

# Advance Software Engineering Project Increment-4

Fall 2016



**Submitted By (Team 7):**

Pruthvi Raj Reddy Chukkannagari

Moulika Chadavalavada

Santhosh Kumar Gattu

Bhargav Krishna Velagapudi

## **Table of Contents**

<b>1. Introduction</b>	2
<b>2. Objectives</b>	2
2.1 Overall Goal	2
2.2 Specific Objectives	2
<b>3. Features</b>	2
<b>4. Existing Services/API</b>	3
<b>5. Detail Design of Features (using tools)</b>	3
5.1 Wireframes and Mockups	3
5.2 UML Diagrams	4
5.2.1 Sequence Diagram	4
5.2.2 Architecture Diagram	4
5.2.3 Class Diagram	5
<b>6. Implementation</b>	6
<b>7. Testing</b>	18
<b>8. Deployment</b>	19
<b>9. Project Management</b>	19
9.1 Project Timelines, Members, Task Responsibility	19
9.1.1 Work Completed	19
9.1.2 Work to be Completed	Error! Bookmark not defined.
9.2 Issues/Concerns	22
<b>10. Bibliography</b>	22

## 1. Introduction

### IM WORD

IM Word is a learning and entertaining hybrid application. It can be used for all ranges and ages of people. It works on Android, iOS and web. Basically it is a word building application using which users can learn new words and images

Both adults and kids can access the application. Every user has to create an account by providing some basic information. Once the user creates an account he/she can login directly to the application. If the user already has an account, he can directly login into the application. User can login using Facebook/ Google. Application consists of various features like Playing with the words, Logo identification (company/ domain), Celebrity identification. For kids the application helps to learn basic things like vegetables, fruits and simultaneously learning the words with the help of displayed images. Adults can learn difficult words using the images and works as absolute stress reliever. Also, the application has 3 different levels easy, medium and difficult. In each level the level of complexity. All the users' status is tracked in the database. All the features of the application are being integrated using various Rest APIs with interactive UI.

## 2. Objectives

### 2.1 Overall Goal

The main motive of building the application is to educate kids with useful things and help adults learn complex words simultaneously helping them to reduce their stress.

### 2.2 Specific Objectives

The objective of the application is to provide an interactive gaming application which can help to increase user's vocabulary using images.

## 3. Features

The main features of this application involve in vocabulary building and logo identification.

**Vocabulary building:** Using this feature user can learn new words. After the user logs into the application, he/she will be displayed with a series of images and asked to guess the word based on the displayed image. If the user correctly identifies the word, then a new image will be displayed. Once user completes guessing correctly a set of images the level of the user will be increased. In the new level the complexity of the images increases and user has to guess the complex word. This continues till 3 levels. Using this feature kids can learn basic words and can identify vegetables, fruits which are very easy for adults.

**Words pronunciation:** This feature helps the user to learn the pronunciation of the words. Once the user correctly guesses the word and if he/she clicks on a button the application will read the word's pronunciation correctly. User can listen to the pronunciation any number of times.

**Logo Identification:** This feature helps the user to identify the logos of different companies and domains. Series of logos are displayed and the user has to identify the logo correctly. This helps the user as an entertainment and exciting event.

## 4. Existing Services/API

For this increment, we implemented Full Contact API, Cordova OAuth, Firebase cloud services, Clear bit company logo API, Vision API, IBM Watson Analytics API, Google chart API.

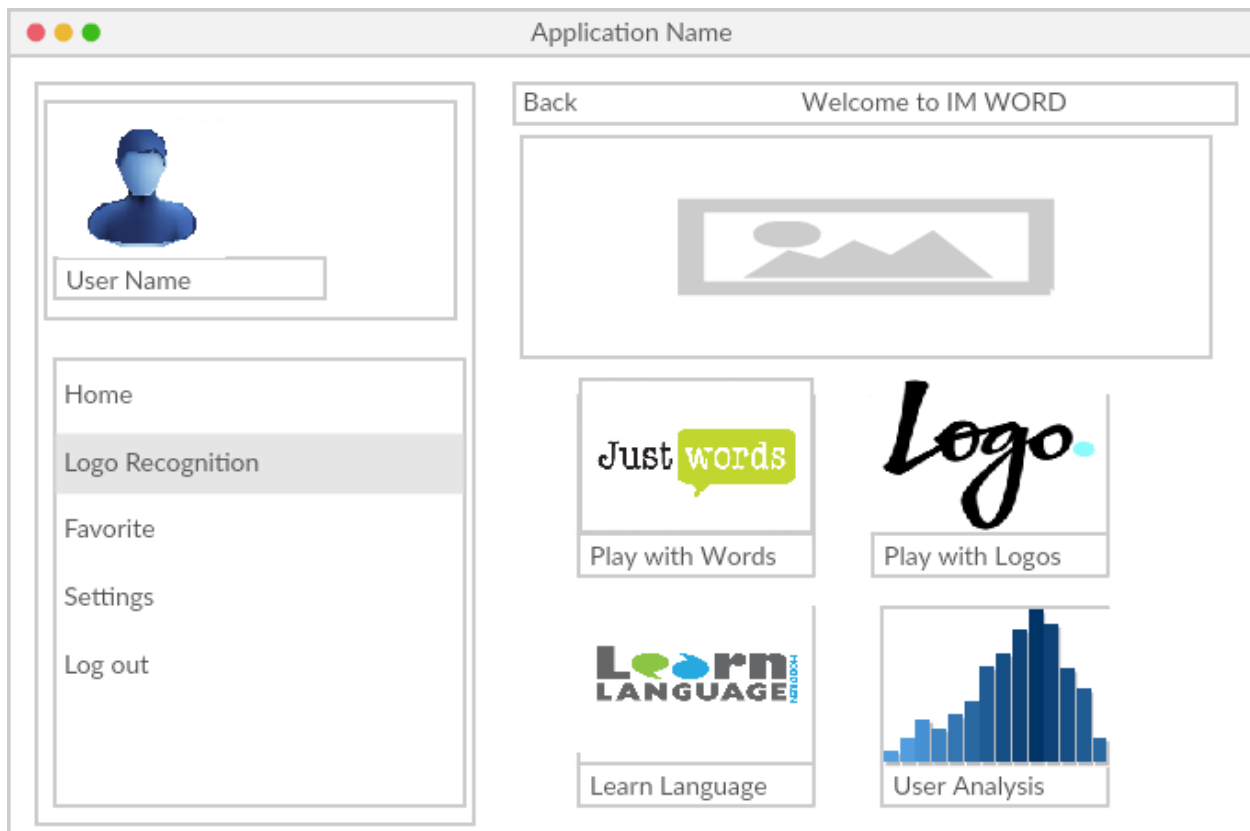
Software's/Tools Used: WebStorm, Node JS, HTML, CSS, AngularJS

