EduFun

1.Introduction

The most popular method of learning in current scenario is learning through books, kids always find pictures in books very attractive and probably remember the content in the pages with pictures better than those with none. This is the proof that some kind of visual markers or pictures help remember much more easily. The current generation of kids spend more time on tablets or laptops rather than spend their spare time reading story books or on coloring books. They show much more interest in interactive gaming and fun, hence they remember the story of Frozen or Zootopia rather than remember the chapters in their English textbook.

The Y-Generation of kids have constant access to digital media hence it is easier to teach them through gaming and interactive media than through books. This change from conventional books to non-conventional digital interactive media is a drastic change and will help in revolutionizing the education system in the future.

Taking this into consideration we aim to create a learning platform for school going kids to help them in tasks like counting numbers and understanding simple concepts. The idea is to combine education and gaming, so as to give them a medium to learn and spend their spare time on. One more motivation is to let them explore subjects on their own rather than being spoon fed by teachers or parents. Thus, we came up with this idea to provide kids an interactive platform where they can learn stuff with a dash of fun.

2.Project Goal and Objectives

2.1 Overall Goal:

The goal of EduFun is to mix fun and education together in such a way so as to make the process of learning a fun filled process, hence the name EduFun. EduFun is a platform of educational games on which kids can learn while having fun and playing games, never getting bored in the process of learning. With games like counting objects, balancing and mass estimation, the projects aims at teaching kids various concepts of physics and math making it easy for them to making learning easy. With different concepts applied in various ways EduFun aims at teaching kids to apply the concepts in real life rather than just learn it. For example, let's take the concept of a see-saw which can also be used to teach the concept of fulcrum. Taking this example EduFun tries to integrate difficult concepts into easy examples.

2.2 Specific Objective:

The Specific objective of the project is to teach kids simple math and physics concepts and make it easy for them to learn and apply.

2.3 Specific Features:

2.3.1 Interactive Digital Media

2.3.2 Simple Games to Understand Concepts

2.3.3 Quizzes – Scoring and timed

2.3.4 Scoreboard

2.3.5 Puzzles

2.4 Significance:

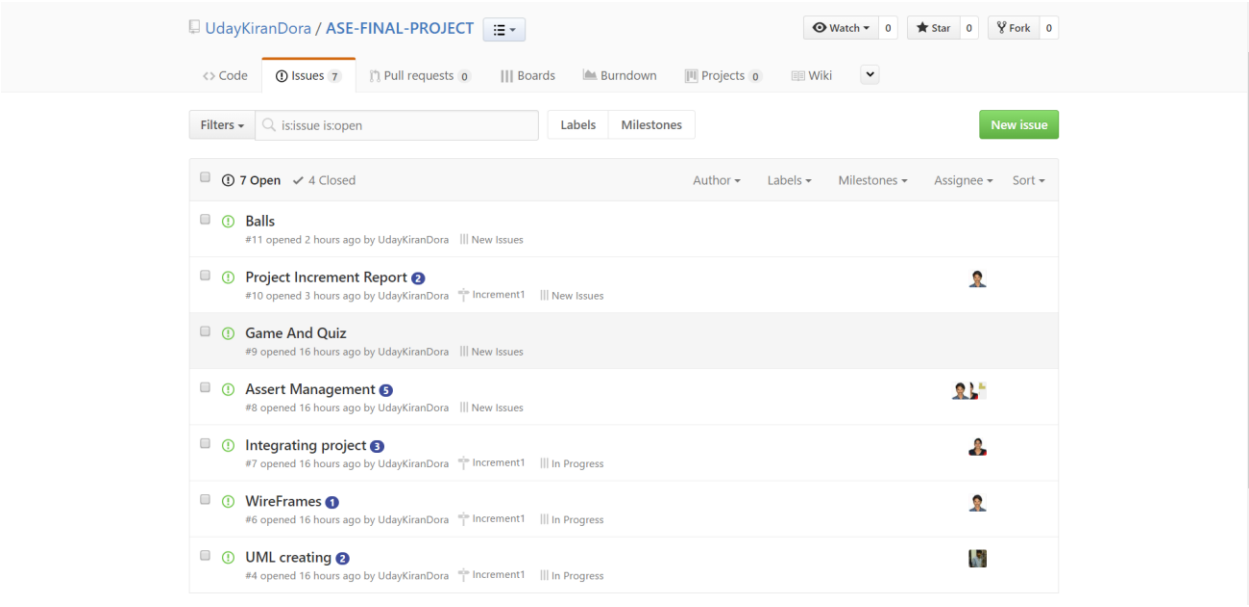
The apps currently available in the market are either an educational quiz or games for entertainment. In this application, we aim to combine both games interaction and animation to make the process of learning an entertainment filled pastime. The availability of such games encourages children to learn more efficiently and make it a fun filled experience. The app includes various subjects and levels to encourage them to understand the concept and apply it with ease.

