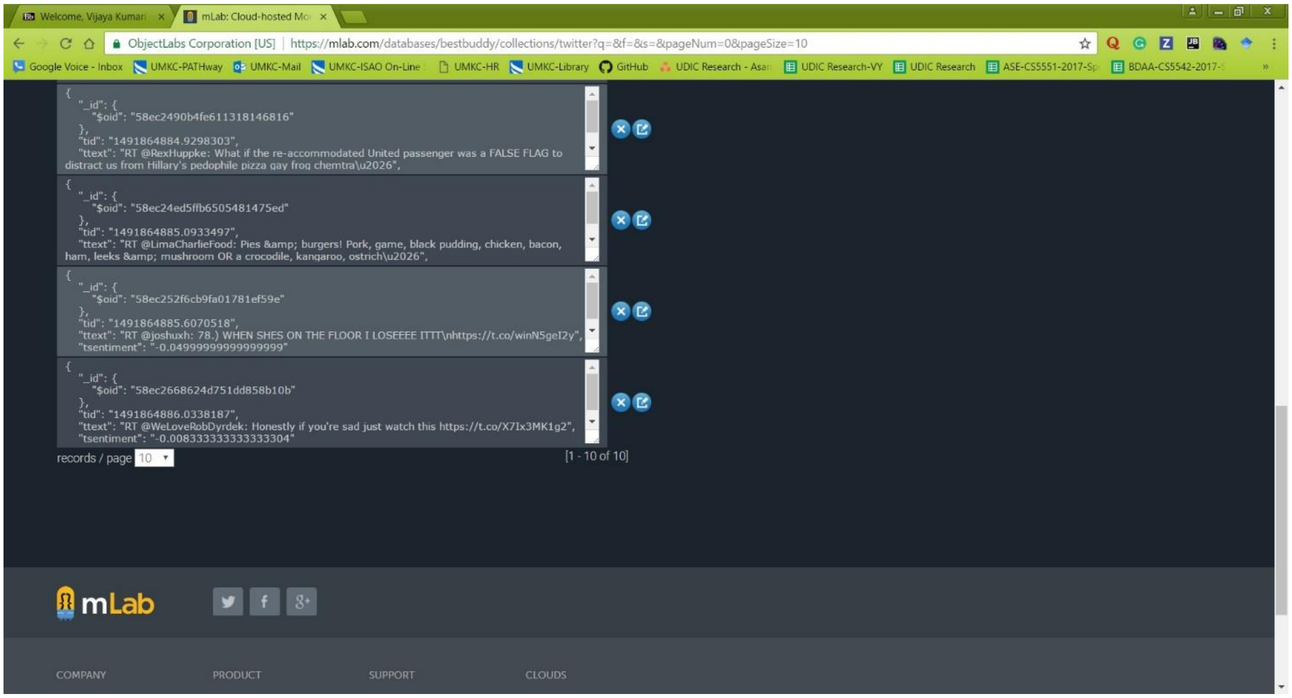
```
/**
 * Created by Vijaya Yeruva on 4/10/2017.
 */
var MongoClient = require('mongodb').MongoClient;
var assert = require('assert');
var url = 'mongodb://twitter:twitter@ds159180.mlab.com:59180/bestbuddy';
var insertDocument = function(db, callback) {
    db.collection('twitter').insertOne( {
        "tid" : "1491864886.0338187",
        "ttext" : "RT @WeLoveRobDyrdek: Honestly if you're sad just watch this https:\/\/t.co\/X7Ix3MK1g2",
        "tsentiment": "-0.008333333333333304"},
        function(err, result) {
        assert.equal(err, null);
        console.log("Inserted a document into the restaurants collection.");
        callback();
    });
};
MongoClient.connect(url, function(err, db) {
    assert.equal(null, err);
    insertDocument(db, function() {
        db.close();
    });
});
```

```
"C:\Program Files (x86)\JetBrains\WebStorm 2016.3.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\Desktop\BestBuddy\MogoDBConnection\InsertData.js"
Inserted a document into the restaurants collection.

Process finished with exit code 0
```

Process finished with exit code 0

Data in Mongo DB:



```
{
    "_id": {
        "$oid": "58ec2490b4fe611318146816"
    },
    "tid": "1491864884.9298303",
    "ttext": "RT @RexHuppke: What if the re-accommodated United passenger was a FALSE FLAG to
distract us from Hillary's pedophile pizza gay frog chemtra\u2026",
```

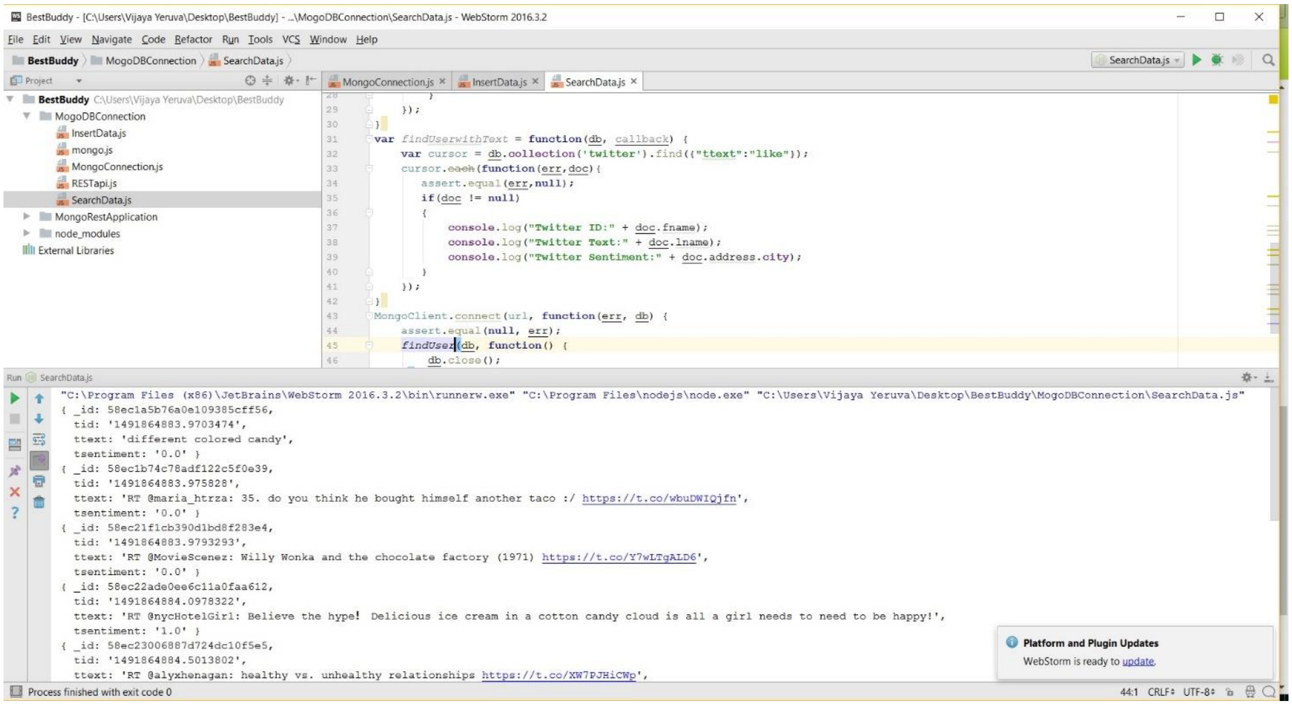
```
{
    "_id": {
        "$oid": "58ec24ed5ffb6505481475ed"
    },
    "tid": "1491864885.0933497",
    "ttext": "RT @LimaCharlieFood: Pies &amp; burgers! Pork, game, black pudding, chicken, bacon,
ham, leeks &amp; mushroom OR a crocodile, kangaroo, ostrich\u2026",
```

```
{
    "_id": {
        "$oid": "58ec252f6cb9fa01781ef59e"
    },
    "tid": "1491864885.6070518",
    "ttext": "RT @joshuxh: 78.) WHEN SHES ON THE FLOOR I LOSEEEE ITTT\nhttps://t.co/winN5geI2y",
    "tsentiment": "-0.04999999999999999"
```

```
{
    "_id": {
        "$oid": "58ec2668624d751dd858b10b"
    },
    "tid": "1491864886.0338187",
    "ttext": "RT @WeLoveRobDyrdek: Honestly if you're sad just watch this https://t.co/X7Ix3MK1g2",
    "tsentiment": "-0.008333333333333304"
```

records / page 10 [1 - 10 of 10]

Reteriving the existing Data: (All data)

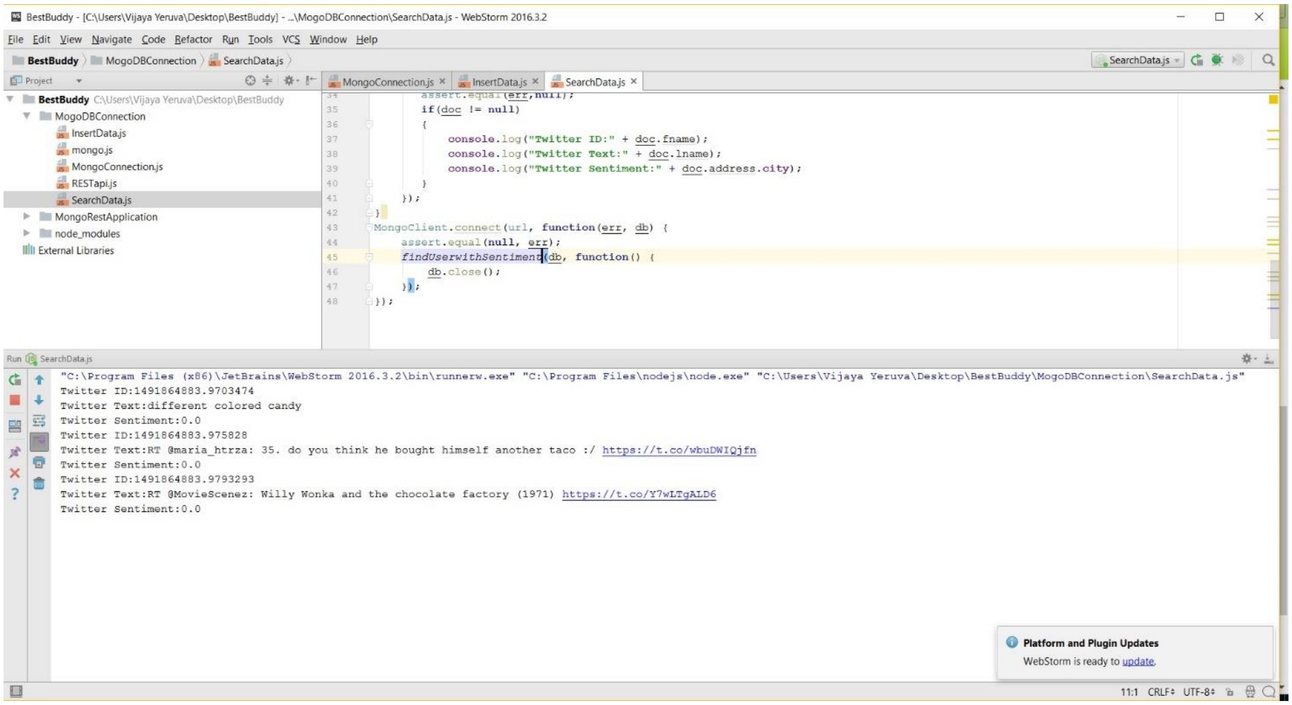

BestBuddy - [C:\Users\Vijaya Yeruva\Desktop\BestBuddy] - ...\MogoDBConnection\SearchData.js - WebStorm 2016.3.2
File Edit View Navigate Code Refactor Run Tools VCS Window Help
BestBuddy MogoDBConnection SearchData.js
Project
BestBuddy C:\Users\Vijaya Yeruva\Desktop\BestBuddy
MogoDBConnection
InsertData.js
mongo.js
MongoConnection.js
RESTapi.js
SearchData.js
MongoRestApplication
node_modules
External Libraries
MongoConnection.js
InsertData.js
SearchData.js
Run SearchData.js
Platform and Plugin Updates
WebStorm is ready to update.
44:1 CRLF UTF-8

```
            }
        });
}
var findUserwithText = function(db, callback) {
    var cursor = db.collection('twitter').find({"ttext":"like"});
    cursor.each(function(err,doc){
        assert.equal(err,null);
        if(doc != null)
        {
            console.log("Twitter ID:" + doc.fname);
            console.log("Twitter Text:" + doc.lname);
            console.log("Twitter Sentiment:" + doc.address.city);
        }
    });
}
MongoClient.connect(url, function(err, db) {
    assert.equal(null, err);
    findUser(db, function() {
        db.close();
```

```
"C:\Program Files (x86)\JetBrains\WebStorm 2016.3.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\Desktop\BestBuddy\MogoDBConnection\SearchData.js"
{ _id: 58ec1a5b76a0e109385cff56,
  tid: '1491864883.9703474',
  ttext: 'different colored candy',
  tsentiment: '0.0' }
{ _id: 58ec1b74c78adf122c5f0e39,
  tid: '1491864883.975828',
  ttext: 'RT @maria_htrza: 35. do you think he bought himself another taco :/ https://t.co/wbuDWIQjfn',
  tsentiment: '0.0' }
{ _id: 58ec21f1cb390d1bd8f283e4,
  tid: '1491864883.9793293',
  ttext: 'RT @MovieScenez: Willy Wonka and the chocolate factory (1971) https://t.co/Y7wLTgALD6',
  tsentiment: '0.0' }
{ _id: 58ec22ade0ee6c11a0faa612,
  tid: '1491864884.0978322',
  ttext: 'RT @nycHotelGirl: Believe the hype! Delicious ice cream in a cotton candy cloud is all a girl needs to need to be happy!',
  tsentiment: '1.0' }
{ _id: 58ec23006887d724dc10f5e5,
  tid: '1491864884.5013802',
  ttext: 'RT @alyxhenagan: healthy vs. unhealthy relationships https://t.co/XW7PJHiCWp',
```