Web Server/Database: Amazon AWS, Firebase

## 5. Detail Design of Features (using tools)

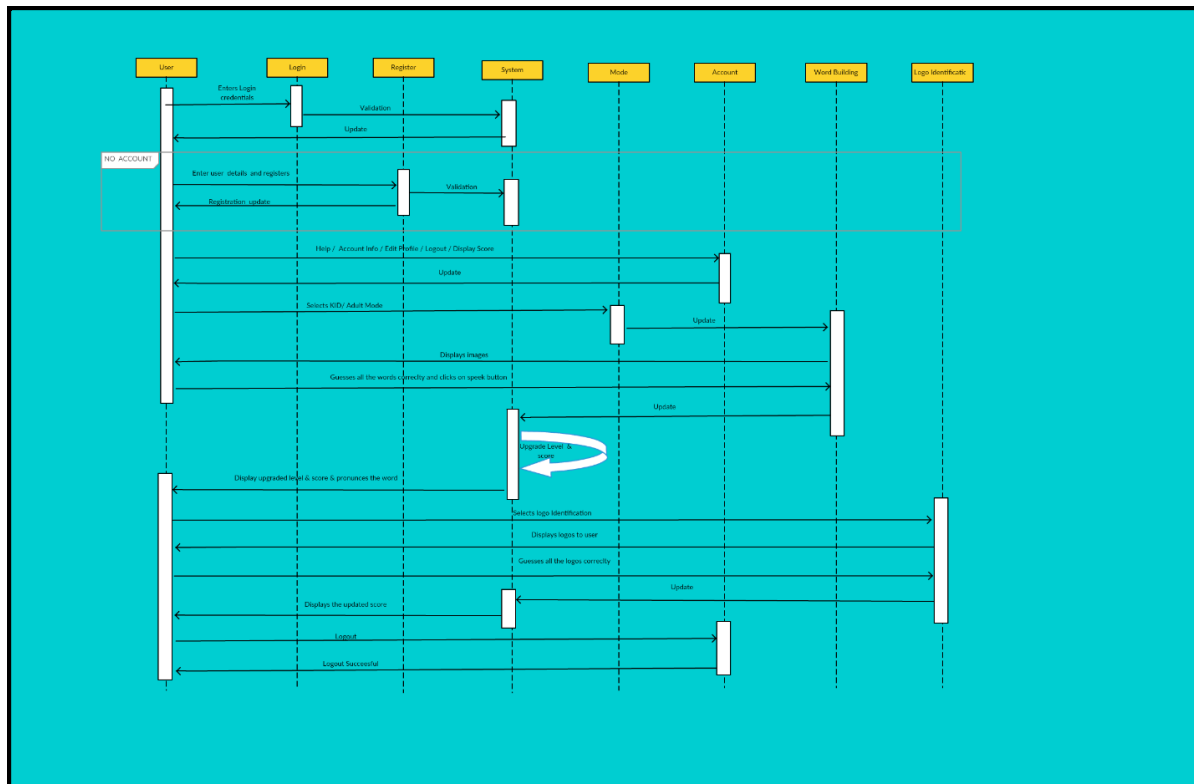
### 5.1 Wireframes and Mockups

#### Wireframes for Home page:

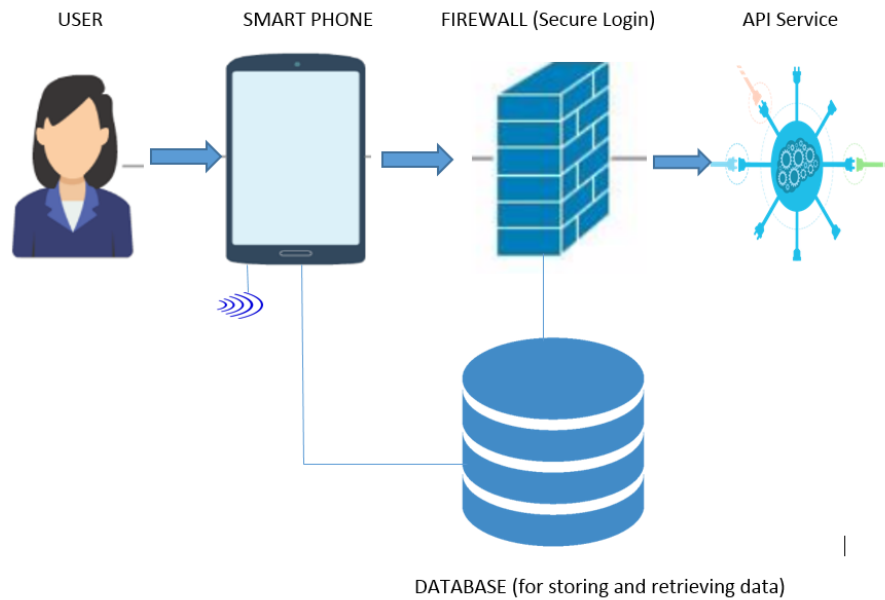


## 5.2 UML Diagrams

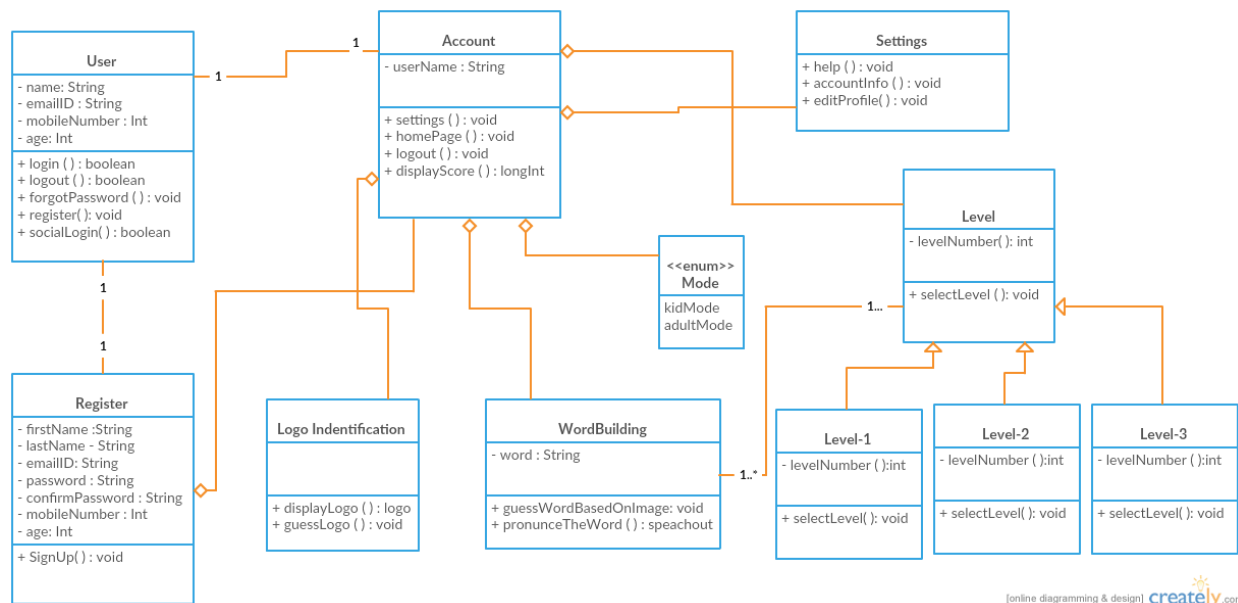
### 5.2.1 Sequence Diagram



### 5.2.2 Architecture Diagram



### 5.2.3 Class Diagram



## 6. Implementation

### Increment 1:

[https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment\\_1/Documentation/ASProjectPlanIncrement-1.pdf](https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment_1/Documentation/ASProjectPlanIncrement-1.pdf)