3.Project Plan

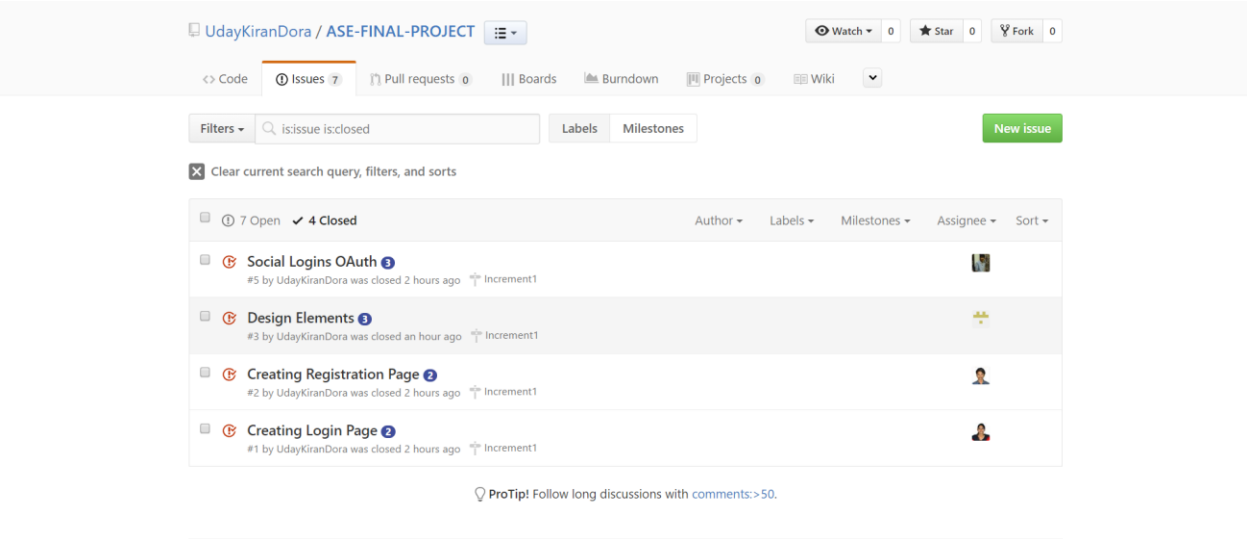
3.1 Schedule

3.1.1 Stories:

These are the issues that describe the tasks with contributors allocated on each and every tasks. It is assigned with the level of difficulty and the tasks are successfully closed as they are completed.



These are the open issues that are yet to be completed as this tasks require more work to be done on them and they do not have any dues close by



3.2 Project Timelines, Members, Task Responsibility:

3.2.1 Project Timelines

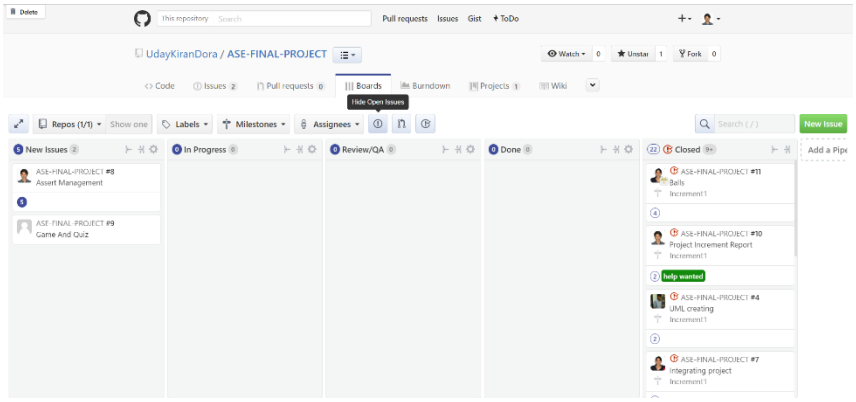
The Project is submitted in 4 increments and the aim is to achieve the said goals and tasks reported in the project