Process finished with exit code 0

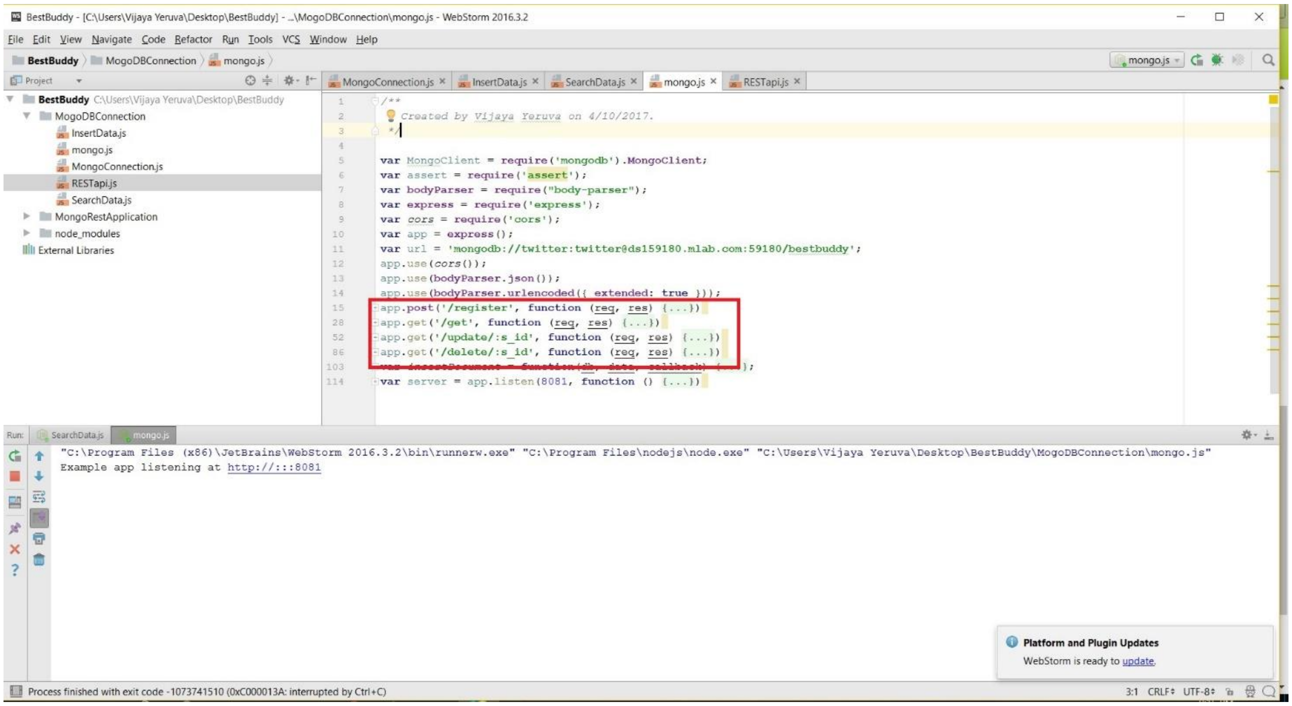
Reteriving the existing Data: (based on particular condition)


BestBuddy - [C:\Users\Vijaya Yeruva\Desktop\BestBuddy] - ...\MogoDBConnection\SearchData.js - WebStorm 2016.3.2
File Edit View Navigate Code Refactor Run Tools VCS Window Help
BestBuddy MogoDBConnection SearchData.js
Project
BestBuddy C:\Users\Vijaya Yeruva\Desktop\BestBuddy
MogoDBConnection
InsertData.js
mongo.js
MongoConnection.js
RESTapi.js
SearchData.js
MongoRestApplication
node_modules
External Libraries
MongoConnection.js
InsertData.js
SearchData.js
Run SearchData.js
Platform and Plugin Updates
WebStorm is ready to update.
11:1 CRLF UTF-8

```
        assert.equal(err,null);
        if(doc != null)
        {
            console.log("Twitter ID:" + doc.fname);
            console.log("Twitter Text:" + doc.lname);
            console.log("Twitter Sentiment:" + doc.address.city);
        }
    });
}
MongoClient.connect(url, function(err, db) {
    assert.equal(null, err);
    findUserwithSentiment(db, function() {
        db.close();
    });
});
```

```
"C:\Program Files (x86)\JetBrains\WebStorm 2016.3.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\Desktop\BestBuddy\MogoDBConnection\SearchData.js"
Twitter ID:1491864883.9703474
Twitter Text:different colored candy
Twitter Sentiment:0.0
Twitter ID:1491864883.975828
Twitter Text:RT @maria_htrza: 35. do you think he bought himself another taco :/ https://t.co/wbuDWIQjfn
Twitter Sentiment:0.0
Twitter ID:1491864883.9793293
Twitter Text:RT @MovieScenez: Willy Wonka and the chocolate factory (1971) https://t.co/Y7wLTgALD6
Twitter Sentiment:0.0
```

Creating REST API

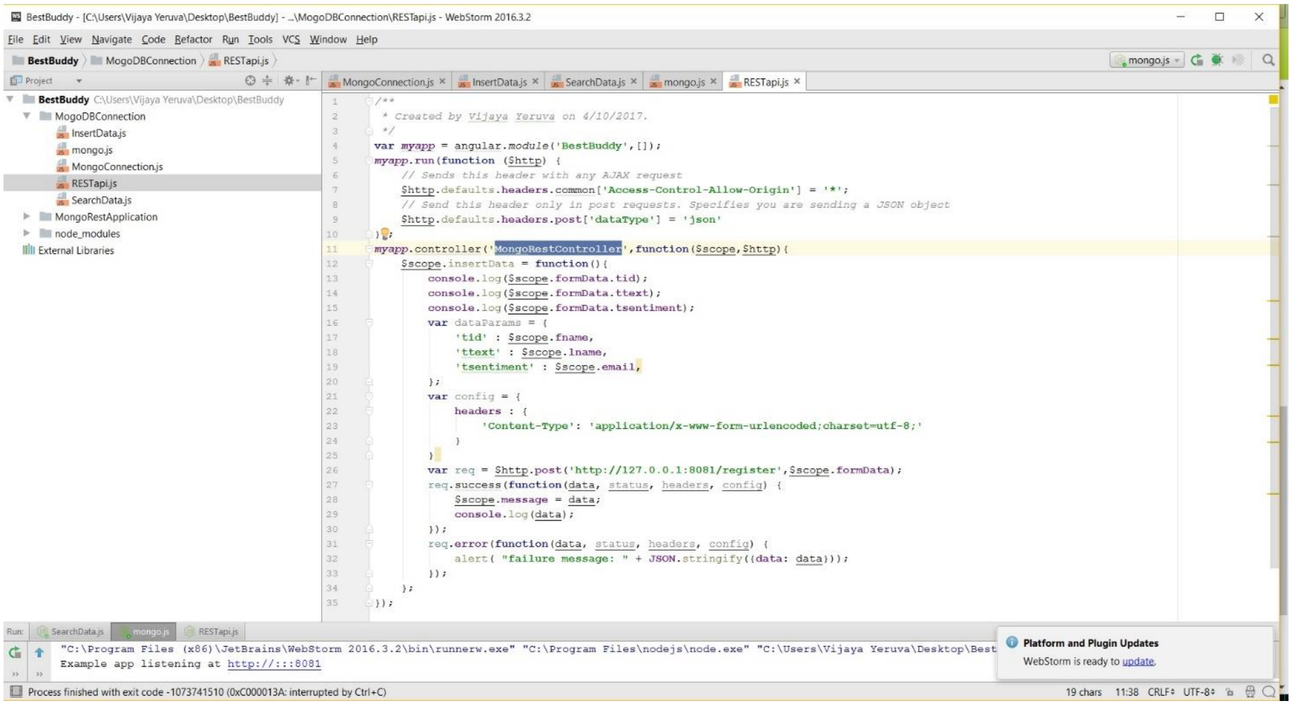

BestBuddy - [C:\Users\Vijaya Yeruva\Desktop\BestBuddy] - ...\MogoDBConnection\mongo.js - WebStorm 2016.3.2
File Edit View Navigate Code Refactor Run Tools VCS Window Help
BestBuddy
MogoDBConnection
mongo.js
Project
MongoConnection.js
InsertData.js
SearchData.js
mongo.js
RESTapi.js
BestBuddy C:\Users\Vijaya Yeruva\Desktop\BestBuddy
MogoDBConnection
InsertData.js
mongo.js
MongoConnection.js
RESTapi.js
SearchData.js
MongoRestApplication
node_modules
External Libraries
Run:
SearchData.js
mongo.js
Platform and Plugin Updates
WebStorm is ready to update.
3:1 CRLF UTF-8

```
/**
 * Created by Vijaya Yeruva on 4/10/2017.
 */

var MongoClient = require('mongodb').MongoClient;
var assert = require('assert');
var bodyParser = require("body-parser");
var express = require('express');
var cors = require('cors');
var app = express();
var url = 'mongodb://twitter:twitter@ds159180.mlab.com:59180/bestbuddy';
app.use(cors());
app.use(bodyParser.json());
app.use(bodyParser.urlencoded({ extended: true }));
app.post('/register', function (req, res) {...})
app.get('/get', function (req, res) {...})
app.get('/update/:s_id', function (req, res) {...})
app.get('/delete/:s_id', function (req, res) {...})
~~var insertDocument = function(db, data, callback)~~ {...};
var server = app.listen(8081, function () {...})
```

```
"C:\Program Files (x86)\JetBrains\WebStorm 2016.3.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\Desktop\BestBuddy\MogoDBConnection\mongo.js"
Example app listening at http://:::8081
```

Process finished with exit code -1073741510 (0xC000013A: interrupted by Ctrl+C)

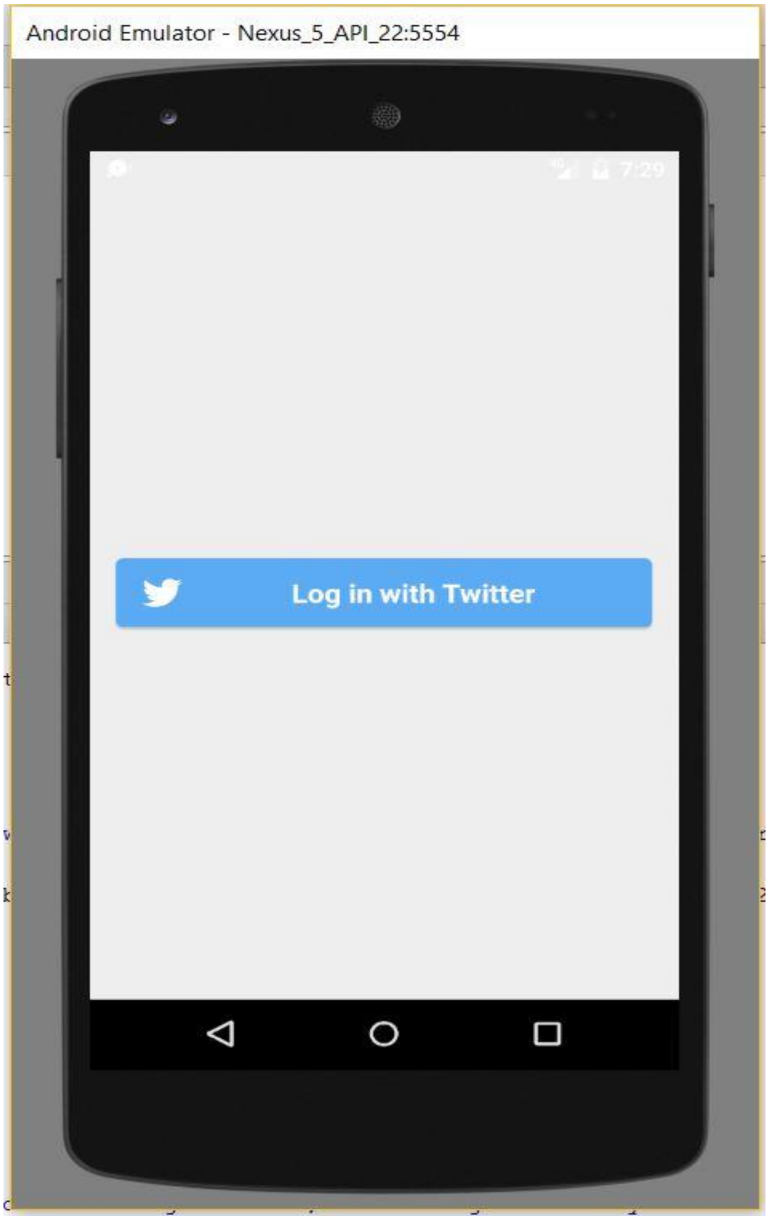

BestBuddy - [C:\Users\Vijaya Yeruva\Desktop\BestBuddy] - ...\MogoDBConnection\RESTapi.js - WebStorm 2016.3.2
File Edit View Navigate Code Refactor Run Tools VCS Window Help
BestBuddy
MogoDBConnection
RESTapi.js
Project
MongoConnection.js
InsertData.js
SearchData.js
mongo.js
RESTapi.js
BestBuddy C:\Users\Vijaya Yeruva\Desktop\BestBuddy
MogoDBConnection
InsertData.js
mongo.js
MongoConnection.js
RESTapi.js
SearchData.js
MongoRestApplication
node_modules
External Libraries
Run:
SearchData.js
mongo.js
RESTapi.js
Platform and Plugin Updates
WebStorm is ready to update.
19 chars 11:38 CRLF UTF-8

