ASE

Advance Software Engineering Project Increment-4

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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.

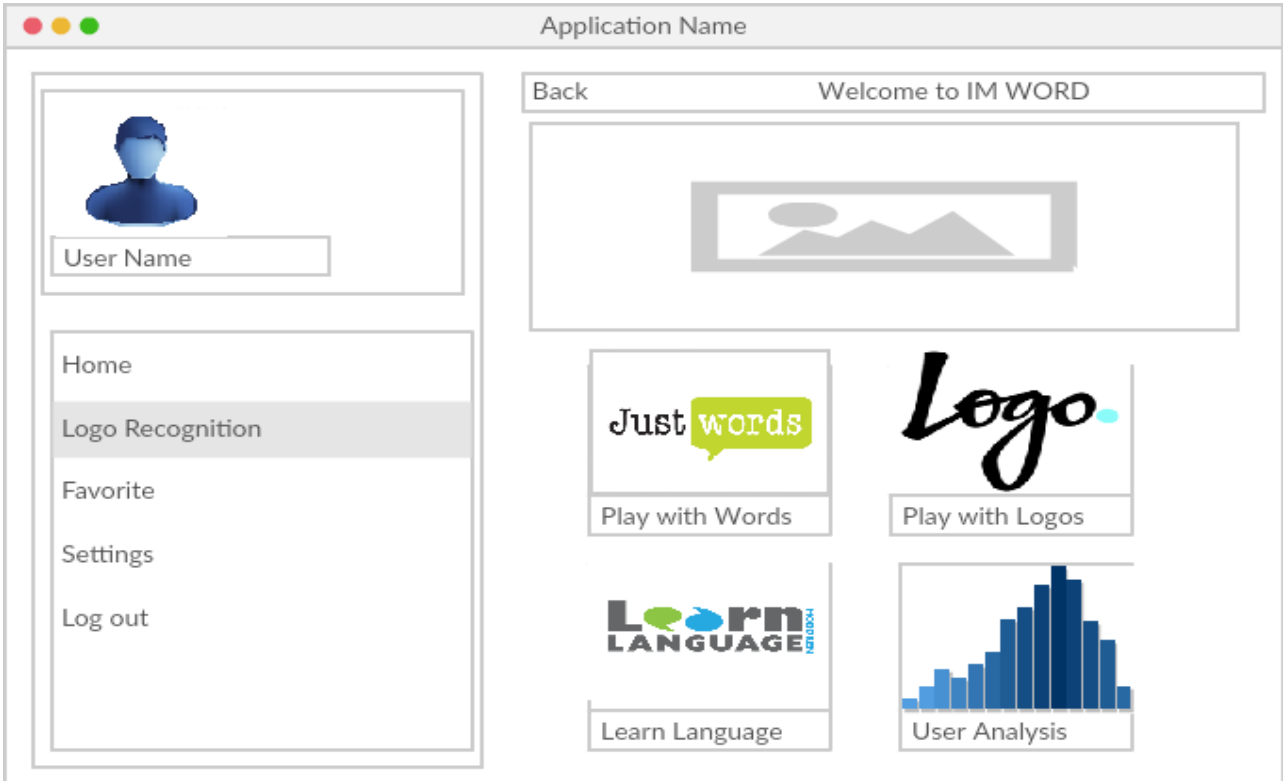
Software's/Tools Used: WebStorm, Node JS, HTML, CSS, AngularJS

Web Server/Database: Amazon AWS, Firebase

5. Detail Design of Features (using tools)

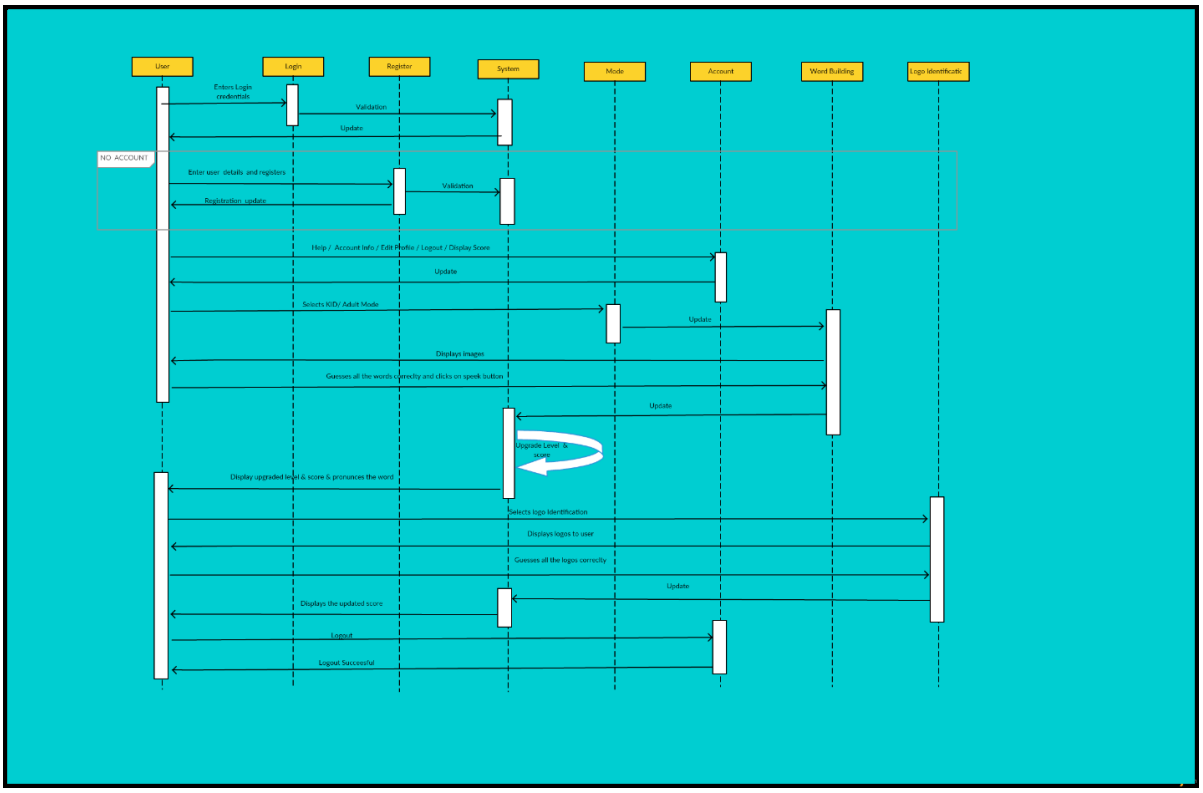
5.1 Wireframes and Mockups

Wireframes for Home page:

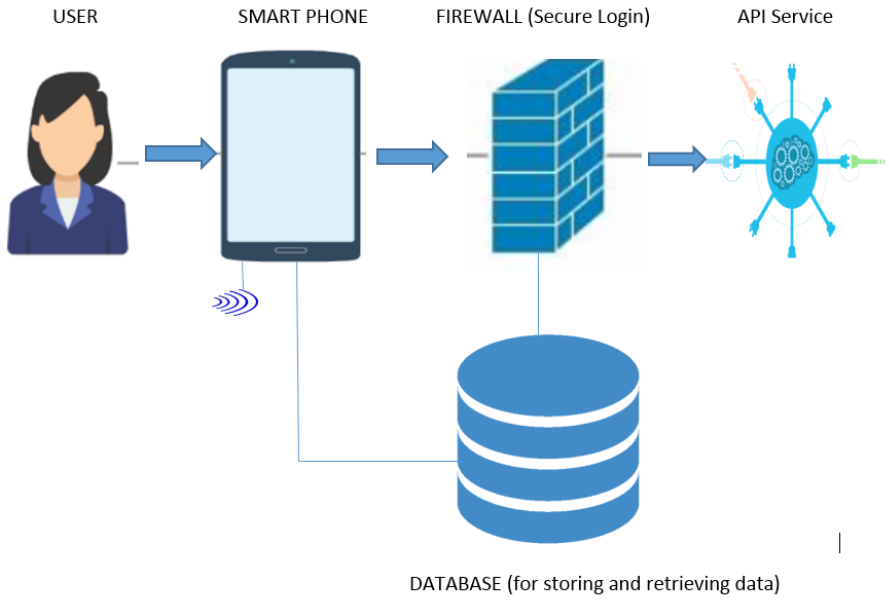


5.2 UML Diagrams

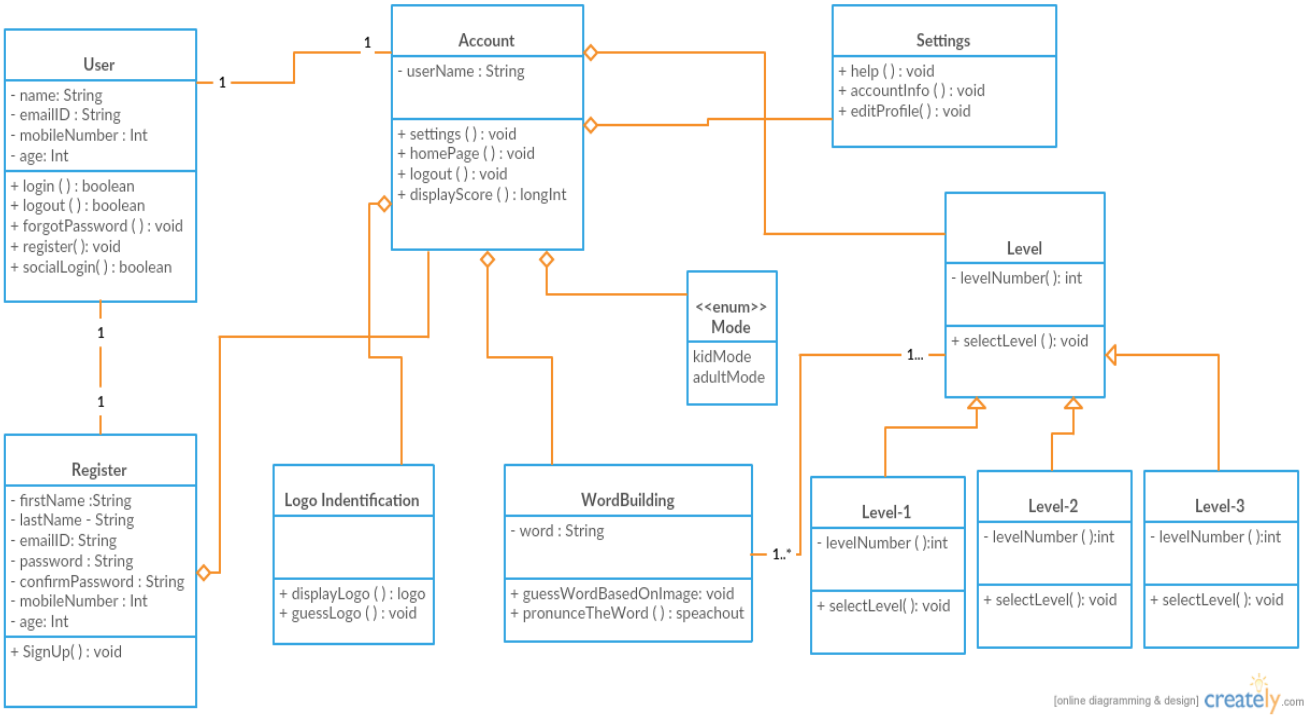
5.2.1 Sequence Diagram



5.2.2 Architecture Diagram



5.2.3 Class Diagram



6. Implementation

In the previous increments the login and registration pages are designed and using Firebase the user credentials are stored. Also, implemented social login using Facebook, Google. In the Setting page user, can update account details.