3.2.2 Members

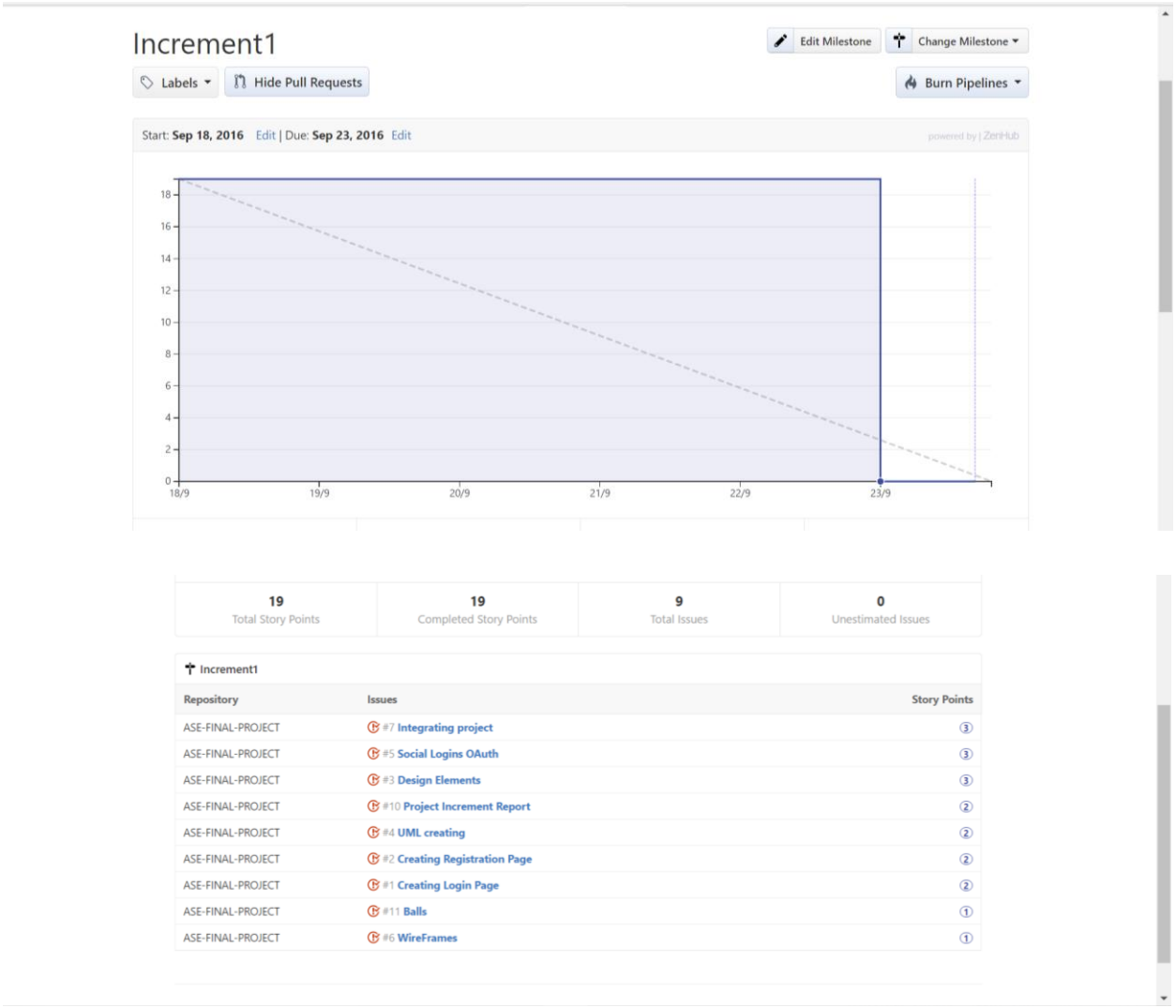
- Uday Kiran Dora
- Meenakshi Borusu
- Rakesh Reddy
- Ramana Kumar