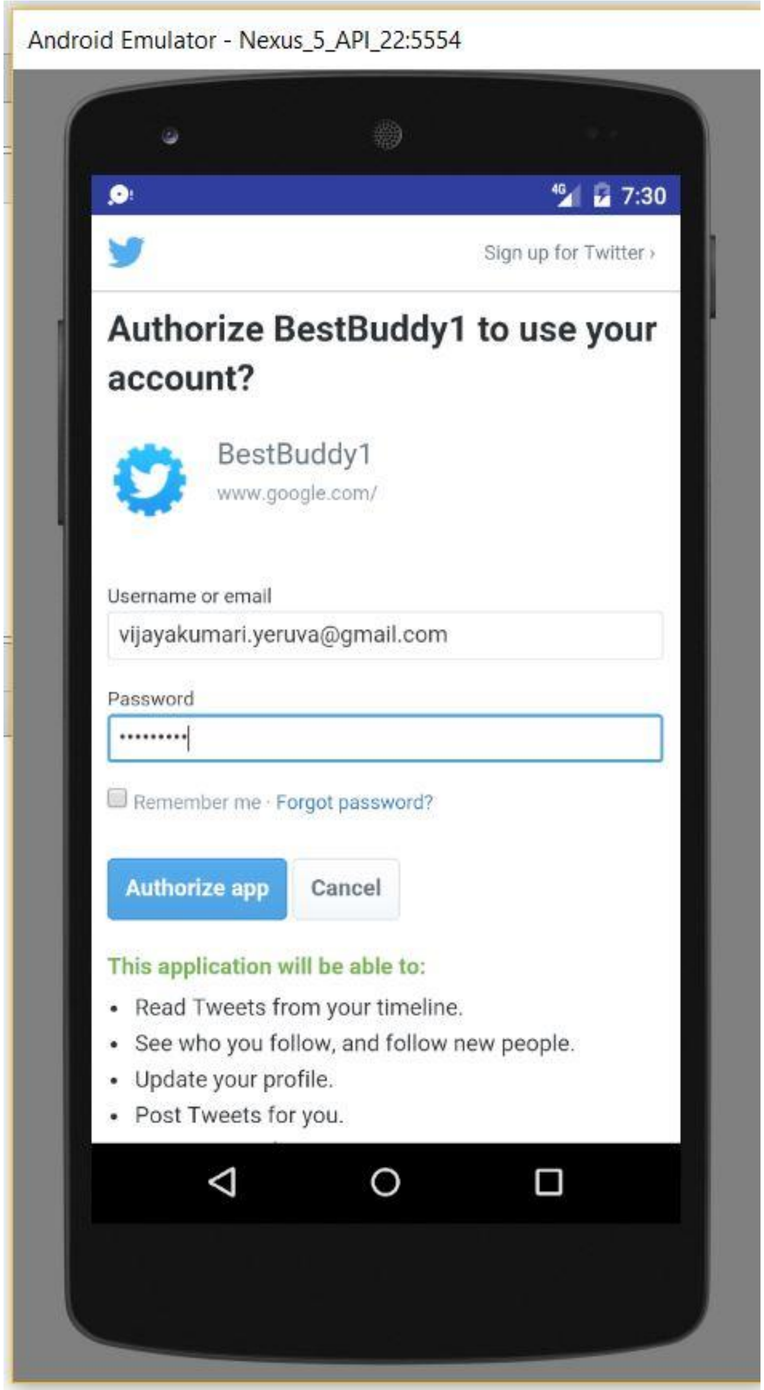
```
/**
 * Created by Vijaya Yeruva on 4/10/2017.
 */
var myapp = angular.module('BestBuddy',[]);
myapp.run(function ($http) {
    // Sends this header with any AJAX request
    $http.defaults.headers.common['Access-Control-Allow-Origin'] = '*';
    // Send this header only in post requests. Specifies you are sending a JSON object
    $http.defaults.headers.post['dataType'] = 'json'
});
myapp.controller('MongoRestController',function($scope,$http){
    $scope.insertData = function(){
        console.log($scope.formData.tid);
        console.log($scope.formData.ttext);
        console.log($scope.formData.tsentiment);
        var dataParams = {
            'tid' : $scope.fname,
            'ttext' : $scope.lname,
            'tsentiment' : $scope.email,
        };
        var config = {
            headers : {
                'Content-Type': 'application/x-www-form-urlencoded;charset=utf-8;'
            }
        }
        var req = $http.post('http://127.0.0.1:8081/register',$scope.formData);
        req.success(function(data, status, headers, config) {
            $scope.message = data;
            console.log(data);
        });
        req.error(function(data, status, headers, config) {
            alert( "failure message: " + JSON.stringify({data: data}));
        });
    };
});
```

```
"C:\Program Files (x86)\JetBrains\WebStorm 2016.3.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\Desktop\Best
Example app listening at http://:::8081
```

Process finished with exit code -1073741510 (0xC000013A: interrupted by Ctrl+C)

Deployment





Android Emulator - Nexus_5_API_22:5554

Authorize BestBuddy1 to use your account?

BestBuddy1

www.google.com/

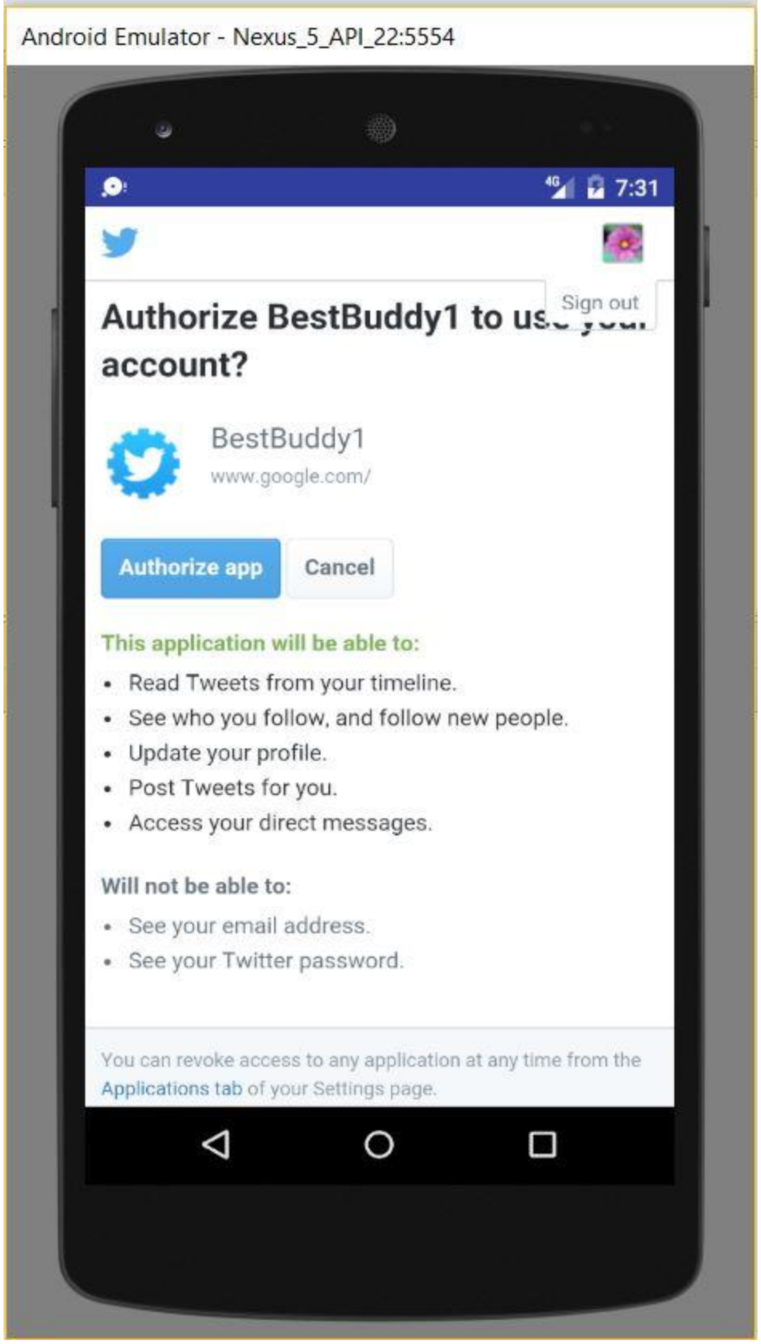
Username or email: vijayakumari.yeruva@gmail.com

Password: •••••••••

□ Remember me · Forgot password?

This application will be able to:

- Read Tweets from your timeline.
- See who you follow, and follow new people.
- Update your profile.
- Post Tweets for you.



Android Emulator - Nexus_5_API_22:5554

Authorize BestBuddy1 to use your account?

BestBuddy1
www.google.com/

This application will be able to:

- Read Tweets from your timeline.
- See who you follow, and follow new people.
- Update your profile.
- Post Tweets for you.
- Access your direct messages.

Will not be able to:

- See your email address.
- See your Twitter password.

You can revoke access to any application at any time from the Applications tab of your Settings page.

Project Management

Time taken: 10 hours

Contribution: Equal contributions from all the group members

Reference: https://github.com/VIJAYAYERUVA/BestBuddy/wiki/Increment3

VIII. Fourth Increment Report

I. Team Members:

Yeruva, Vijaya Kumari (Id: 94)

Goudarzvand, Saria (Id: 95)

II. Project Overview:

The purpose of the project is to create an application that predict the user behavior (happy or unhappy) based on his/her tweets/text.

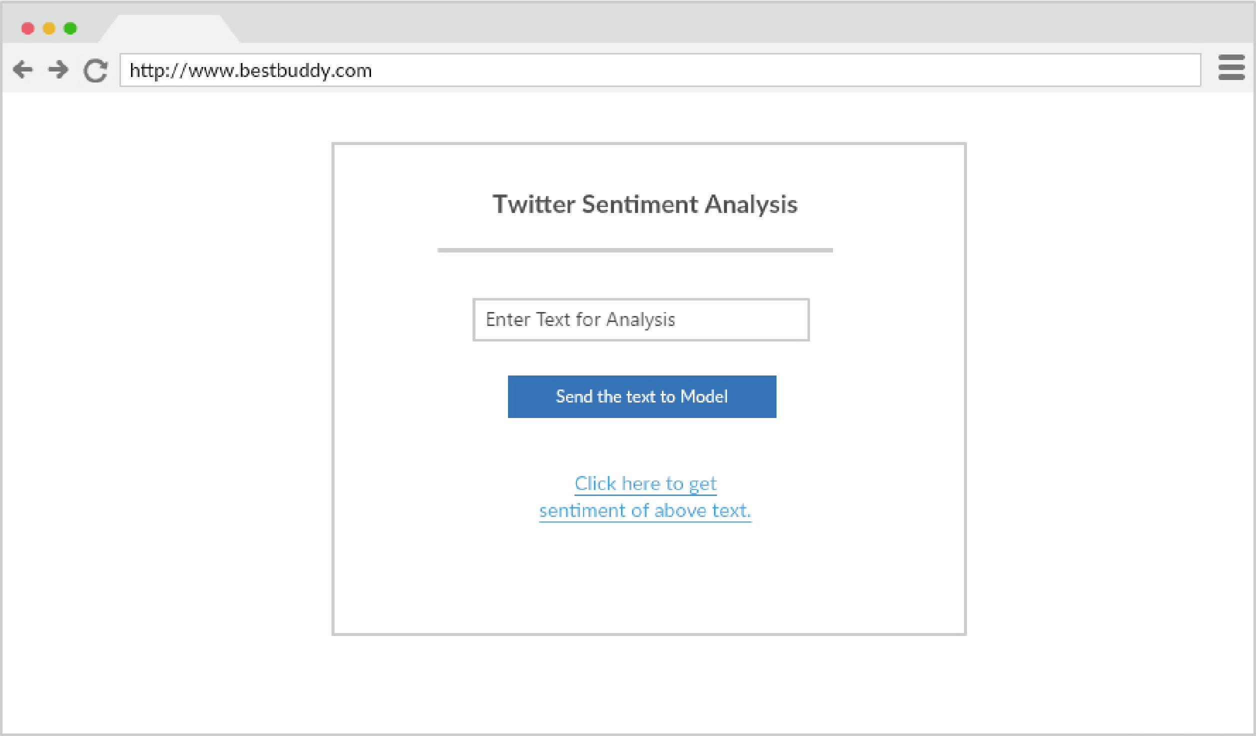
In this increment we have developed a web application which will take the user’s text as input and send it to the model, after process the text through model, the application will display the output as text and sentiment of that text