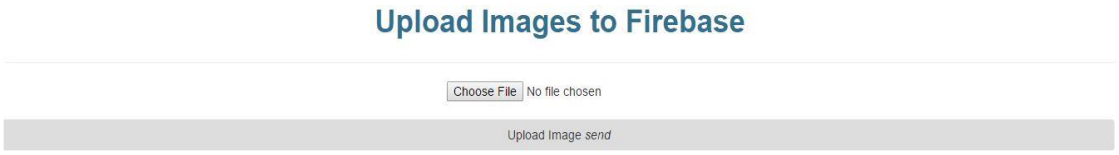
Increment 1:
https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment_1/Documentation/ASEProje_ctPlanIncrement-1.pdf

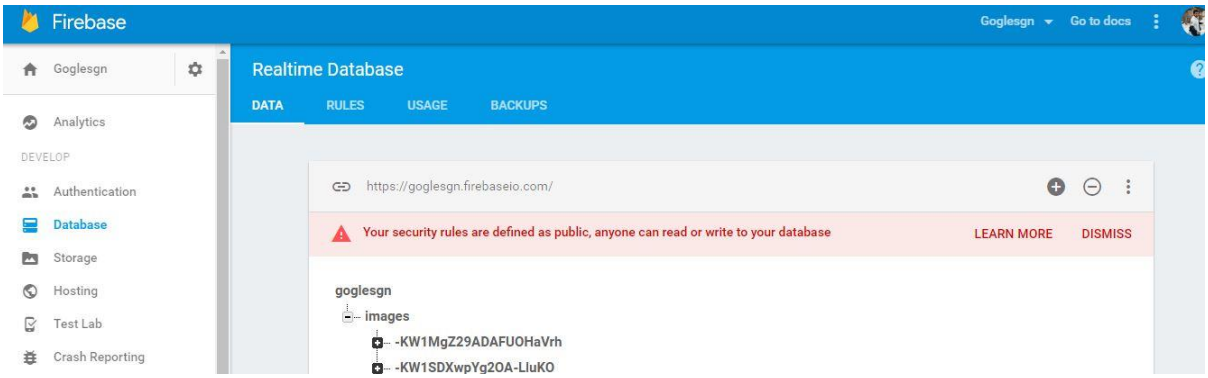
Increment 2:
https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment_2/Documentation/ASE_Proj_ect_Increment2.pdf

Increment 3:
https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment_3/Documentation/ASEProjectPlanIncrement-3.pdf

In this increment, we have designed home page which contains four sections to play with words, play with logos, learn language with words and user analysis. Under each section two zone were divided i.e. Kids Zone and Adult Zone. Further under each zone levels were divided so that user must play per levels. Images are uploaded are stored in Firebase, so that they can be fetched and displayed in Home screen. Under Learn Languages section the user can know the languages with words. Deployed this chat application in Amazon AWS.

Initially the images are collected and are uploaded to firebase from Local using below screen. Uploaded Images ID and data is stored in Firebase.



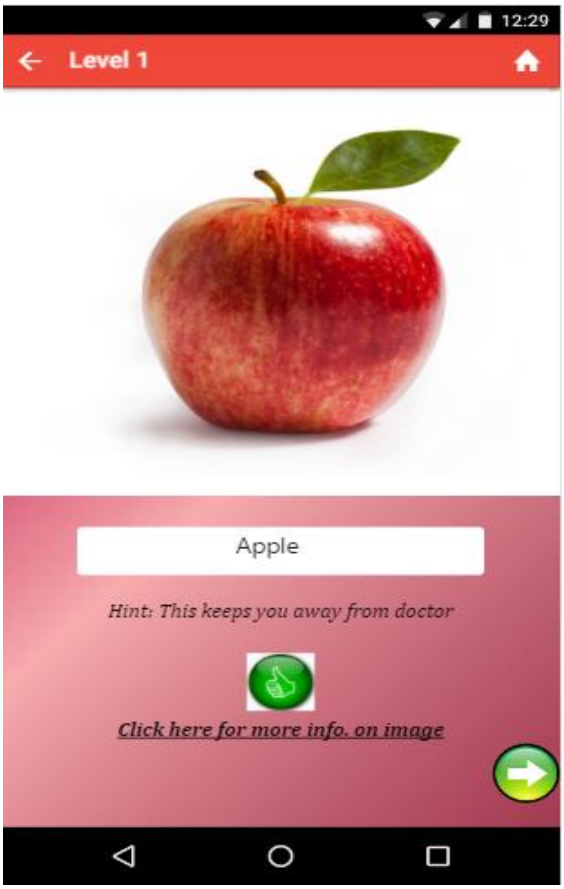


Once the user logs in successfully, the below home page is displayed where user can play with words, logos and Learn Language. If the user clicks on any of the icon another page is redirected where user has two sections Kids Zone and Adult Zone.

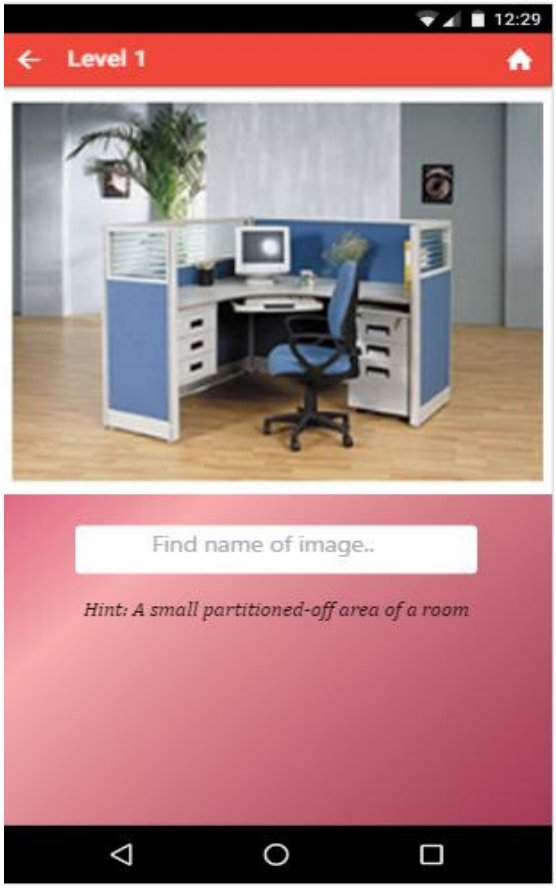
WORD GAME:

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 correcly 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.