3.2.3 Task Responsibility

They are Rakesh Reddy, Meenakshi, Uday kiran, Ramana. Each member has their own task and projected with limited timeline. Uday kiran has created the registration page and project increment report. Meenakshi created the login page and welcome page to the web app. Rakesh Reddy created the social login Oauths 2.0 from facebook and also designed the UML diagrams and Architecture Diagrams. Ramana involved in the designing part of the project and also designed the Wireframes.



3.3 Burndown Chart:



4. First Increment Report

For the first increment we added the login, register and home page which is an interactive web page aimed for kids. In the login page we have username and password fields where we add the log in details to get to the home page. We also have Facebook log in tab where using OAuth 2.0 service and Facebook developer API, the user can log in using his/her Facebook account details and if the credentials are correct they get redirected to home page.

If our user is a new user, we have a link at the bottom called “sign up” to redirect us to the registration page and there he can add his/her credentials to sign up or complete the registration process. After the registration is done the user gets logged in with his/her provided credentials and gets redirected to home page.

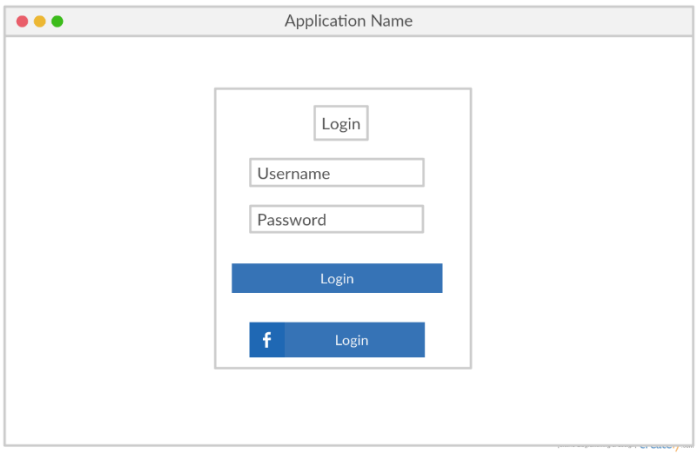
Our home page is an interactive page where we have a canvas element, where when the user hovers the mouse the elements get scattered and basing on the mouse position the elements react. When the mouse is dragged out of the canvas element the elements restore back to their original positions. When user presses the log out button he/she gets redirected to the main startup page.

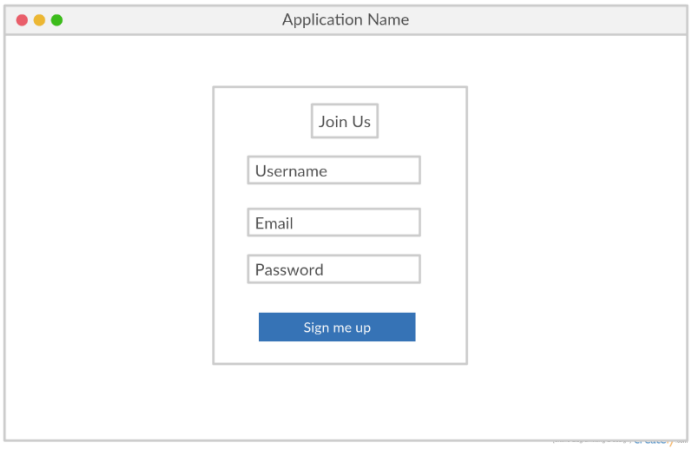
4.1 Existing Services/ REST API:

- Facebook OAuth API
- BootStrap
- LocalStorage
- WebApi FrameWork
- Physics Engine