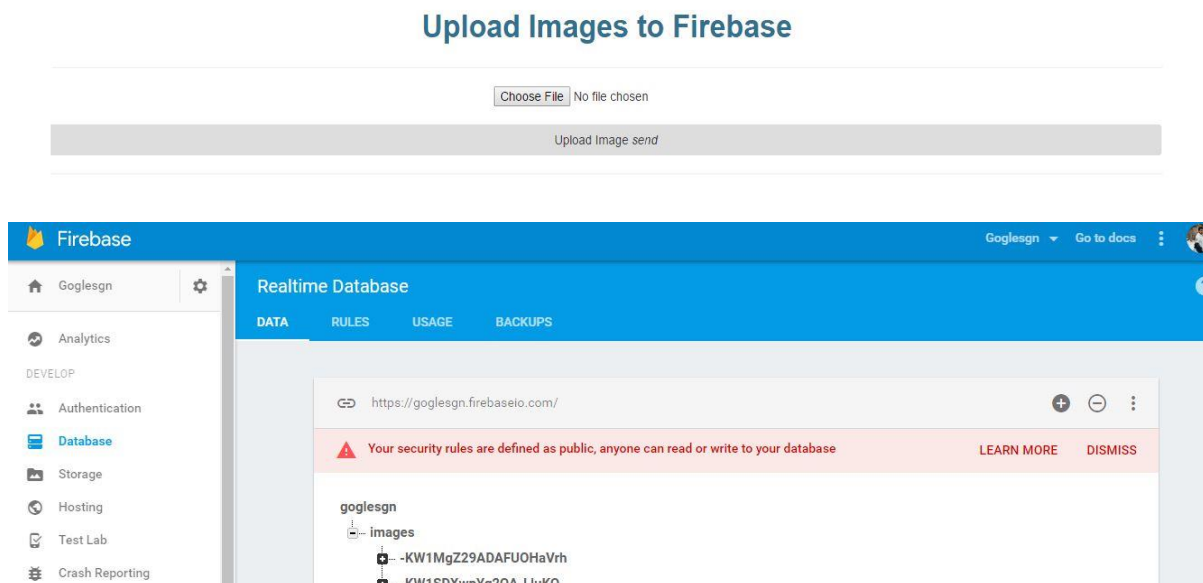
### Increment 2:

[https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment\\_2/Documentation/ASProjectIncrement2.pdf](https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment_2/Documentation/ASProjectIncrement2.pdf)

### Increment 3:

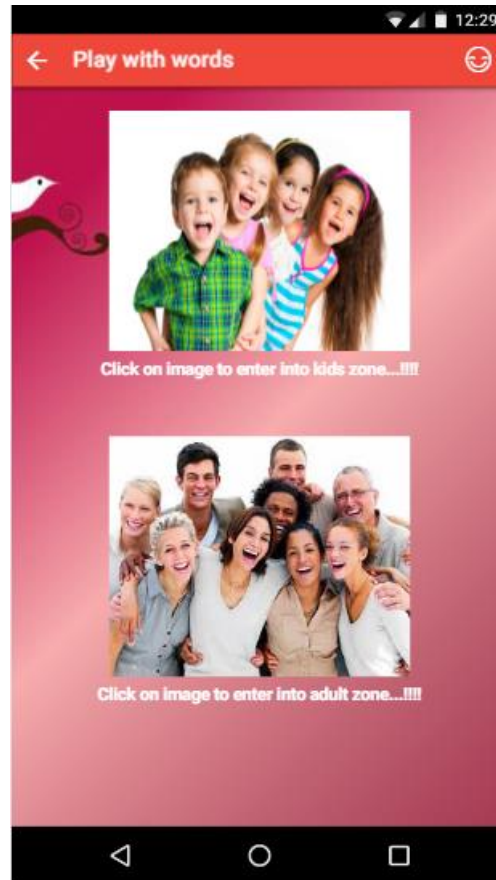
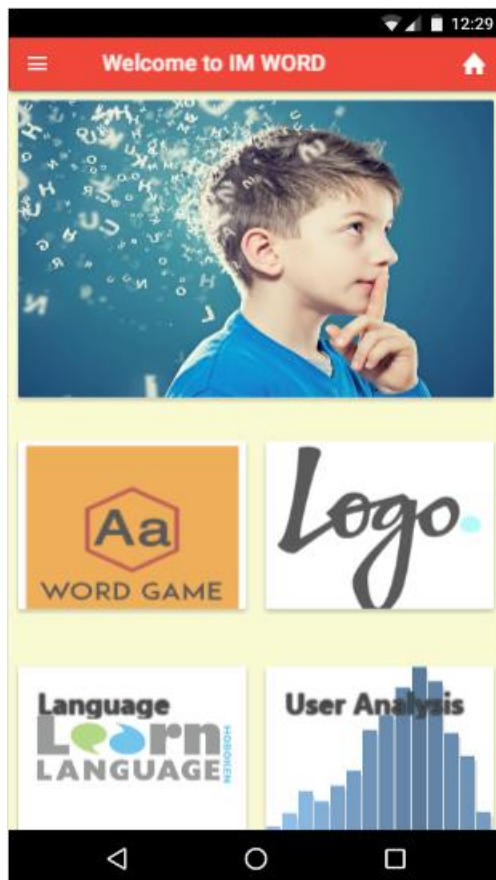
[https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment\\_3/Documentation/ASProjectPlanIncrement-3.pdf](https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment_3/Documentation/ASProjectPlanIncrement-3.pdf)

All the required images are uploaded using Firebase and stored appropriately. Below image shows this.



**Home page:**

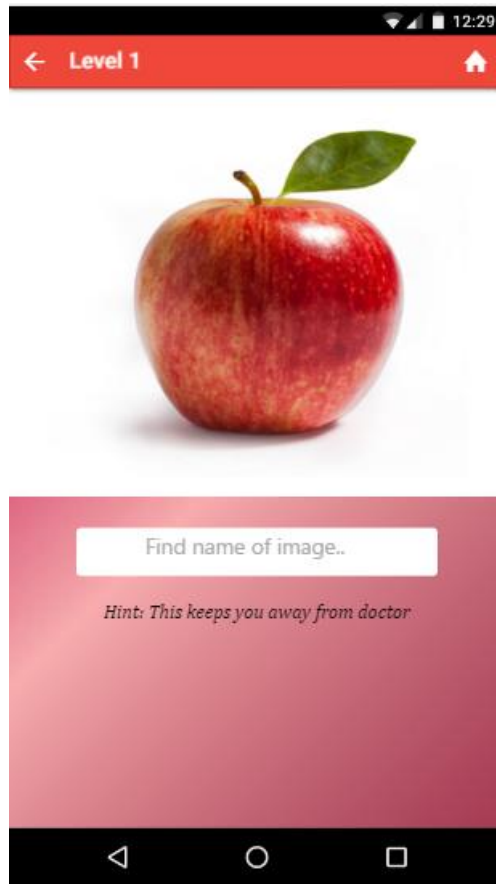
Below is the home page. It consists of different features like Play with the words, Learn language, Logo recognition and User analytics. If user clicks on any of the feature, the application will redirect to the next page with asks him/her to select from Kid zone and Adult zone.