III. Existing Services/REST API

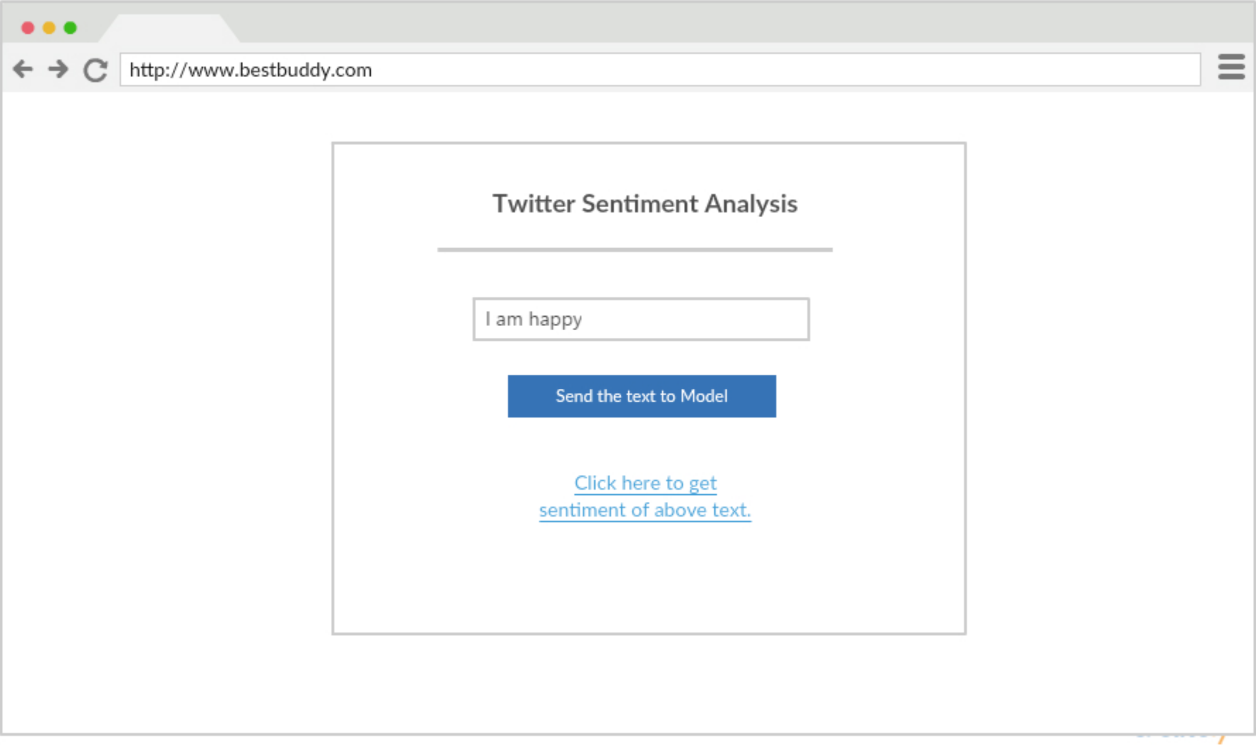
- Created own REST API to insert and get the data from MongoDB
- Created own REST API to give and take data from the Tensor flow CNN Model

IV. Detail Design of Features

Wireframes

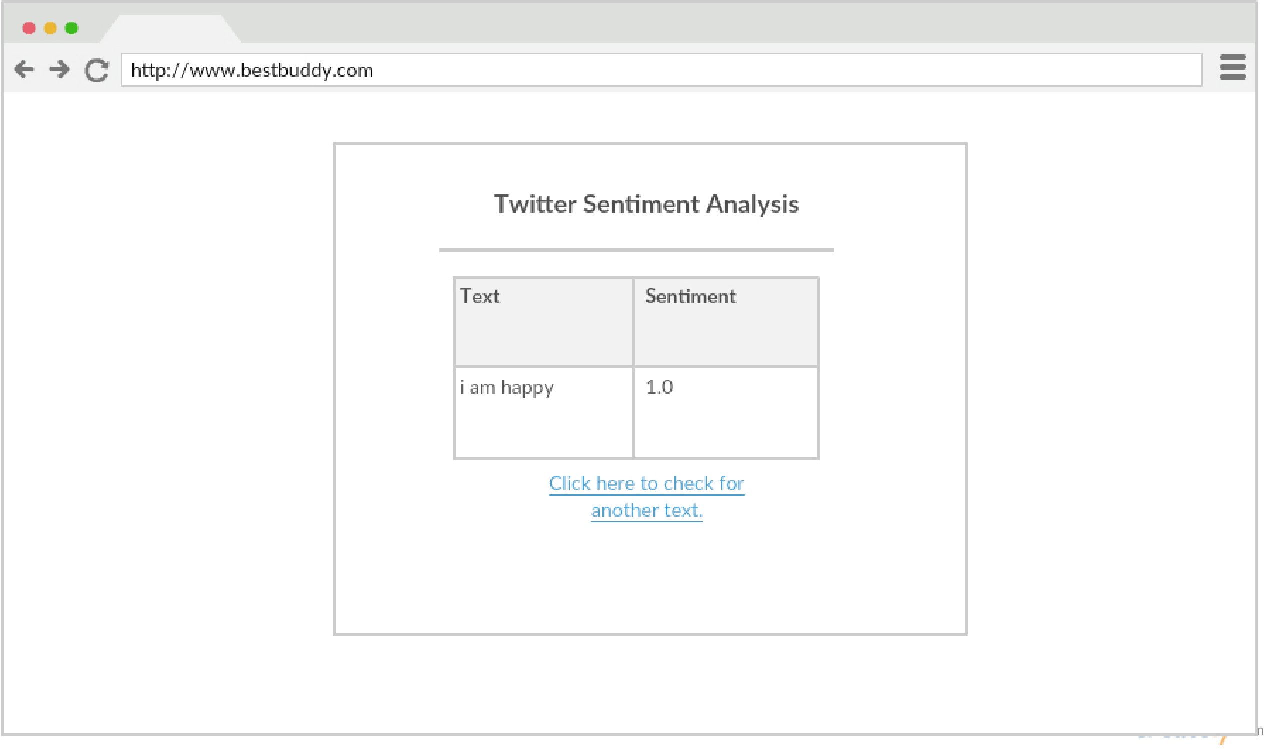


http://www.bestbuddy.com



http://www.bestbuddy.com

I am happy



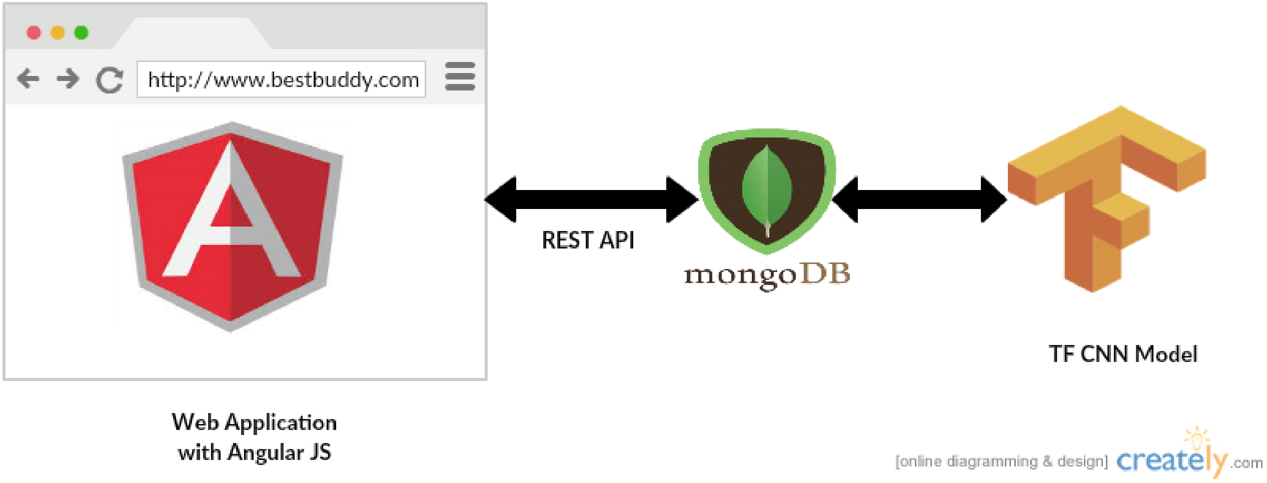
http://www.bestbuddy.com

Twitter Sentiment Analysis

Text	Sentiment
i am happy	1.0

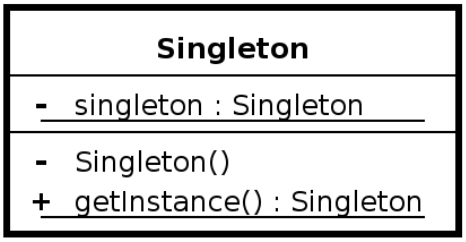
Click here to check for another text.

Architecture diagram



Design Patterns

We Used Creational Design Pattern(Singleton) for web application



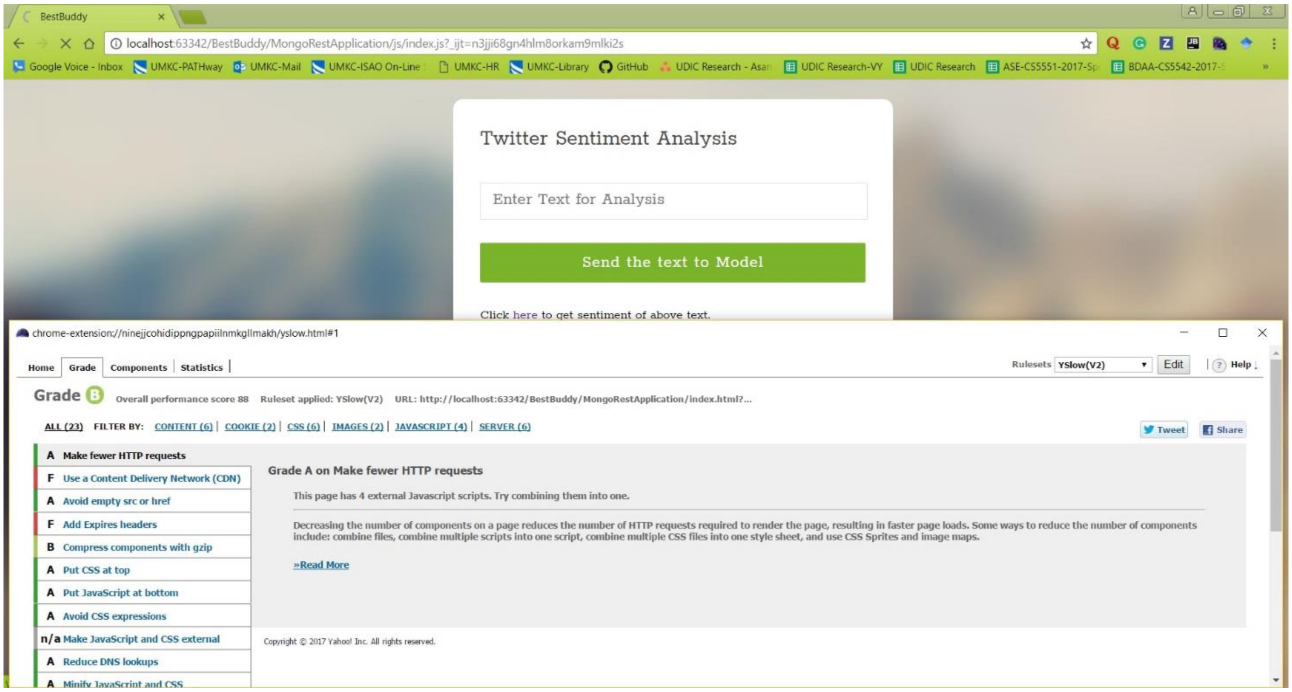
User Stories

Link:

https://github.com/VIJAYAYERUVA/BestBuddy/blob/master/Documentation/ASE_Increment4/User%20Stories.txt

V. Testing

Tested the performance of the web application with "YSlow" on Chrome browser. Got the Grade B as result of performance



Click here to get sentiment of above text.

Grade B Overall performance score 88 Ruleset applied: YSlow(V2) URL: http://localhost:63342/BestBuddy/MongoRestApplication/index.html?...

ALL (23) FILTER BY: CONTENT (6) | COOKIE (2) | CSS (6) | IMAGES (2) | JAVASCRIPT (4) | SERVER (6)

A	Make fewer HTTP requests
F	Use a Content Delivery Network (CDN)
A	Avoid empty src or href
F	Add Expires headers
B	Compress components with gzip
A	Put CSS at top
A	Put JavaScript at bottom
A	Avoid CSS expressions
n/a	Make JavaScript and CSS external
A	Reduce DNS lookups
A	Minify JavaScript and CSS

Grade A on Make fewer HTTP requests

This page has 4 external Javascript scripts. Try combining them into one.