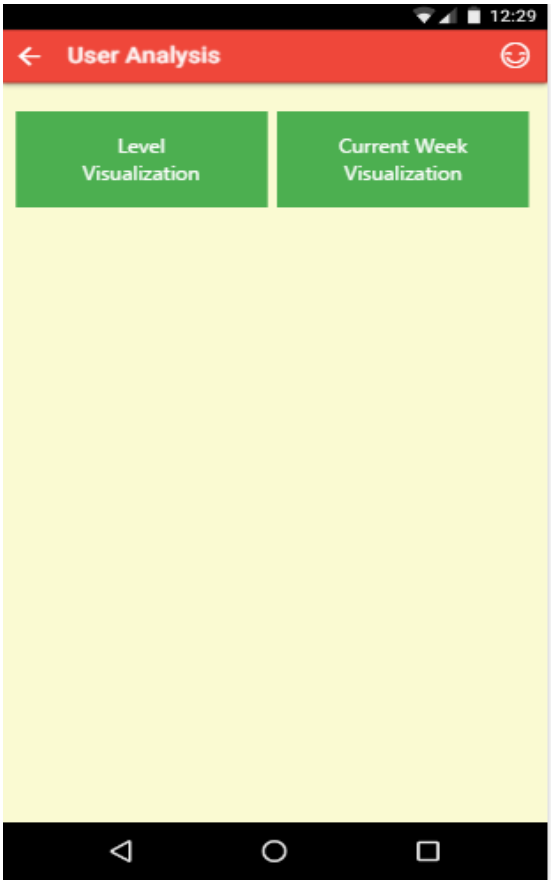


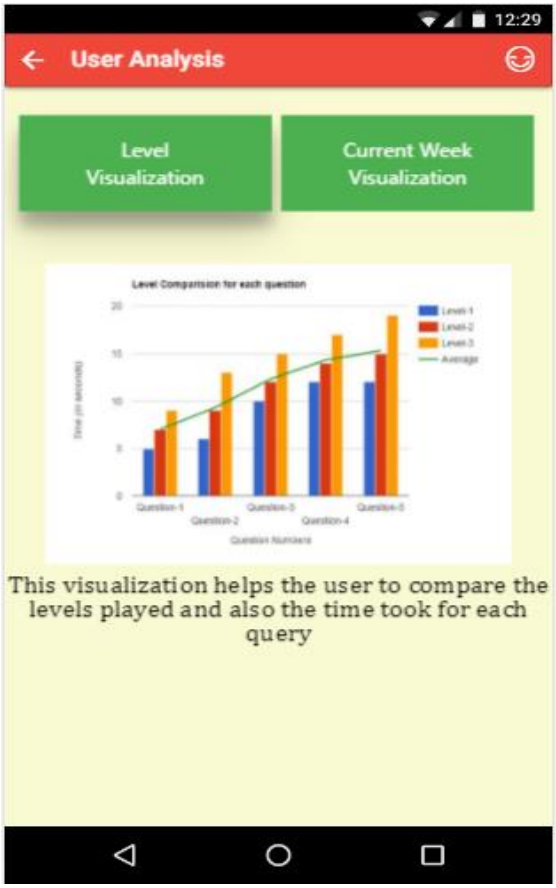
Below are the series of images displayed as part of word building.

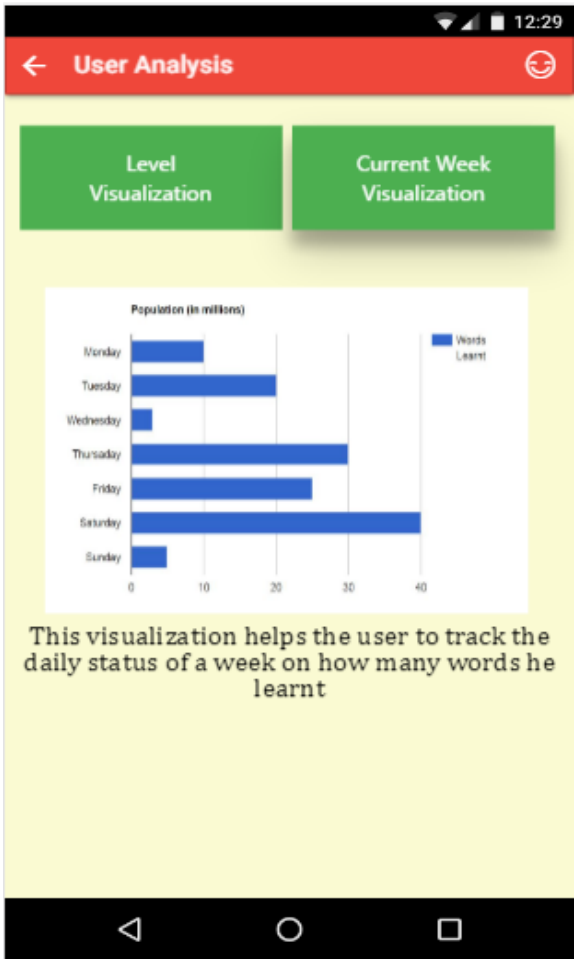


USERANALYTICS:

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

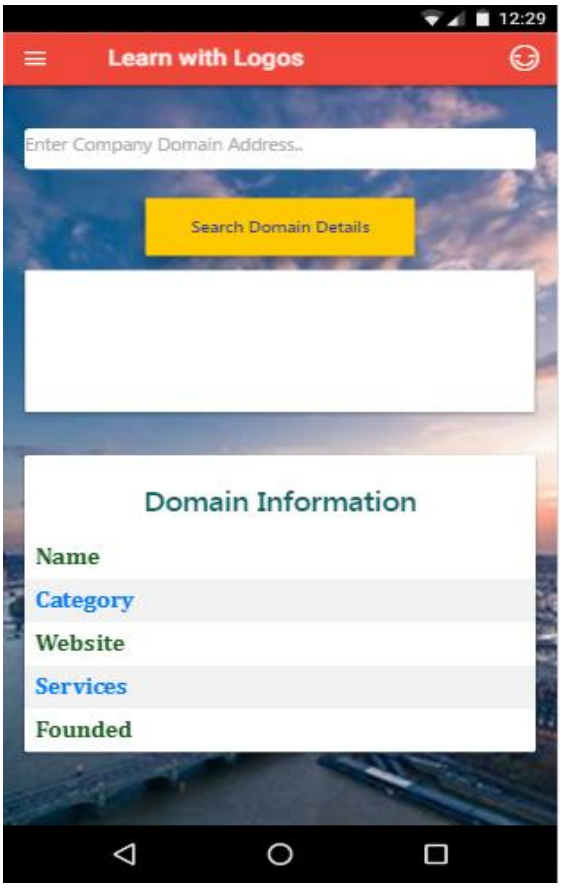






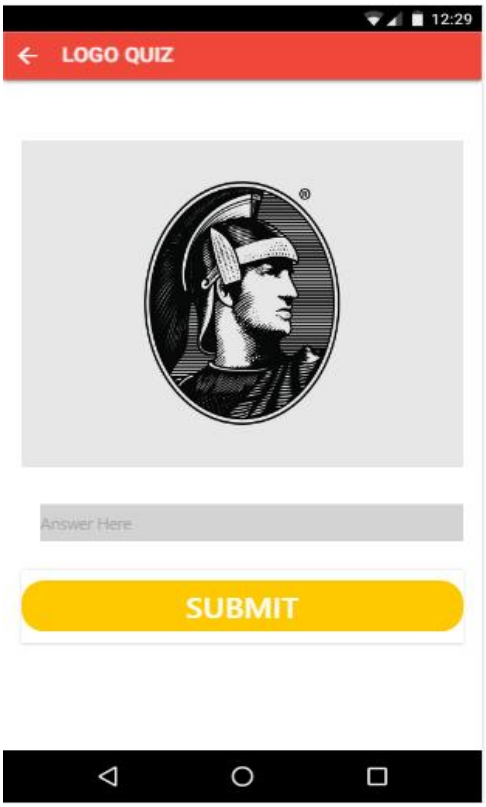
Learn with Logos:

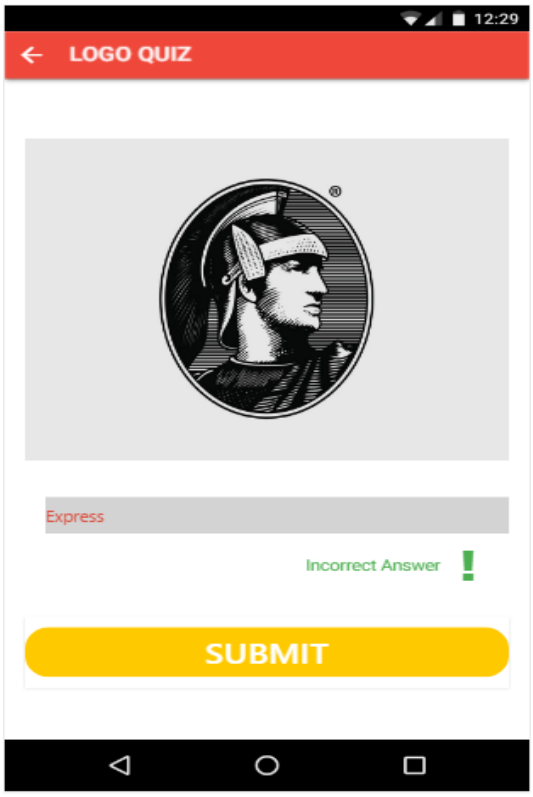
This option is found in the left navigation tab. User can learn with the logos also. After the user clicks on 'Logo' option he/she will be re-directed to the below page where if the user enters any domain/ industry name, the application displays the information regarding the logo name entered.

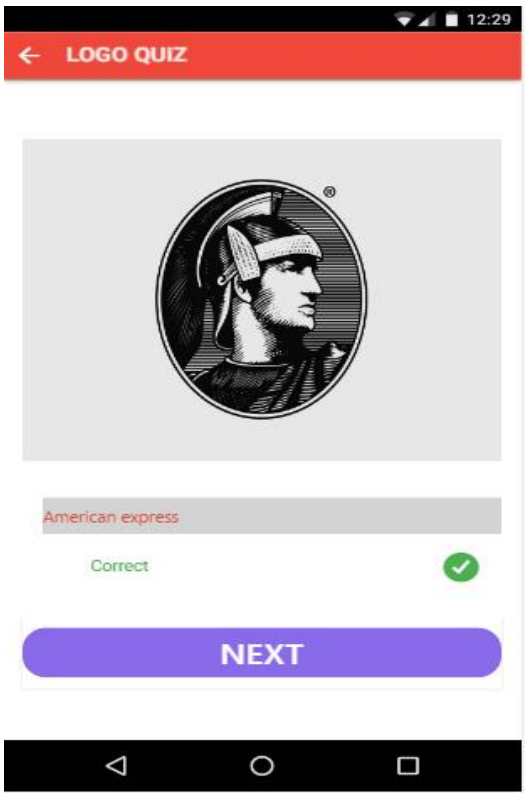


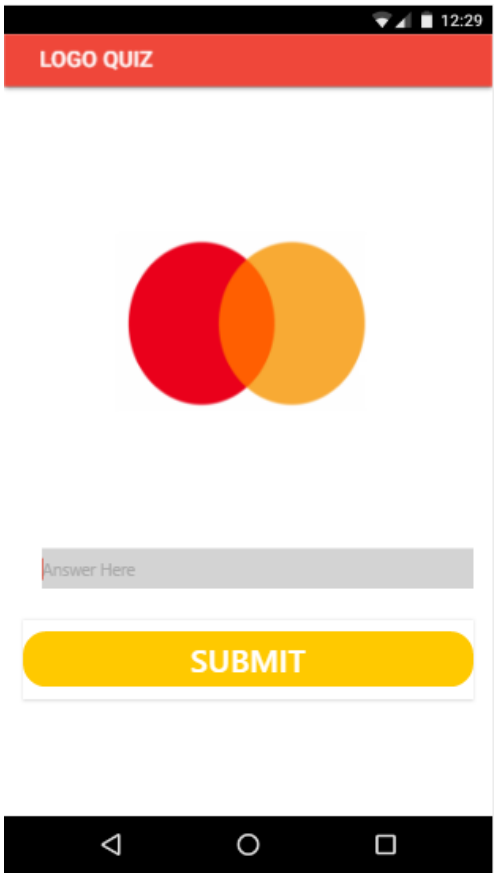
Logo Quiz:

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.