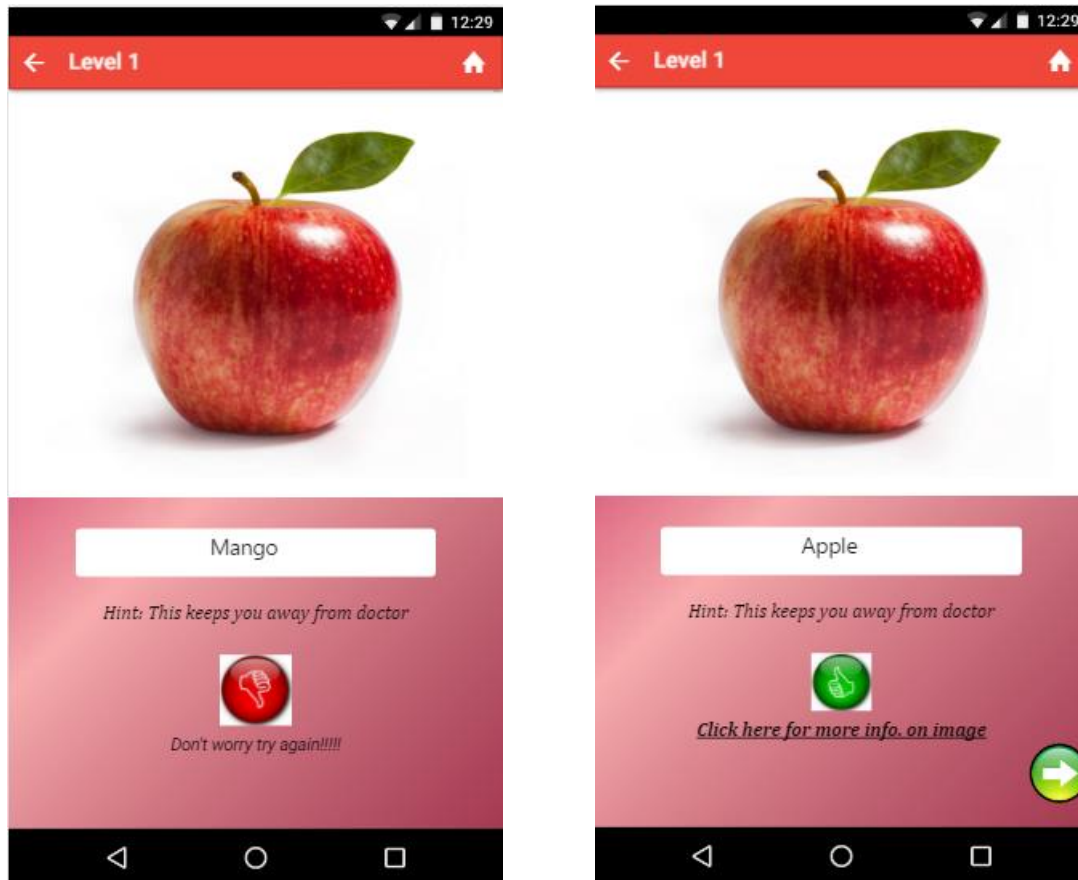


**WORD GAME:**

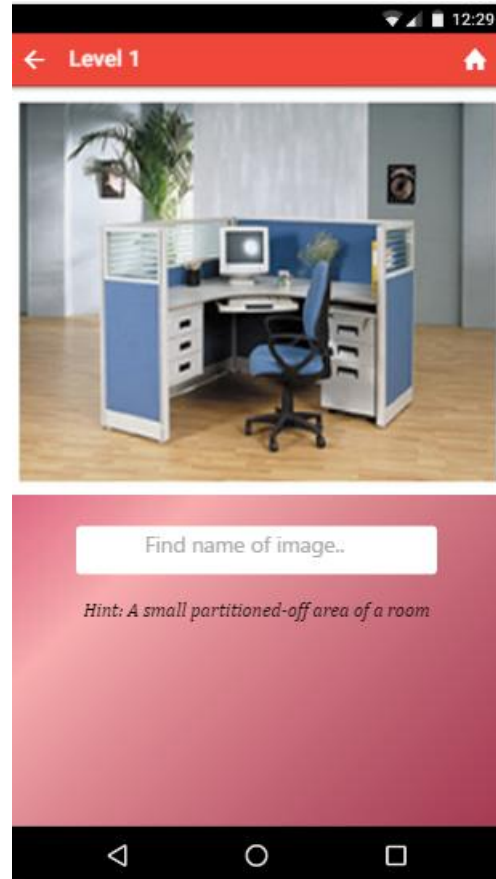
Once the user selects the playing zone the user will be directed to levels page. Below is the image displaying different levels of the application. When clicked on level1 the next page redirects where series of images are displayed. Here the user has to guess the word correctly using the given hint ("Apple") when the user selects kids zone in this case.



If the user correctly guesses the word, he/she gets a link using which the user can additional information about the image with a up thumb icon means correct. If the guess is wrong, down thumb icon is displayed and th user can try the attempt once again.

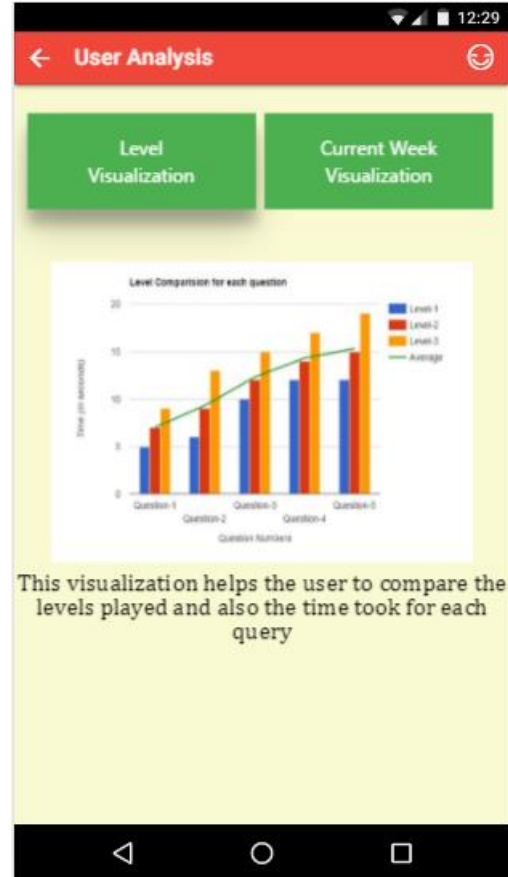
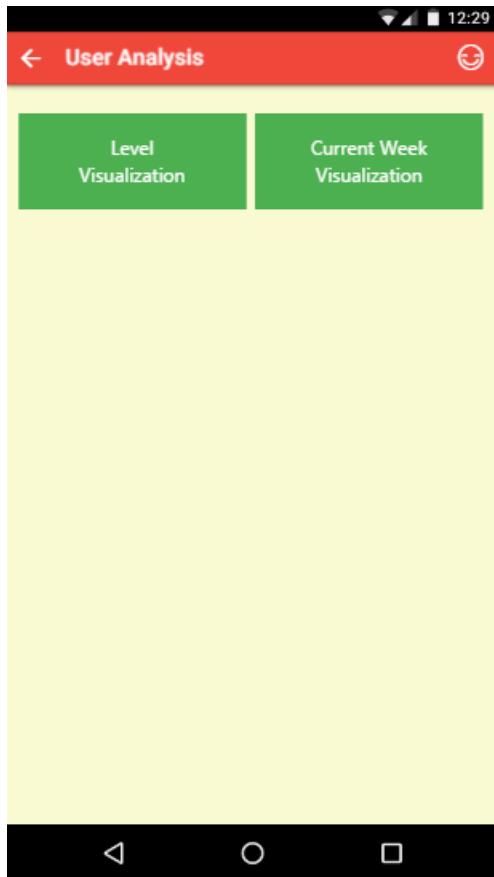


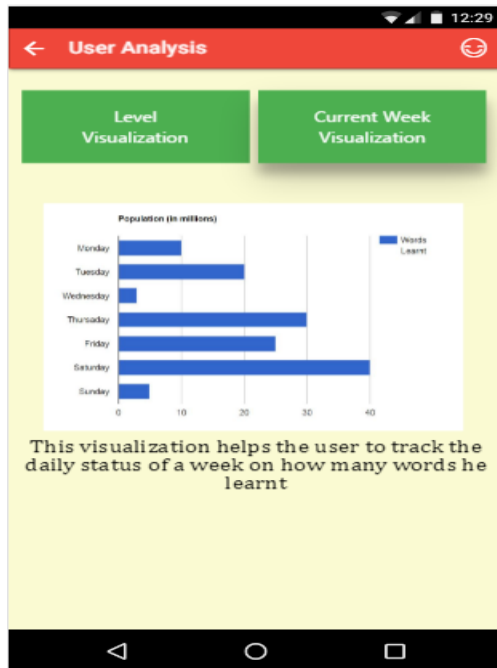
Below are the series of images displayed as part of word building.