Decreasing the number of components on a page reduces the number of HTTP requests required to render the page, resulting in faster page loads. Some ways to reduce the number of components include: combine files, combine multiple scripts into one script, combine multiple CSS files into one style sheet, and use CSS Sprites and image maps.

»Read More

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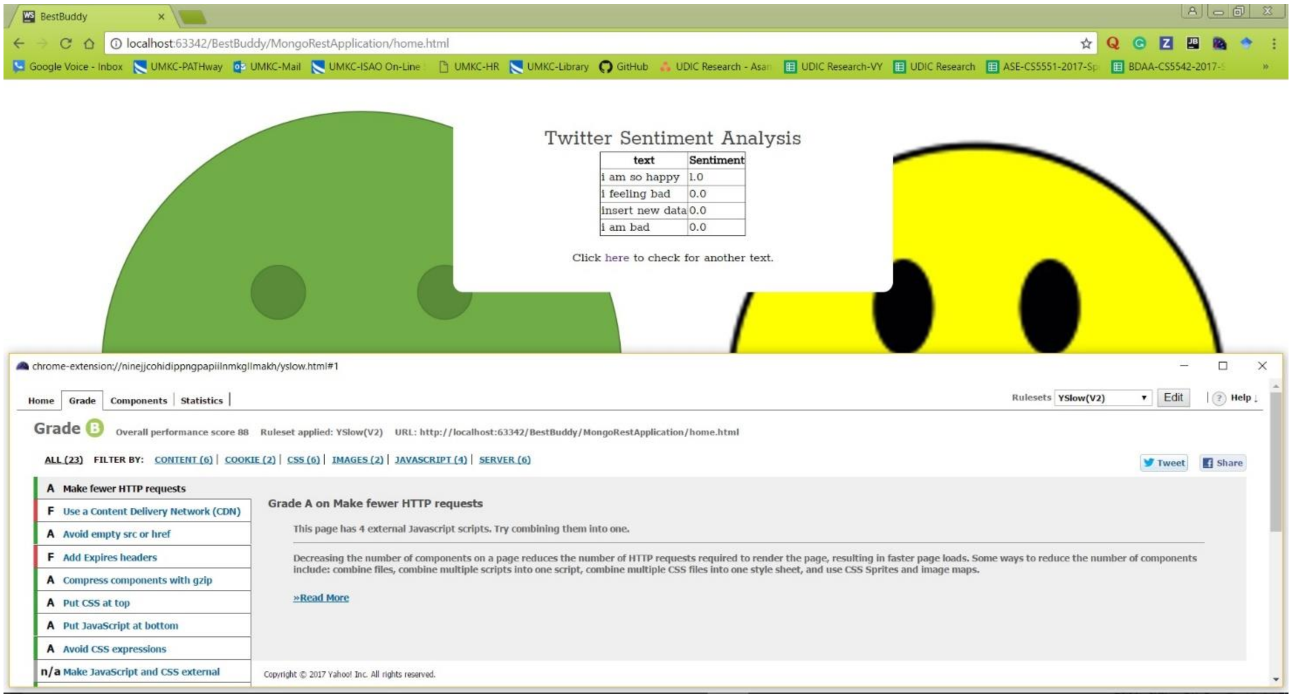

Twitter Sentiment Analysis

text	Sentiment
i am so happy	1.0
i feeling bad	0.0
insert new data	0.0
i am bad	0.0

Click here to check for another text.

Grade B Overall performance score 88 Ruleset applied: YSlow(V2) URL: http://localhost:63342/BestBuddy/MongoRestApplication/home.html

ALL (23) FILTER BY: CONTENT (6) | COOKIE (2) | CSS (6) | IMAGES (2) | JAVASCRIPT (4) | SERVER (6)

A	Make fewer HTTP requests
F	Use a Content Delivery Network (CDN)
A	Avoid empty src or href
F	Add Expires headers
A	Compress components with gzip
A	Put CSS at top
A	Put JavaScript at bottom
A	Avoid CSS expressions
n/a	Make JavaScript and CSS external

Grade A on Make fewer HTTP requests

This page has 4 external Javascript scripts. Try combining them into one.

Decreasing the number of components on a page reduces the number of HTTP requests required to render the page, resulting in faster page loads. Some ways to reduce the number of components include: combine files, combine multiple scripts into one script, combine multiple CSS files into one style sheet, and use CSS Sprites and image maps.

»Read More

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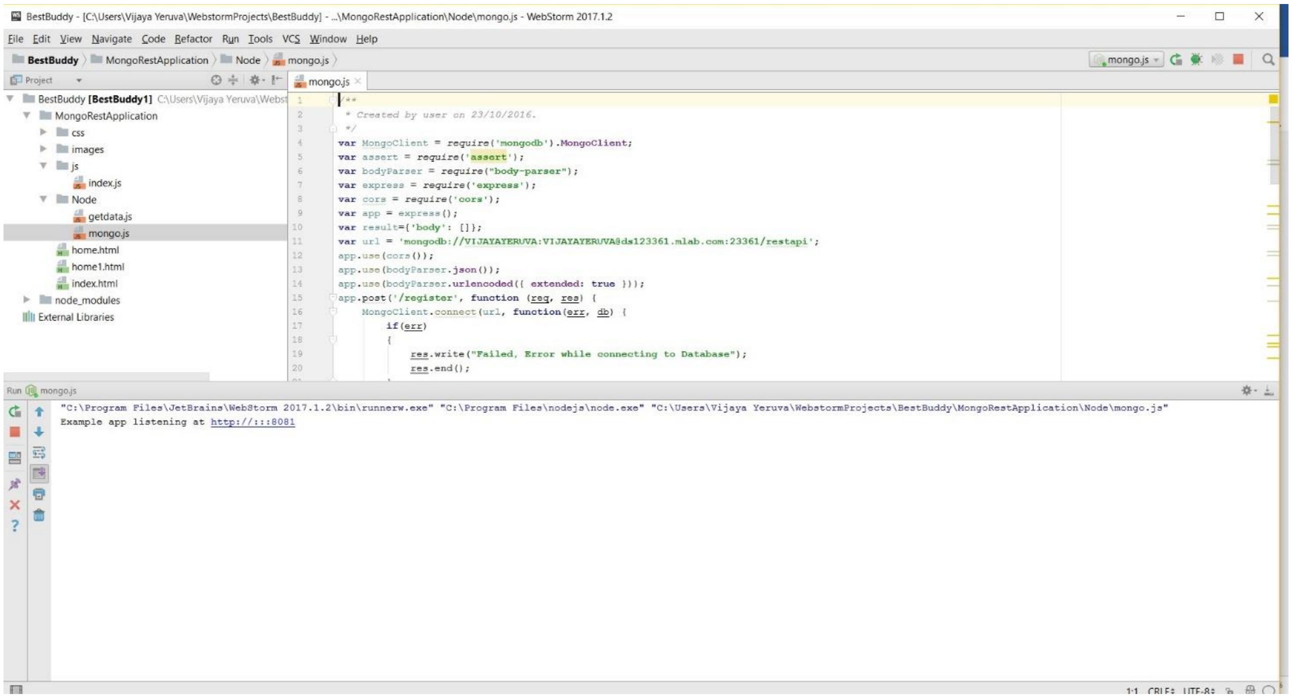
VI. Implementation”

Created a REST API to connect Web Application and DB:

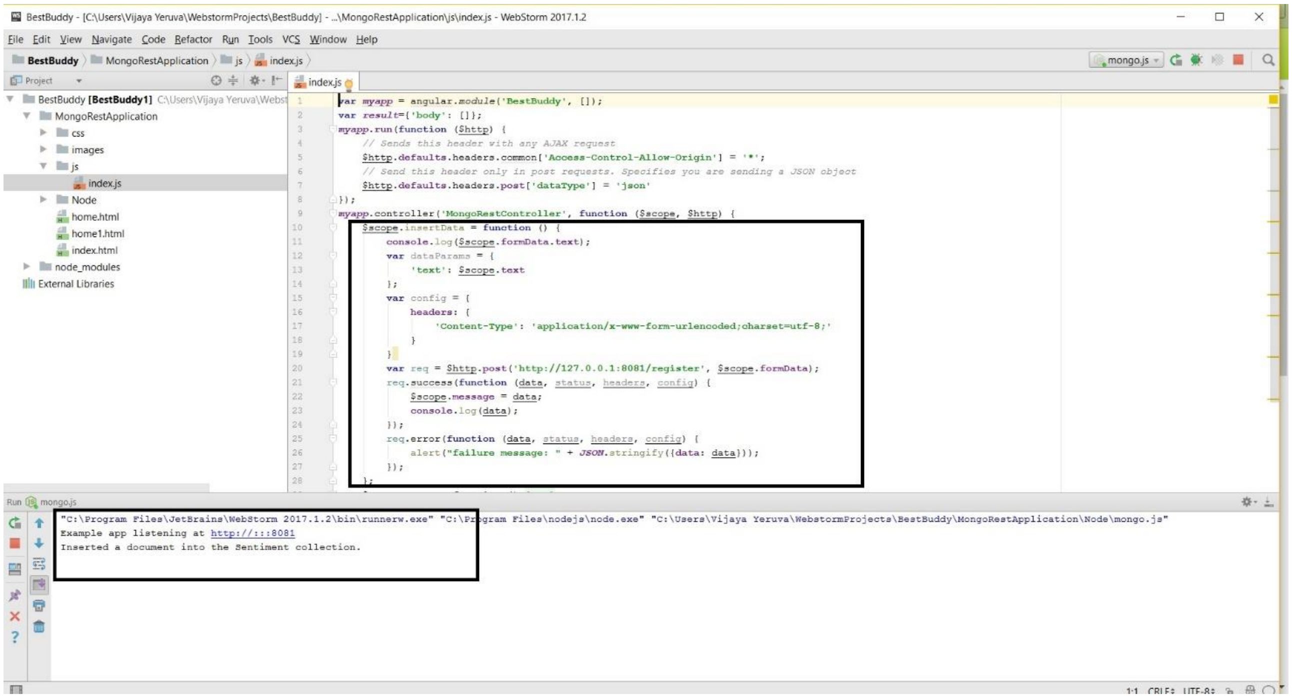
Connection to MongoDB:



```
/**
 * Created by user on 23/10/2016.
 */
var MongoClient = require('mongodb').MongoClient;
var assert = require('assert');
var bodyParser = require("body-parser");
var express = require('express');
var cors = require('cors');
var app = express();
var result={'body': []};
var url = 'mongodb://VIJAYAYERUVA:VIJAYAYERUVA@ds123361.mlab.com:23361/restapi';
app.use(cors());
app.use(bodyParser.json());
app.use(bodyParser.urlencoded({ extended: true }));
app.post('/register', function (req, res) {
    MongoClient.connect(url, function(err, db) {
        if(err)
        {
            res.write("Failed, Error while connecting to Database");
            res.end();
```

```
"C:\Program Files\JetBrains\WebStorm 2017.1.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\WebstormProjects\BestBuddy\MongoRestApplication\Node\mongo.js"
Example app listening at http://:::8081
```

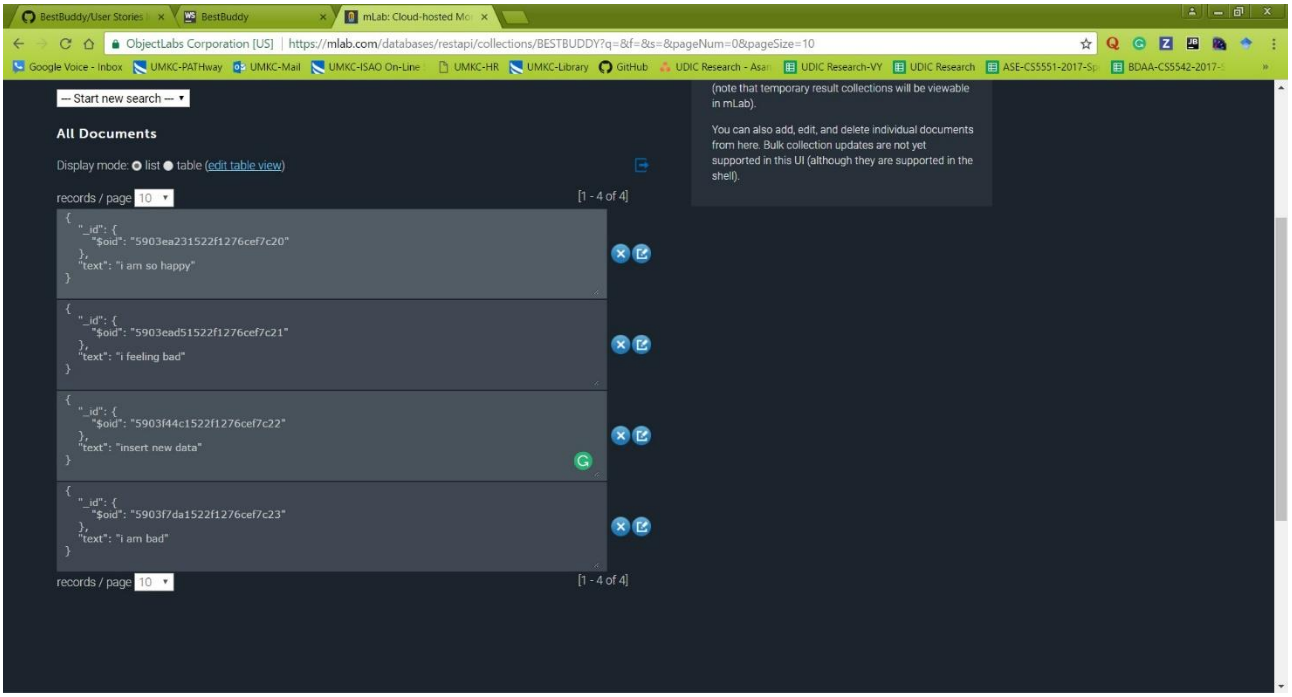
Inserting Data to MongoDB:


BestBuddy - [C:\Users\Vijaya Yeruva\WebstormProjects\BestBuddy] - ...\MongoRestApplication\js\index.js - WebStorm 2017.1.2
File Edit View Navigate Code Refactor Run Tools VCS Window Help
BestBuddy
MongoRestApplication
js
index.js
mongo.js
Project
BestBuddy [BestBuddy1] C:\Users\Vijaya Yeruva\Webst
MongoRestApplication
css
images
js
index.js
Node
home.html
home1.html
index.html
node_modules
External Libraries
Run
mongo.js

```
var myapp = angular.module('BestBuddy', []);
var result={'body': []};
myapp.run(function ($http) {
    // Sends this header with any AJAX request
    $http.defaults.headers.common['Access-Control-Allow-Origin'] = '*';
    // Send this header only in post requests. Specifies you are sending a JSON object
    $http.defaults.headers.post['dataType'] = 'json'
});
myapp.controller('MongoRestController', function ($scope, $http) {
    $scope.insertData = function () {
        console.log($scope.formData.text);
        var dataParams = {
            'text': $scope.text
        };
        var config = {
            headers: {
                'Content-Type': 'application/x-www-form-urlencoded;charset=utf-8;'
            }
        }
        var req = $http.post('http://127.0.0.1:8081/register', $scope.formData);
        req.success(function (data, status, headers, config) {
            $scope.message = data;
            console.log(data);
        });
        req.error(function (data, status, headers, config) {
            alert("failure message: " + JSON.stringify({data: data}));
        });
    };
```

```
"C:\Program Files\JetBrains\WebStorm 2017.1.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\WebstormProjects\BestBuddy\MongoRestApplication\Node\mongo.js"
Example app listening at http://:::8081
Inserted a document into the Sentiment collection.
```

Data in MongoDB:



https://mlab.com/databases/restapi/collections/BESTBUDDY?q=&f=&s=&pageNum=0&pageSize=10

(note that temporary result collections will be viewable in mLab).

You can also add, edit, and delete individual documents from here. Bulk collection updates are not yet supported in this UI (although they are supported in the shell).

All Documents

Display mode: ● list ○ table (edit table view)

records / page 10 [1 - 4 of 4]

```
{
    "_id": {
        "$oid": "5903ea231522f1276cef7c20"
    },
    "text": "i am so happy"
}
```

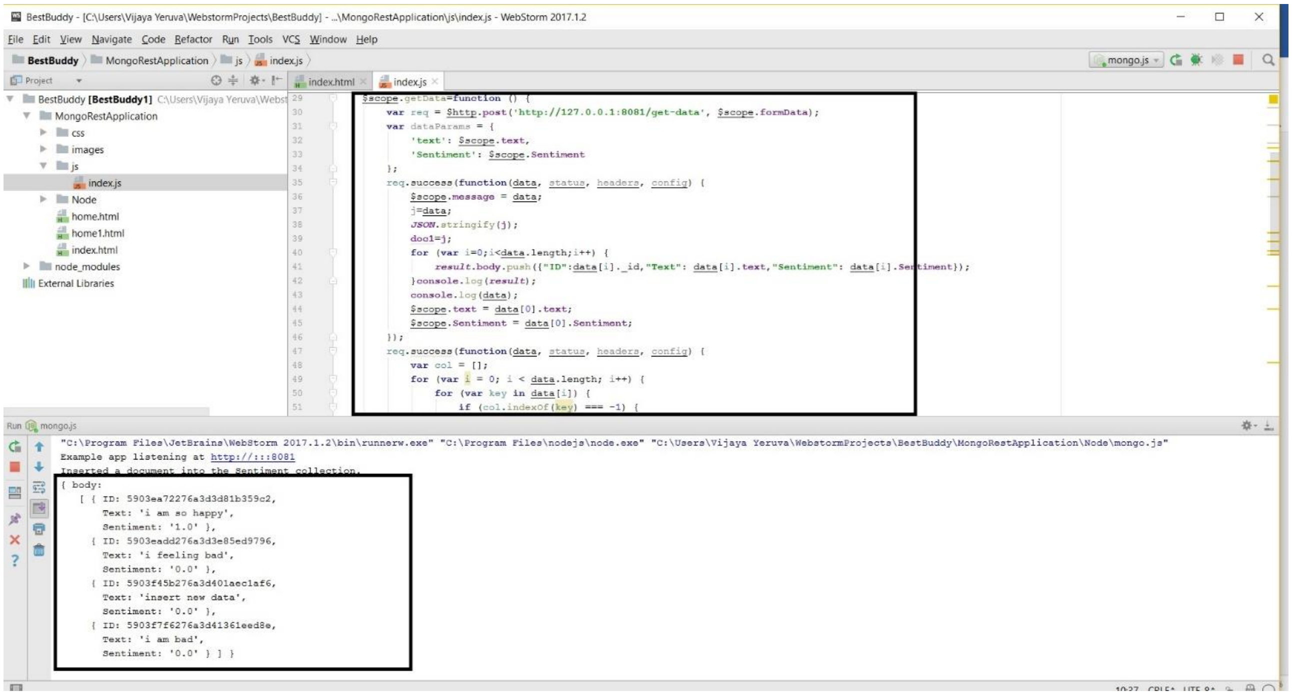
```
{
    "_id": {
        "$oid": "5903ead51522f1276cef7c21"
    },
    "text": "i feeling bad"
}
```

```
{
    "_id": {
        "$oid": "5903f44c1522f1276cef7c22"
    },
    "text": "insert new data"
}
```

```
{
    "_id": {
        "$oid": "5903f7da1522f1276cef7c23"
    },
    "text": "i am bad"
}
```

records / page 10 [1 - 4 of 4]

Reteriving Data from MongoDB:

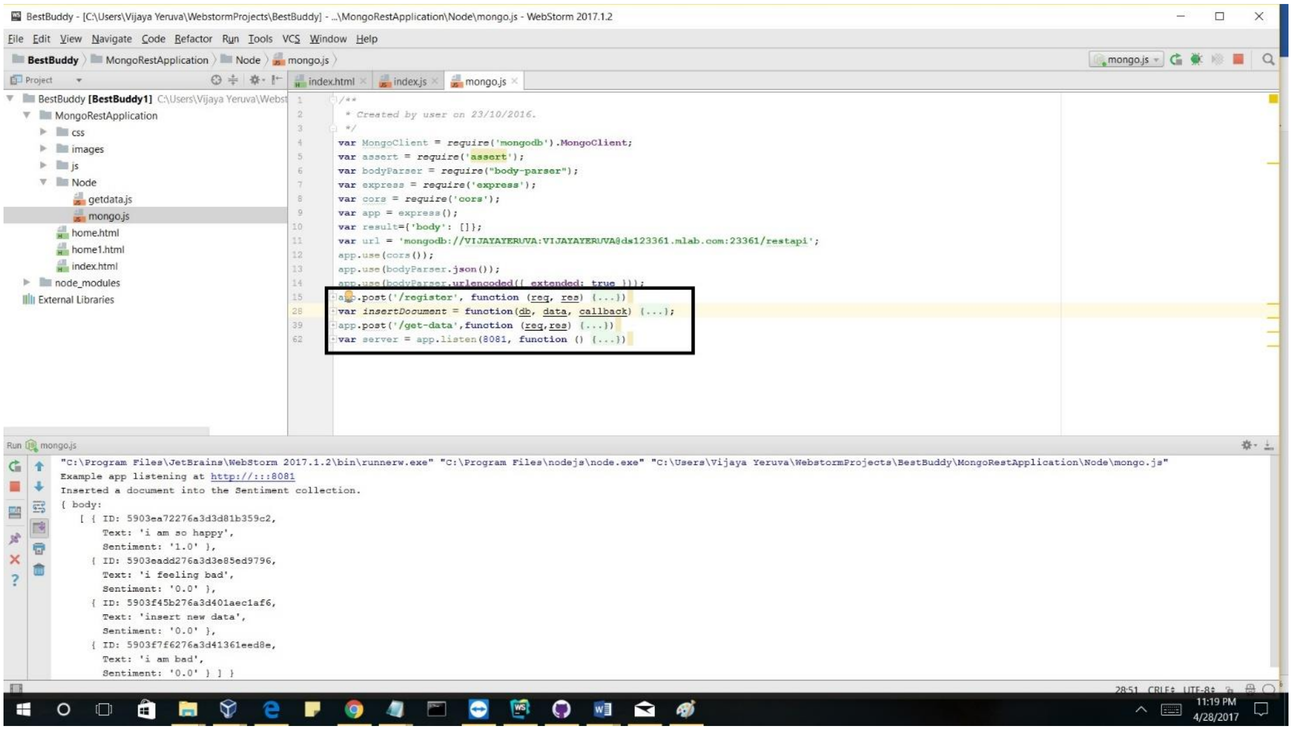


BestBuddy - [C:\Users\Vijaya Yeruva\WebstormProjects\BestBuddy] - ...\MongoRestApplication\js\index.js - WebStorm 2017.1.2

```
$scope.getData=function () {
    var req = $http.post('http://127.0.0.1:8081/get-data', $scope.formData);
    var dataParams = {
        'text': $scope.text,
        'Sentiment': $scope.Sentiment
    };
    req.success(function(data, status, headers, config) {
        $scope.message = data;
        j=data;
        JSON.stringify(j);
        doc1=j;
        for (var i=0;i<data.length;i++) {
            result.body.push({"ID":data[i]._id,"Text": data[i].text,"Sentiment": data[i].Sentiment});
        }console.log(result);
        console.log(data);
        $scope.text = data[0].text;
        $scope.Sentiment = data[0].Sentiment;
    });
    req.success(function(data, status, headers, config) {
        var col = [];
        for (var i = 0; i < data.length; i++) {
            for (var key in data[i]) {
                if (col.indexOf(key) === -1) {
```

```
"C:\Program Files\JetBrains\WebStorm 2017.1.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\WebstormProjects\BestBuddy\MongoRestApplication\Node\mongo.js"
Example app listening at http://:::8081
Inserted a document into the Sentiment collection.
{ body:
   [ { ID: 5903ea72276a3d3d81b359c2,
       Text: 'i am so happy',
       Sentiment: '1.0' },
     { ID: 5903eadd276a3d3e85ed9796,
       Text: 'i feeling bad',
       Sentiment: '0.0' },
     { ID: 5903f45b276a3d401aec1af6,
       Text: 'insert new data',
       Sentiment: '0.0' },
     { ID: 5903f7f6276a3d41361eed8e,
       Text: 'i am bad',
       Sentiment: '0.0' } ] }
```

Creating REST API:



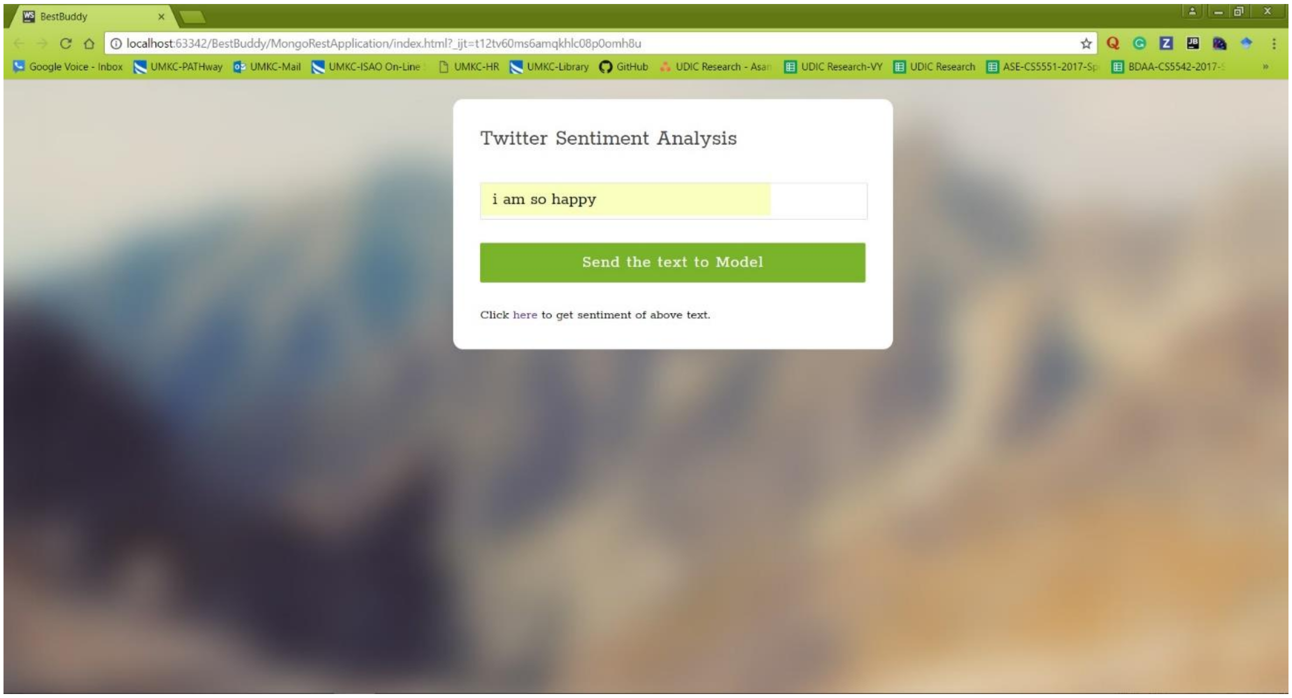
BestBuddy - [C:\Users\Vijaya Yeruva\WebstormProjects\BestBuddy] - ...\MongoRestApplication\Node\mongo.js - WebStorm 2017.1.2

```
/**
 * Created by user on 23/10/2016.
 */
var MongoClient = require('mongodb').MongoClient;
var assert = require('assert');
var bodyParser = require("body-parser");
var express = require('express');
var cors = require('cors');
var app = express();
var result={'body': []};
var url = 'mongodb://VIJAYAYERUVA:VIJAYAYERUVA@ds123361.mlab.com:23361/restapi';
app.use(cors());
app.use(bodyParser.json());
app.use(bodyParser.urlencoded({ extended: true }));
app.post('/register', function (req, res) {...})
var insertDocument = function(db, data, callback) {...};
app.post('/get-data',function (req,res) {...})
var server = app.listen(8081, function () {...})
```

```
"C:\Program Files\JetBrains\WebStorm 2017.1.2\bin\runnerw.exe" "C:\Program Files\nodejs\node.exe" "C:\Users\Vijaya Yeruva\WebstormProjects\BestBuddy\MongoRestApplication\Node\mongo.js"
Example app listening at http://:::8081
Inserted a document into the Sentiment collection.
{ body:
   [ { ID: 5903ea72276a3d3d81b359c2,
       Text: 'i am so happy',
       Sentiment: '1.0' },
     { ID: 5903eadd276a3d3e85ed9796,
       Text: 'i feeling bad',
       Sentiment: '0.0' },
     { ID: 5903f45b276a3d401aec1af6,
       Text: 'insert new data',
       Sentiment: '0.0' },
     { ID: 5903f7f6276a3d41361eed8e,
       Text: 'i am bad',
       Sentiment: '0.0' } ] }
```

VII. Deployment

User will enter the text here to get the sentiment



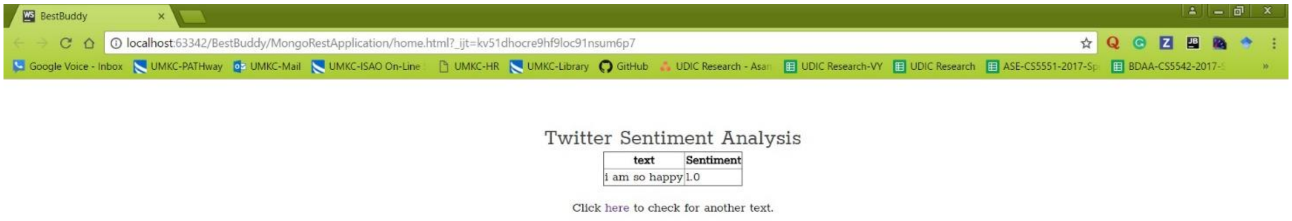
Twitter Sentiment Analysis

i am so happy

Send the text to Model

Click here to get sentiment of above text.

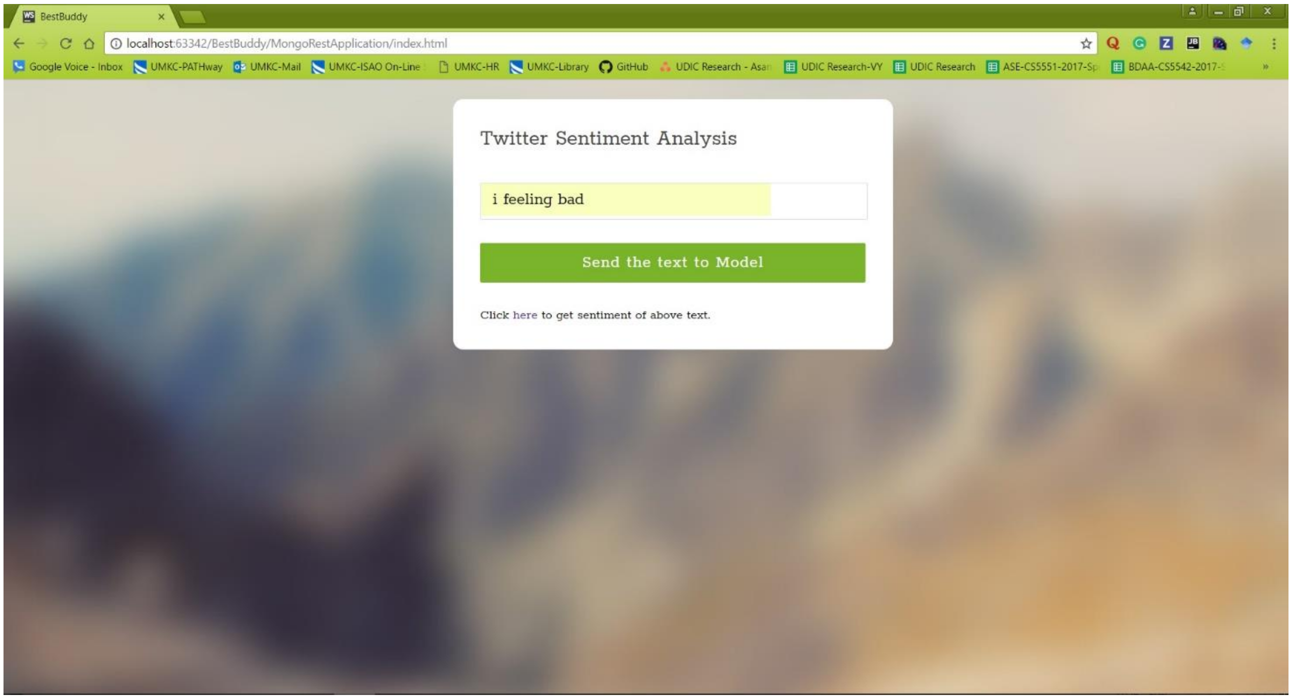
Click on ‘Send the text to Model’ button to send the text to model. After that click on link to get sentiment of the text



Twitter Sentiment Analysis

text	Sentiment
i am so happy	1.0

Click here to check for another text.

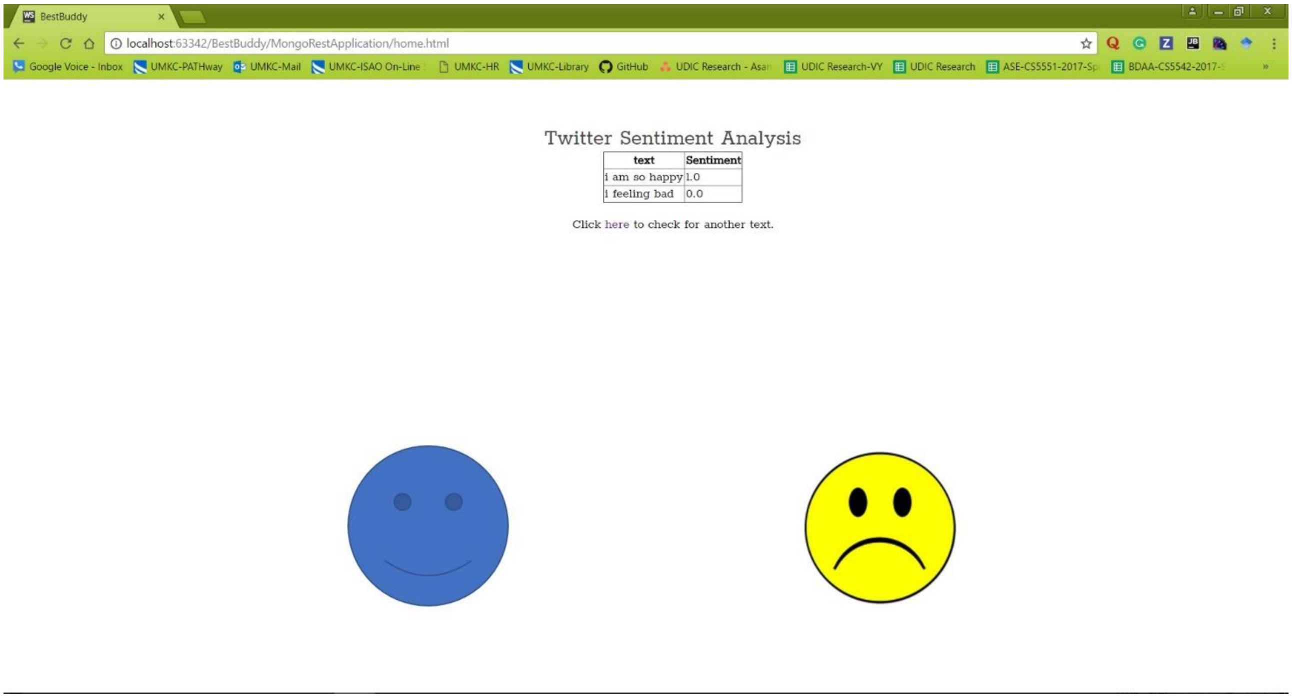


Twitter Sentiment Analysis

i feeling bad

Send the text to Model

Click here to get sentiment of above text.



Twitter Sentiment Analysis

text	Sentiment
i am so happy	1.0
i feeling bad	0.0

Click here to check for another text.

WIKI Page on GitHub:

https://github.com/VIJAYAYERUVA/BestBuddy/wiki/Increment4

VIII. Project Management

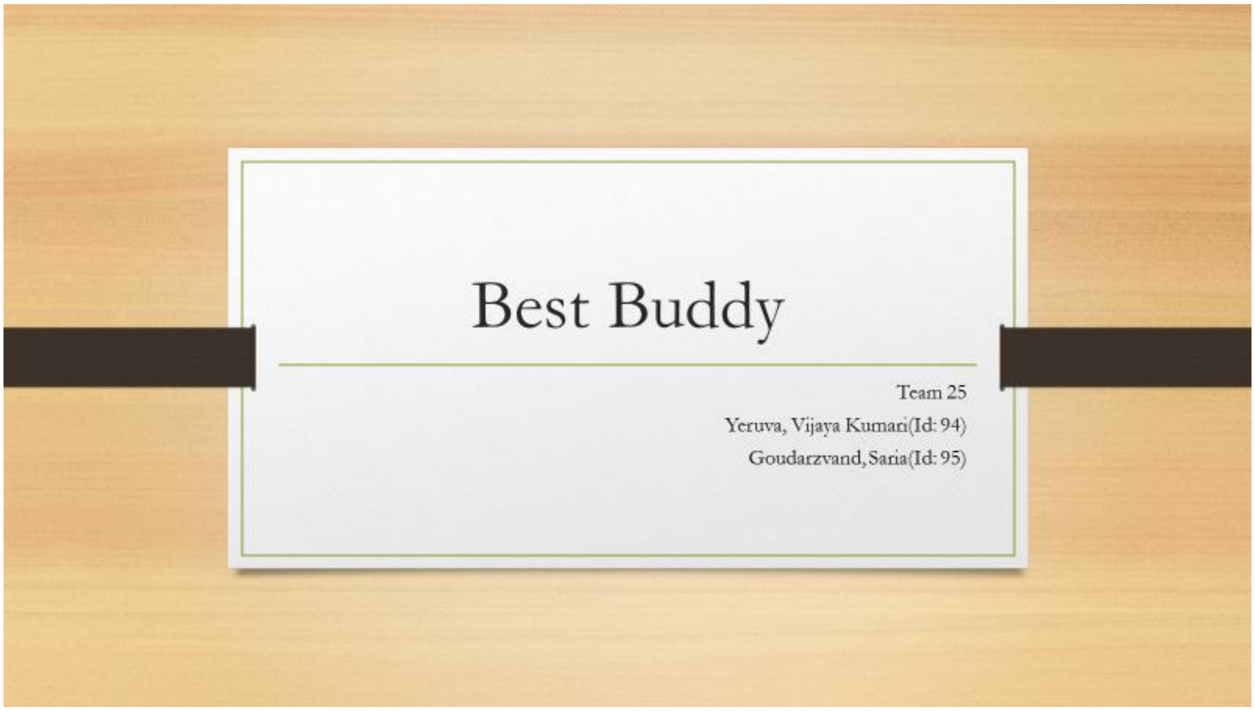
Time taken: 40 hours

Issues: Tried a lot to implement with twitter details and with 6 categories, but unable to achieve that in given time lines