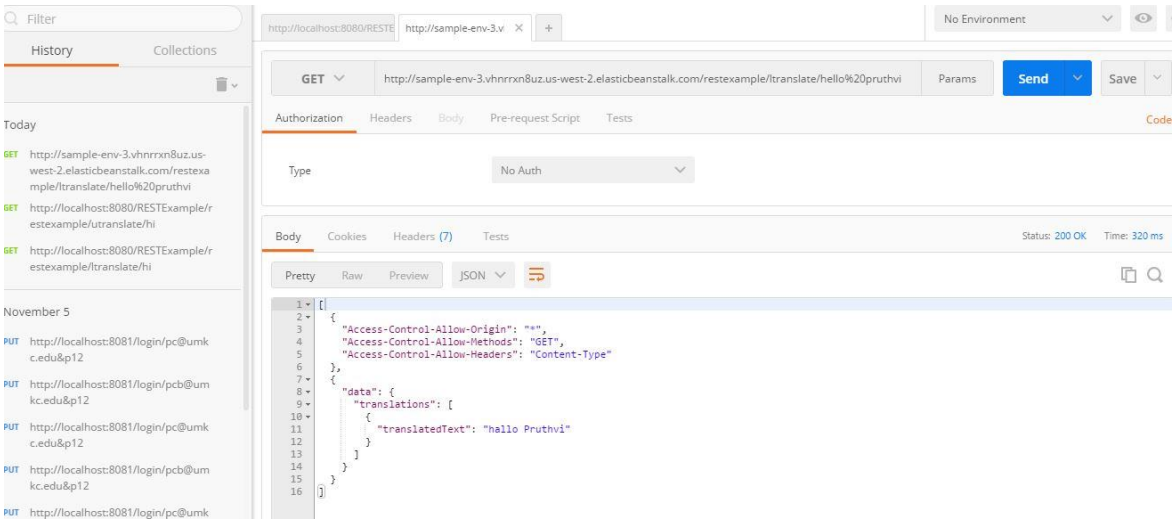

12:29
LOGO QUIZ
Answer Here
SUBMIT


12:29
LOGO QUIZ
Express
Incorrect Answer
SUBMIT

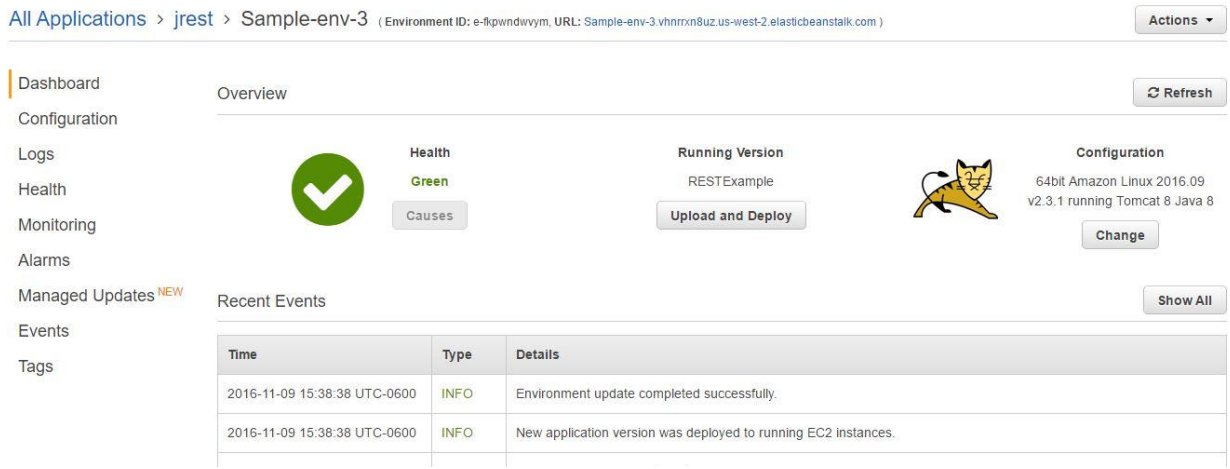

12:29
LOGO QUIZ
American express
Correct
NEXT



Also, developed a service where user can enter message in chat and the response for the same is given to user from server in different languages. This service is deployed in Amazon AWS.