**USERANALYTICS:**

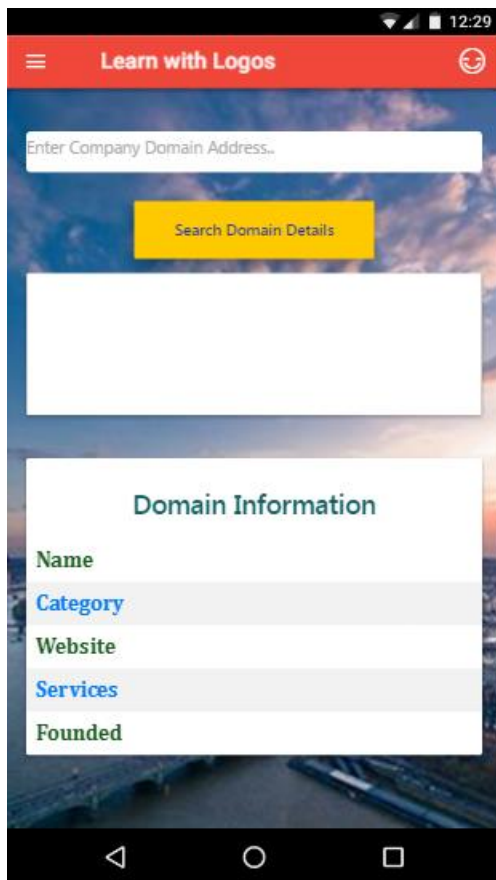
The user can view his/her working statistics using 'Level Visualization' and "Current week Visualization'.





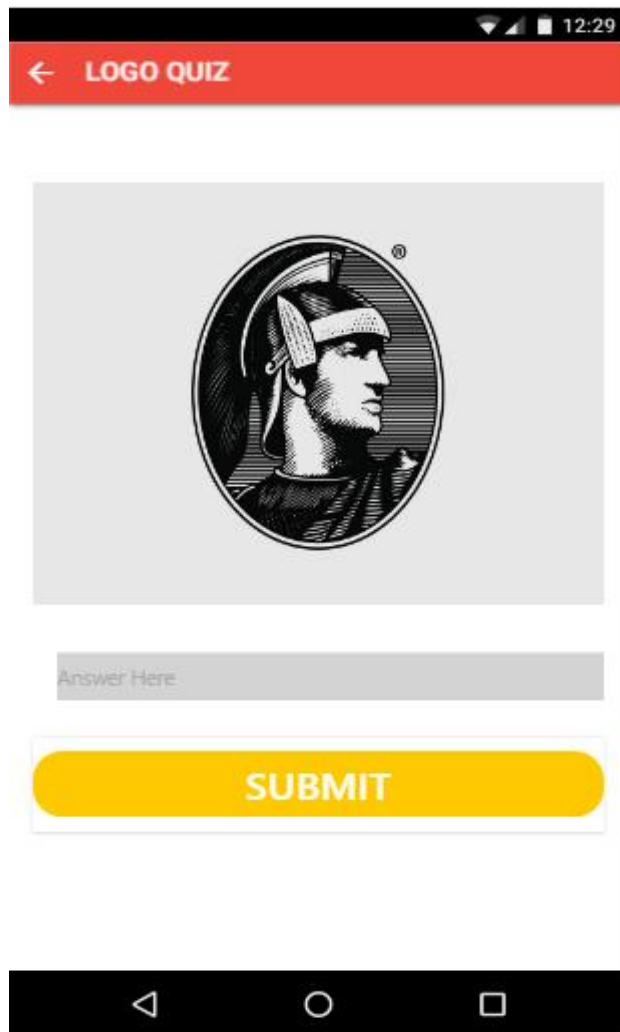
**Learn with Logos:**

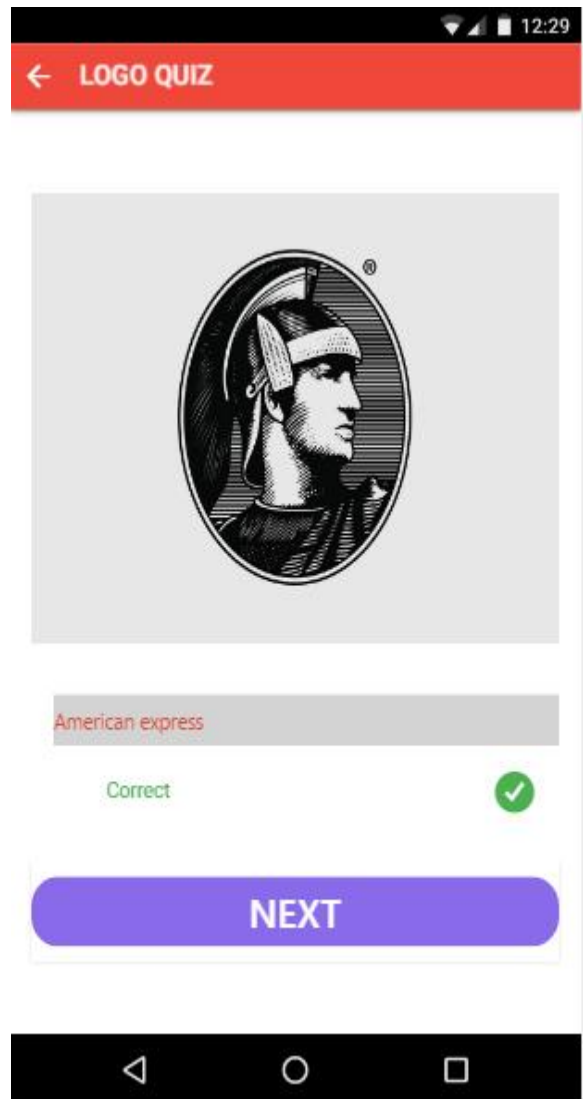
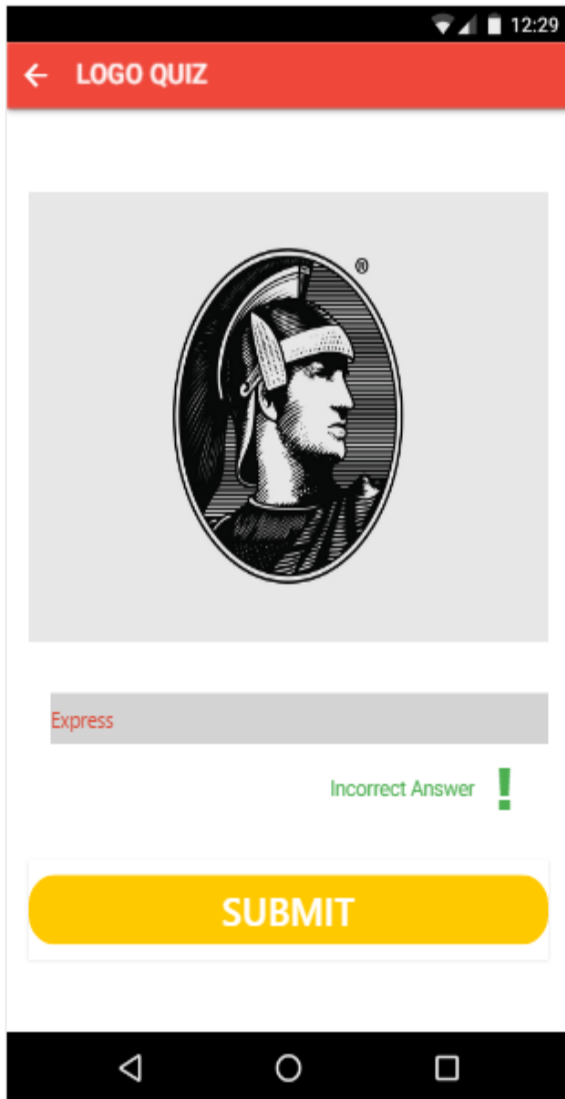
This option is found in the left navigation tab. User can learn with the logos also. After the user clicks on 'Logo' option he/she will be re-directed to the below page where if the user enters any domain/ industry name, the application displays the information regarding the logo name entered.