IX. Bibliography:

1. https://docs.mongodb.com/manual/
2. http://www.restapitutorial.com/
3. https://www.tensorflow.org/

IX. Presentation Slides

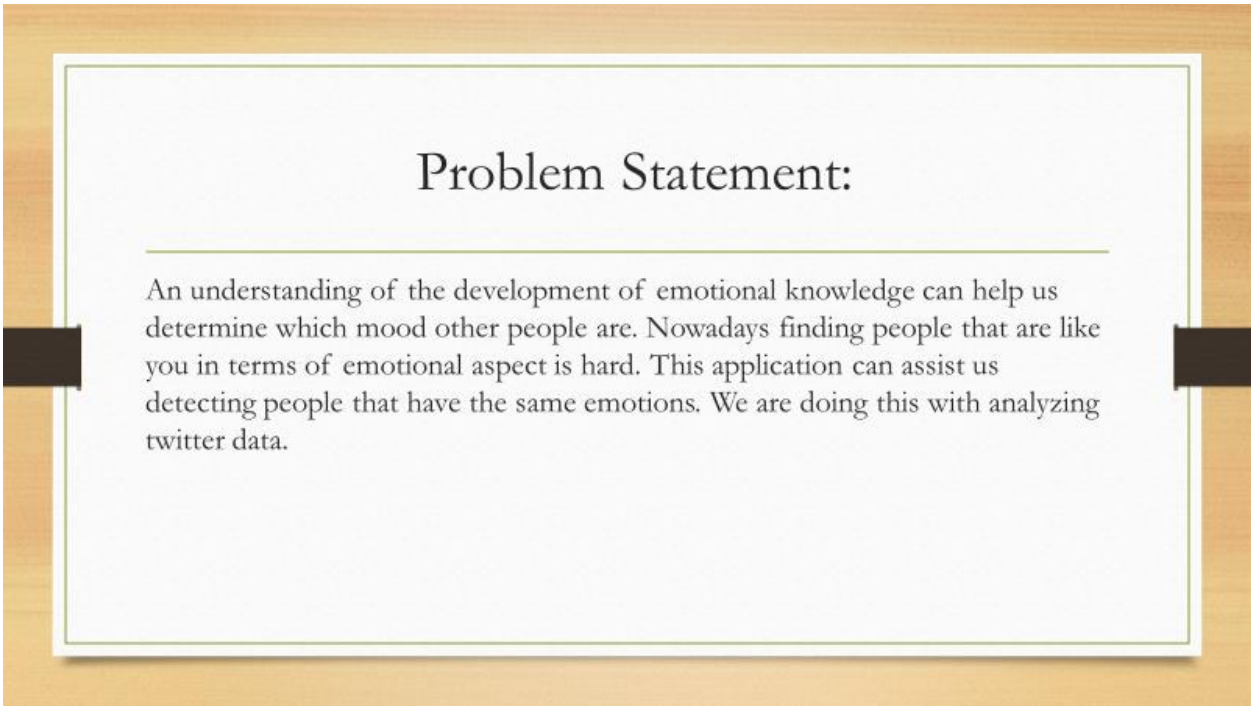


Best Buddy

Team 25

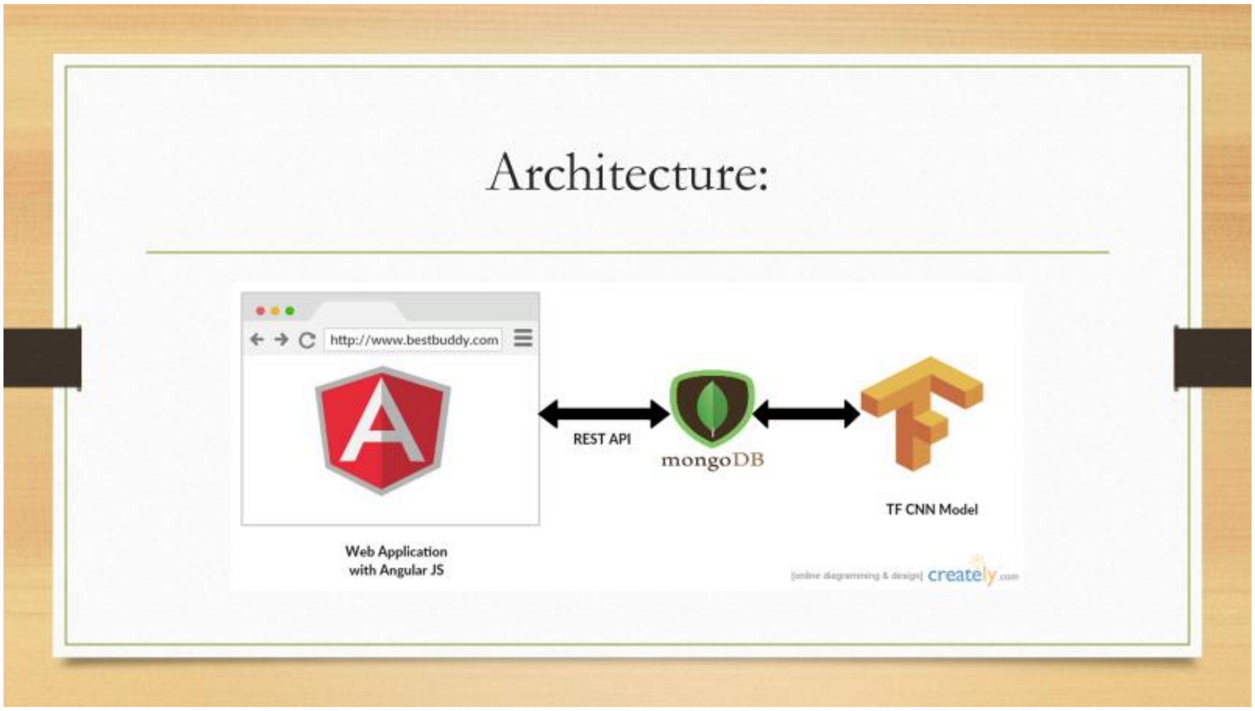
Yeruva, Vijaya Kumari(Id: 94)

Goudarzvand,Saria(Id: 95)

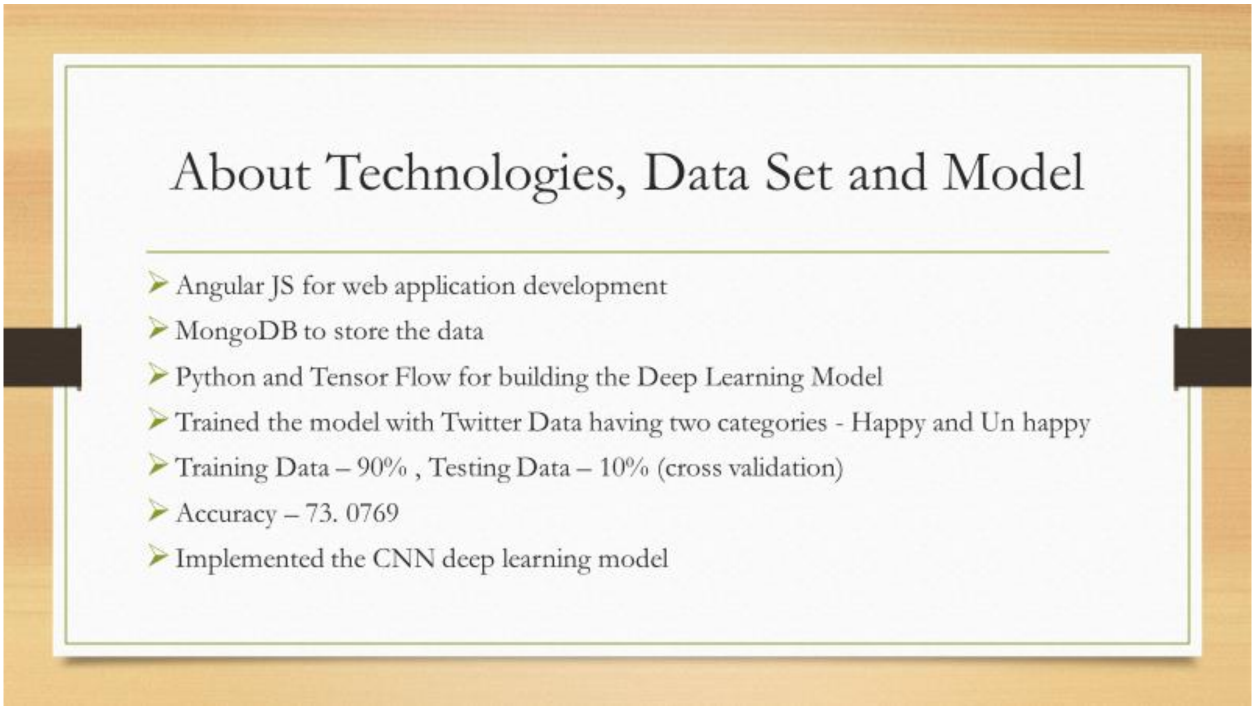


Problem Statement:

An understanding of the development of emotional knowledge can help us determine which mood other people are. Nowadays finding people that are like you in terms of emotional aspect is hard. This application can assist us detecting people that have the same emotions. We are doing this with analyzing twitter data.



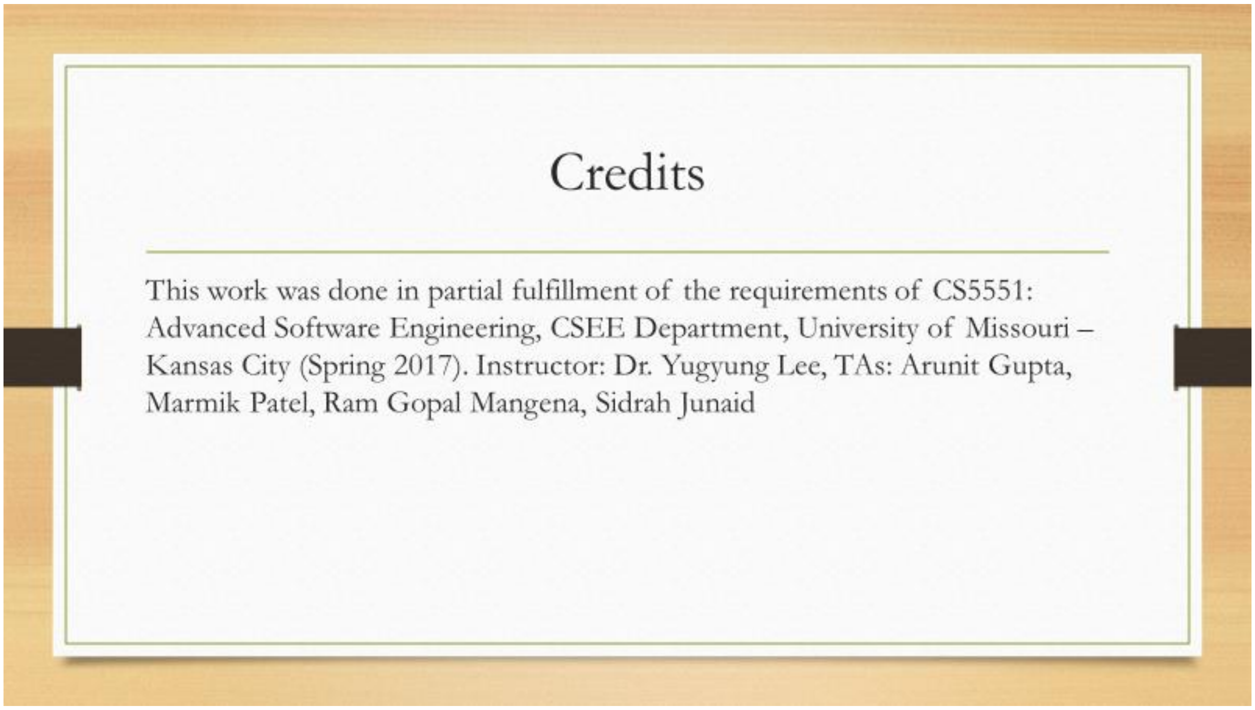
Architecture:



About Technologies, Data Set and Model

- ➢ Angular JS for web application development
- ➢ MongoDB to store the data
- ➢ Python and Tensor Flow for building the Deep Learning Model
- ➢ Trained the model with Twitter Data having two categories - Happy and Un happy
- ➢ Training Data – 90% , Testing Data – 10% (cross validation)
- ➢ Accuracy – 73. 0769
- ➢ Implemented the CNN deep learning model

Implementation



Credits

This work was done in partial fulfillment of the requirements of CS5551: Advanced Software Engineering, CSEE Department, University of Missouri – Kansas City (Spring 2017). Instructor: Dr. Yugyung Lee, TAs: Arunit Gupta, Marmik Patel, Ram Gopal Mangena, Sidrah Junaid

Thank You!

X. GitHub URL

https://github.com/VIJAYAYERUVA/BestBuddy

XI. YouTube Project Video URL

https://youtu.be/0yXDtgZ24Qs

XII. References

https://docs.google.com/spreadsheets/d/1AQ5K6UB367-0U7MKoRJzoUh2KAxbwU8eqLids-JxlmU/edit?ts=587ee37d#gid=1193902958