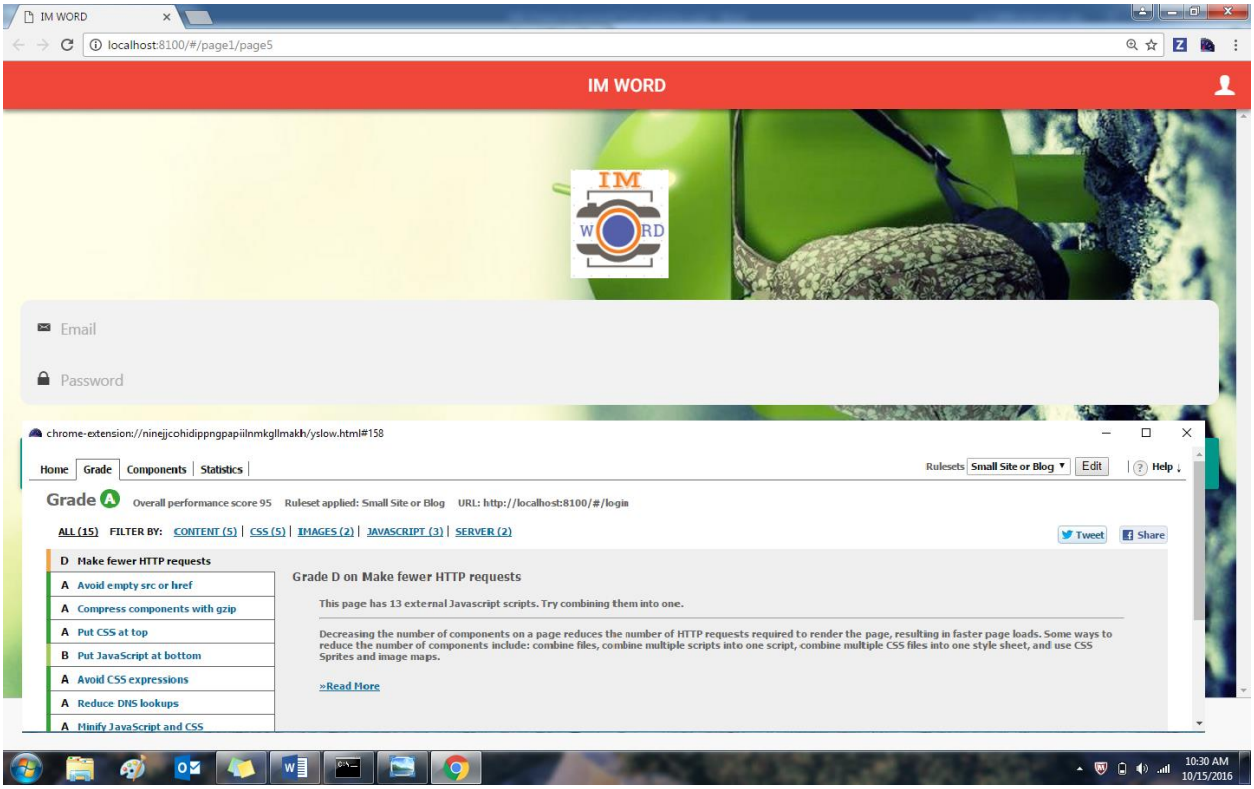


http://sample-env-3.vhnrrxn8uz.us-west-2.elasticbeanstalk.com/restexample/ltranslate/hello%20pruthvi



7. Testing

- Page performance and ranking is checked using YSLOW analyzer



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	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	Registartion 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 captured the screenshots.
- Also, deployed the same in web application.
- We have explained them in detail under Implementation section above.
- GitHub URL for the project documentation and source code https://github.com/pruthvi6767/ASEFall16/blob/master/Project/Increment_4

9. Project Management

9.1 Project Timelines, Members, Task Responsibility

9.1.1 Work Completed

Description:

In this increment,

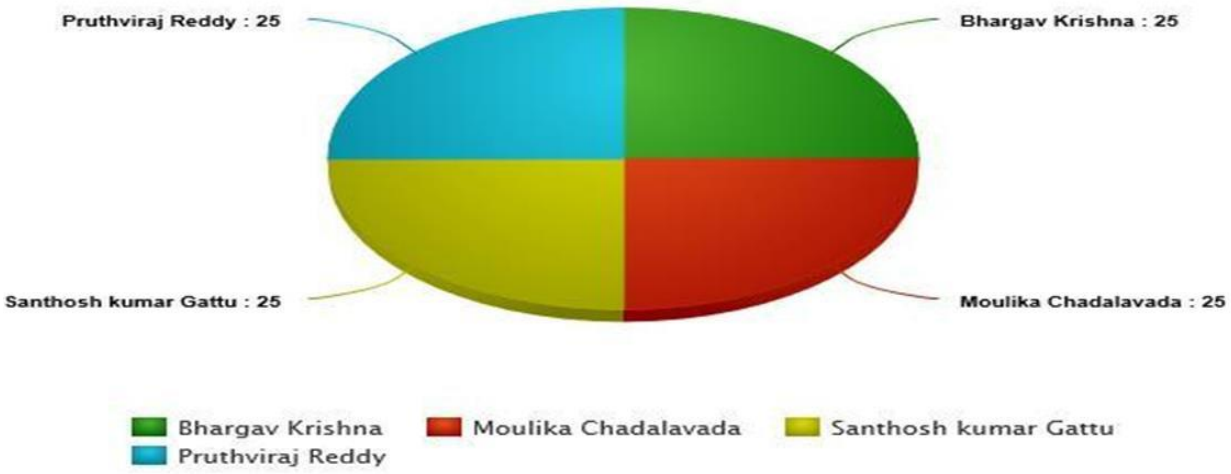
- Logo recognition for company domain names
- Word Building Game: Recognizing what the image is.
- Different Levels for word Building Game where each level contains 5 questions.
- On completion of one level user redirected to next level.
- Word Game is divided into two sections one for kids and other 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

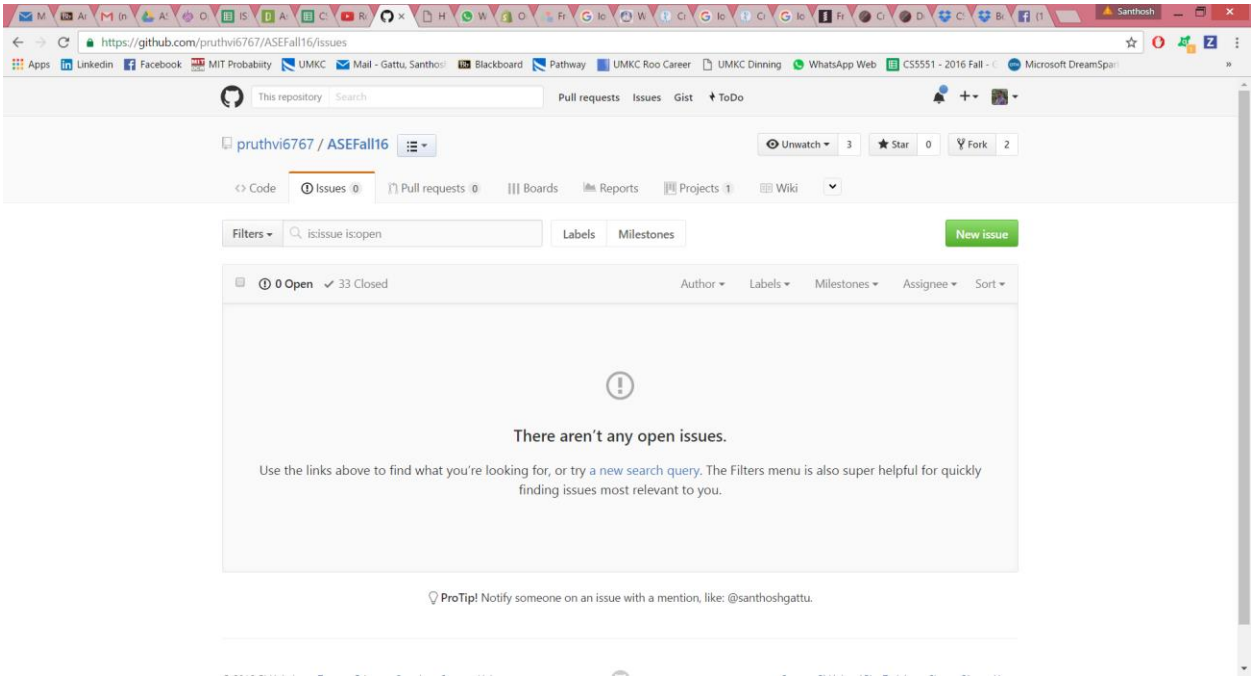
Responsibility:

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

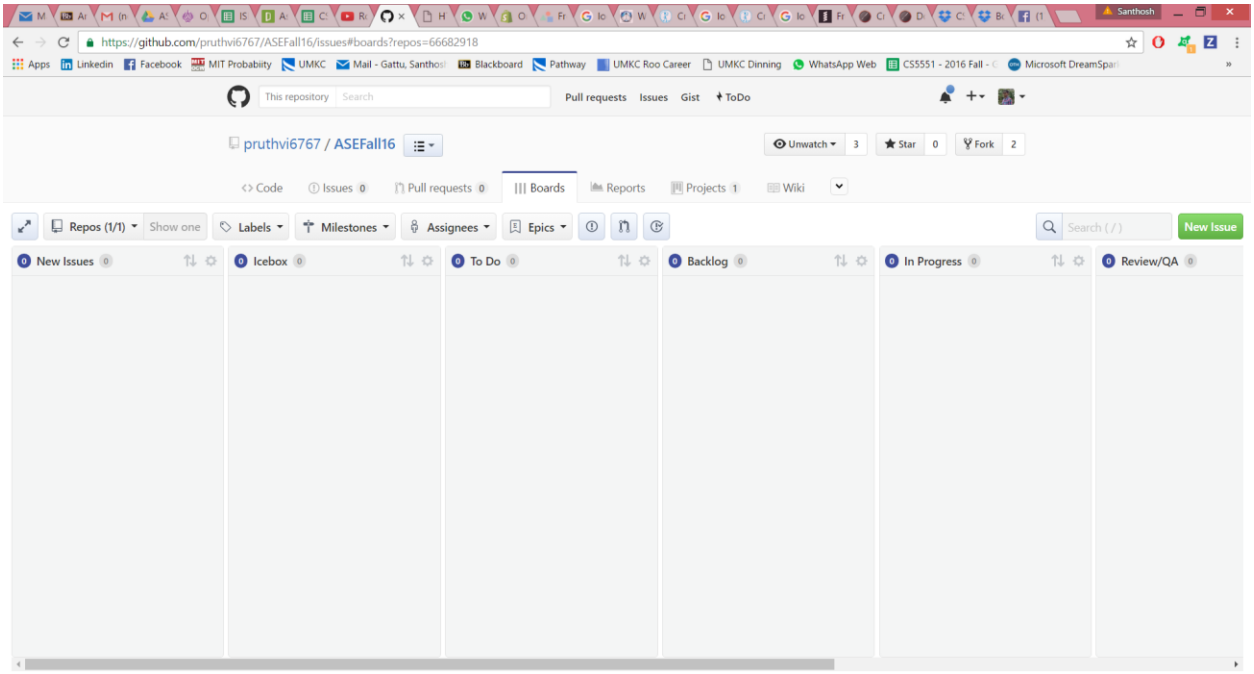
Time taken: 50 hours



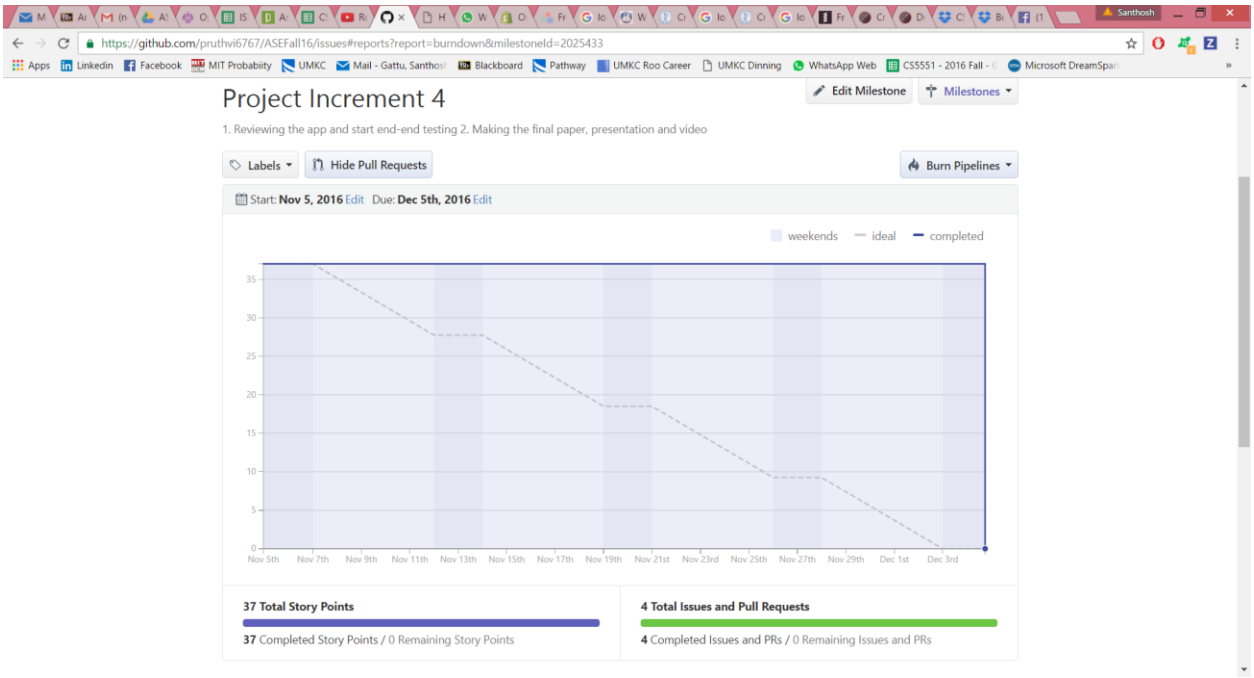
ZenHub Issues



ZenHub Board



Burndown Chart



9.2 Issues/Concerns

Initially faced problem in uploading images to MongoDB after referring to various to sources. Tried to load it using GridFS but it did not work because uploading images in Mongo DB directly is not a better idea without any server such as Amazon AWS.

So, we finally got a way to upload images in Firebase database. We developed a webpage that uploads files from local to Firebase. Each image is differentiated with 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/