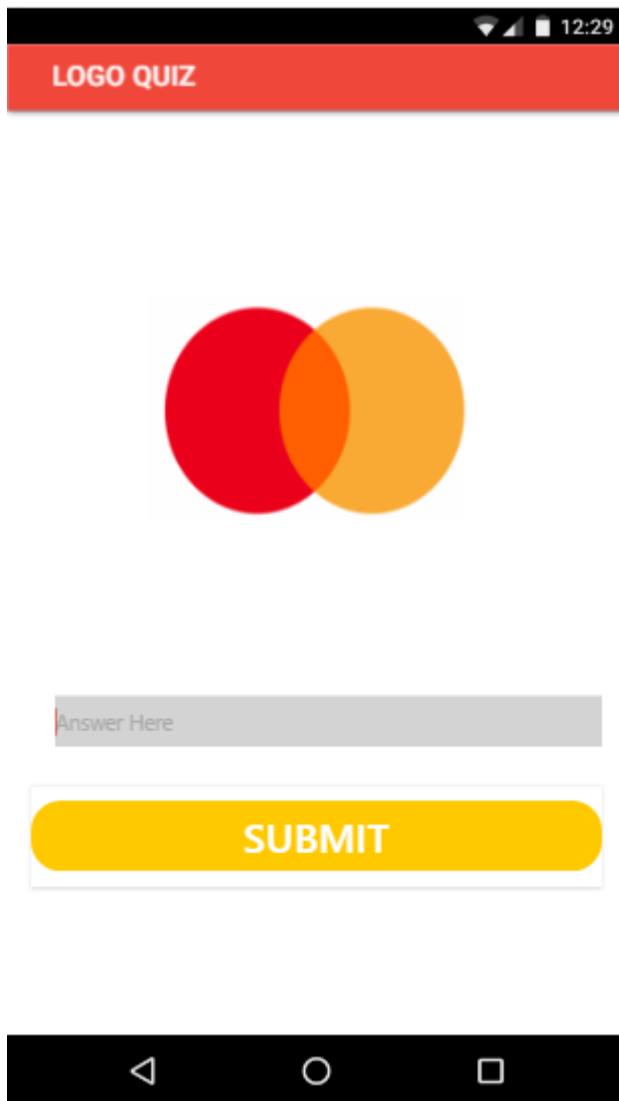
**Logo Quiz:**

User can play with the logos also. After the user selects Play with logos option he/she will be directed to the LOGO QUIZ page where series of logos are displayed. As shown below the user is displayed with the image and the user has to correctly guess the logo correctly. IF the answer is correct, option will be provided to got the next logo. If the answer is wrong the user can guess the logo again.









We have developed service using which user can chat with the server. Server responds to the user message in different language. Service is being deployed in Amazon web services.

The screenshot shows a REST client interface with a history of requests on the left and a detailed view of a successful GET request on the right. The request URL is `http://sample-env-3.vhnrnx8uz.us-west-2.elasticbeanstalk.com/restexample/translate/hello%20pruthvi`. The response status is 200 OK with a time of 320 ms. The response body is a JSON object:

```

1 {
2   {
3     "Access-Control-Allow-Origin": "*",
4     "Access-Control-Allow-Methods": "GET",
5     "Access-Control-Allow-Headers": "Content-Type"
6   },
7   {
8     "data": {
9       "translations": [
10        {
11          "translatedText": "hallo Pruthvi"
12        }
13      ]
14    }
15  }
16 }

```

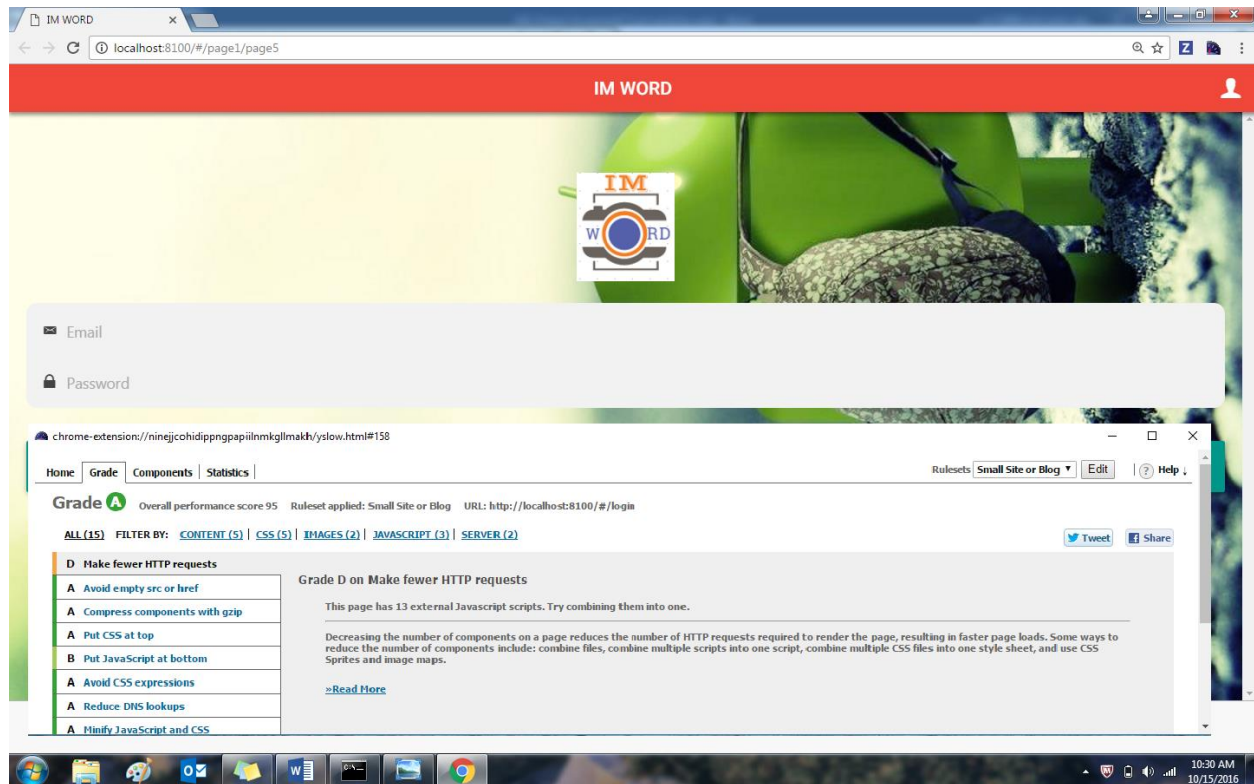
<http://sample-env-3.vhnrnx8uz.us-west-2.elasticbeanstalk.com/restexample/translate/hello%20pruthvi>

The screenshot shows the AWS Management Console for the environment `Sample-env-3`. The interface includes a sidebar with navigation options like Dashboard, Configuration, Logs, Health, Monitoring, Alarms, Managed Updates, Events, and Tags. The main content area displays the Overview of the environment, which is in a **Health Green** state. It shows the **Running Version** as `RESTExample` and provides an **Upload and Deploy** button. The **Configuration** section indicates the environment is running on `64bit Amazon Linux 2016.09 v2.3.1` with `Tomcat 8 Java 8`. A **Recent Events** table shows two successful events:

Time	Type	Details
2016-11-09 15:38:38 UTC-0600	INFO	Environment update completed successfully.
2016-11-09 15:38:38 UTC-0600	INFO	New application version was deployed to running EC2 instances.

## 7. Testing

Using YSLOW we have checked the page performance and ranking.



Test Case No.	Test Case Name	Pre Conditions	Expected Output	Sample Input	Status
1	Login with null values	If user has not entered email id and password	Validation will be thrown to user to enter mandatory details	Email id : null Password: null	Pass
2	Login with invalid email id	If user has entered email id without '@' and '.' symbol	Validation will be thrown to user to enter valid email id	Email id : moulika	Pass
3	Login with credentials that are not in firebase	If user entered email id that is not in Firebase	Validation will be thrown to user to enter valid email id	Email id : mm@gmail.com Password: mmmmmmm	Pass
4	Valid credential in Login page	If user has entered valid email id and password that is there in firebase	Successfully redirected to home page	Email id : mouli@gmail.com Password: moulika1992	Pass
5	Registration with null values	If user tries to Sign with null values	Validation will be thrown to user to enter mandatory details	Name : null Email id : null Password: null	Pass
6	Registration with invalid email id	If user has entered email id without '@' and '.' symbol	Validation will be thrown to user to enter valid email id	Email id : moulika	Pass
7	Registration with already registered user	If user entered email id that is already registered in Firebase	Validation will be thrown to select another email id	Email id : moulika.ch@gmail.com (Already registered email)	Pass
8	Registration with all valid details	If user entered all valid details such as Name, Email id, Password	Successfully redirected to login page from where user has to login	Name : Moulika Email id : mouli.c25@gmail.com Password: moulika123456	Pass
9	Displaying images from Firebase	When user successfully logged in	Then in home page the user should be able to start game with image that is loaded from Firebase		Pass

## 8. Deployment

We have deployed the application in mobile and web and the respective implementation screenshots are explained in Implementation section above.

GitHub URL for our project with documentation and source code  
<https://github.com/pruthvi6767/ASEFall16/wiki/Project-Increment-3>

## 9. Project Management

### 9.1 Project Timelines, Members, Task Responsibility

#### 9.1.1 Work Completed

##### Description:

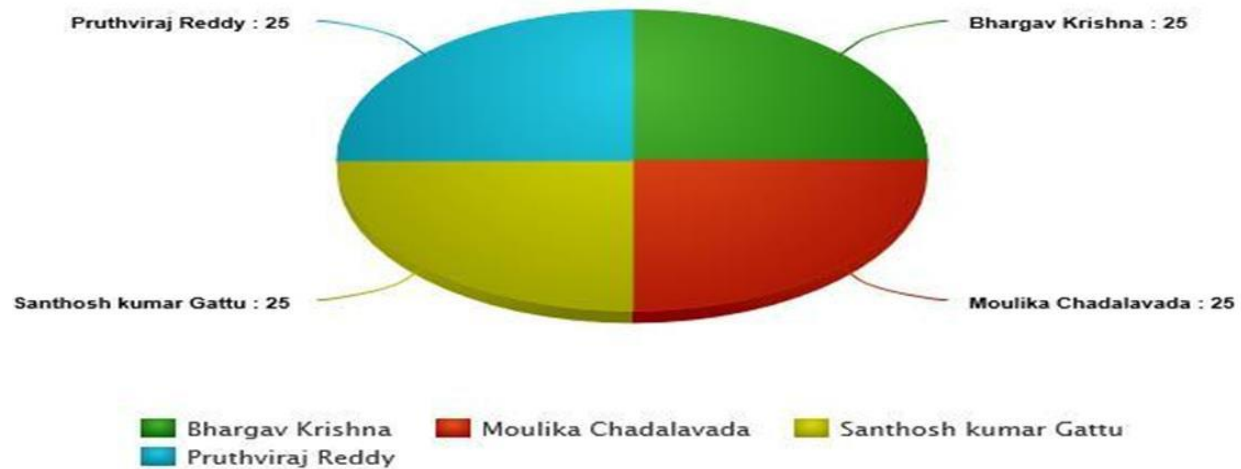
In this increment,

- Logo recognition for company domain names
- Word Building Game: Recognizing what the image is.
- Different Levels for word Building Game where each level contains 5 questions.
- On completion of one level user redirected to next level.
- Word Game is divided into two sections one for kids and other for adults. Based on section difficulty level is increased.
- The another functionality is about logo recognition, where user has to recognize logo with in prescribed time.
- Graphs are generated for user analysis based on levels comparison and week based analysis

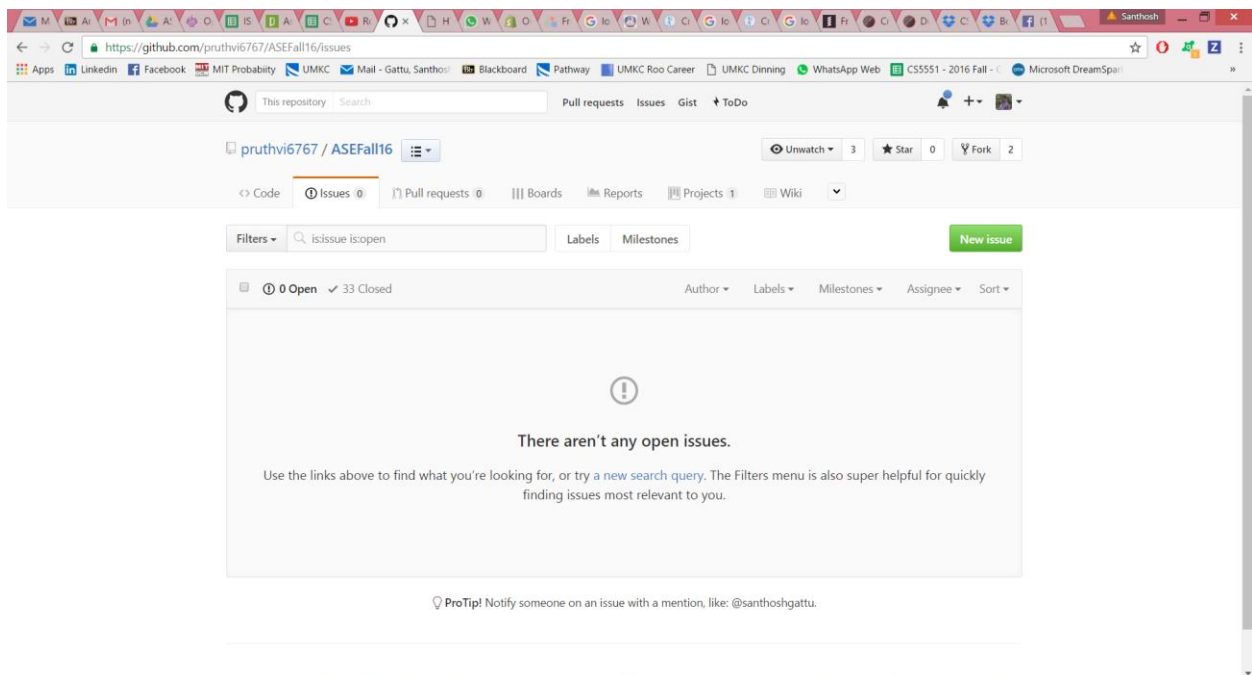
##### Responsibility:

S.NO	Team Member Name	Task Assigned	Status
1	Pruthvi Raj Reddy Chukkanagari	Text to Speech Recognition Comparing with other users	Completed
2	Moulika Chadalavada	Sentiment Analysis for Text Celebrity Image Recognition	Completed
3	Santhosh Kumar Gattu	Gaming Logo UI modifications Get scores for users	Completed
4	Bhargav Krishna Velagapudi	Word Game UI modifications Collecting Images	Completed

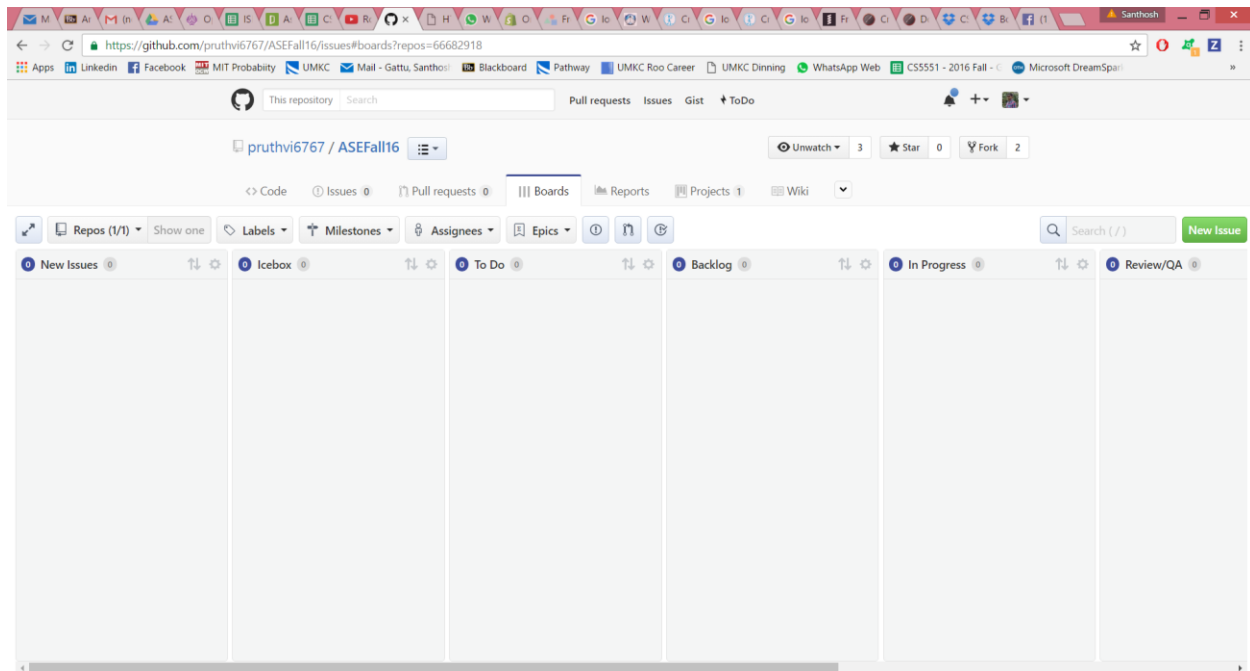
**Time taken:** 65 hours



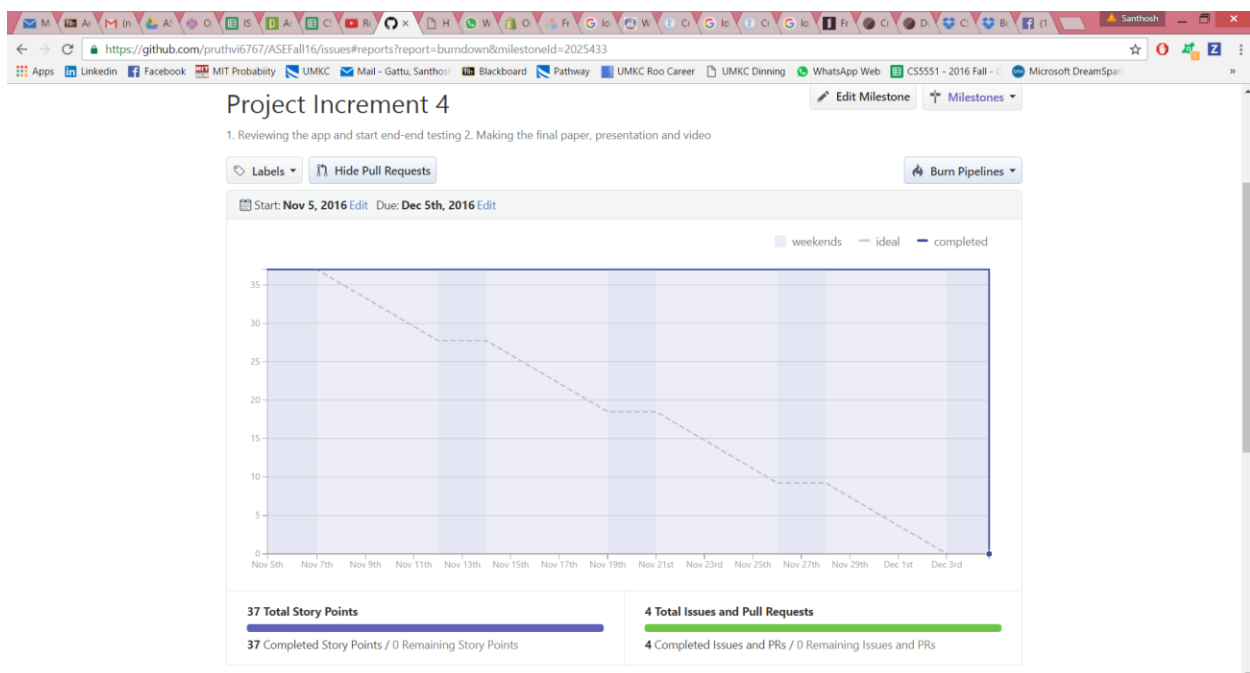
## ZenHub Issues



## ZenHub Board



## Burndown Chart



## 9.2 Issues/Concerns

We have issue in uploading images to Mongo DB and couldn't get the solution even after going to various sources. We have tried in various ways like loading the images using GridFS but were unsuccessful.

Finally found a solution to upload images in Firebase database. We developed a webpage that uploads files from local to Firebase where each image is differentiated using a unique id.

## 10. Bibliography

<http://stackoverflow.com/>

<http://grepicture.wordpress.com/2009/01/22/a-list-1-10/>

<http://ionicframework.com/>

<http://ngcordova.com/docs/plugins/>