4.2 Detail Design of Features

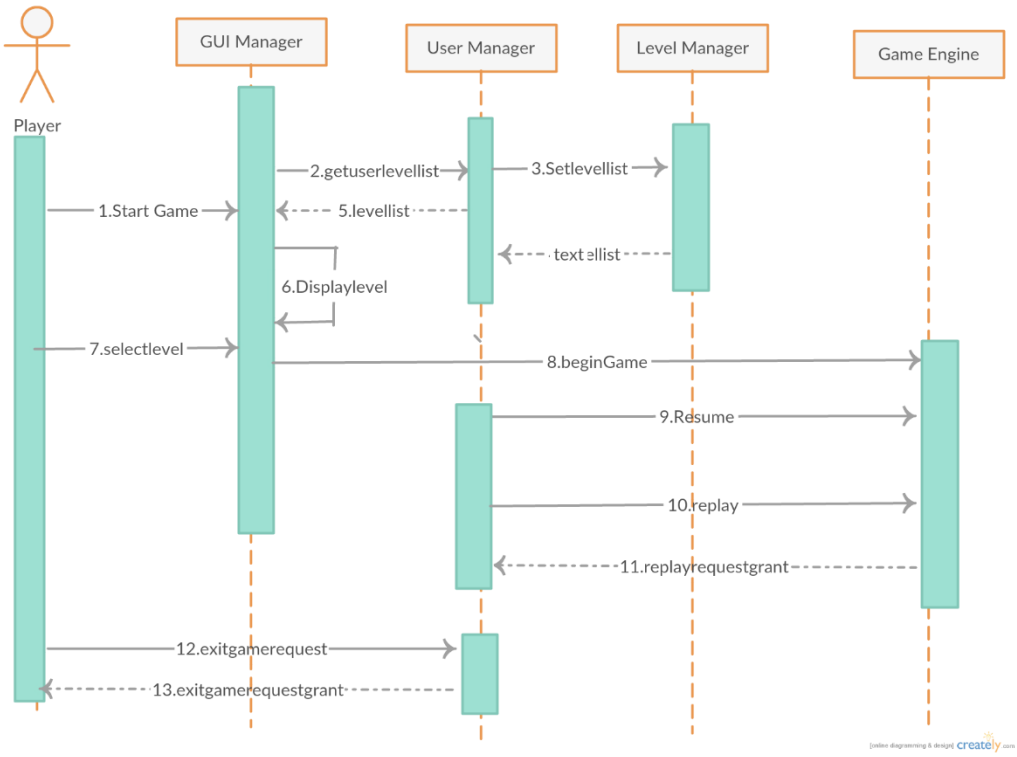
4.2.1 Wireframes and Mockups



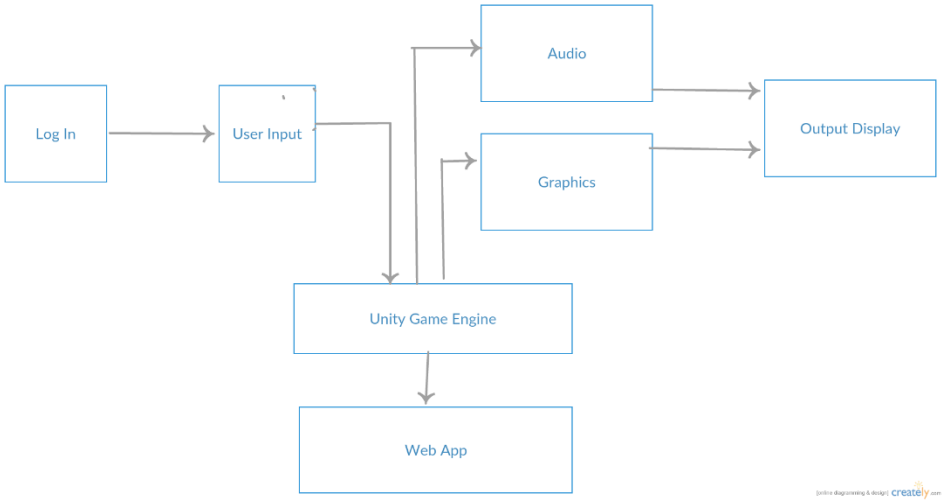


4.2.2 Architecture diagram/Sequence diagram/Class diagram

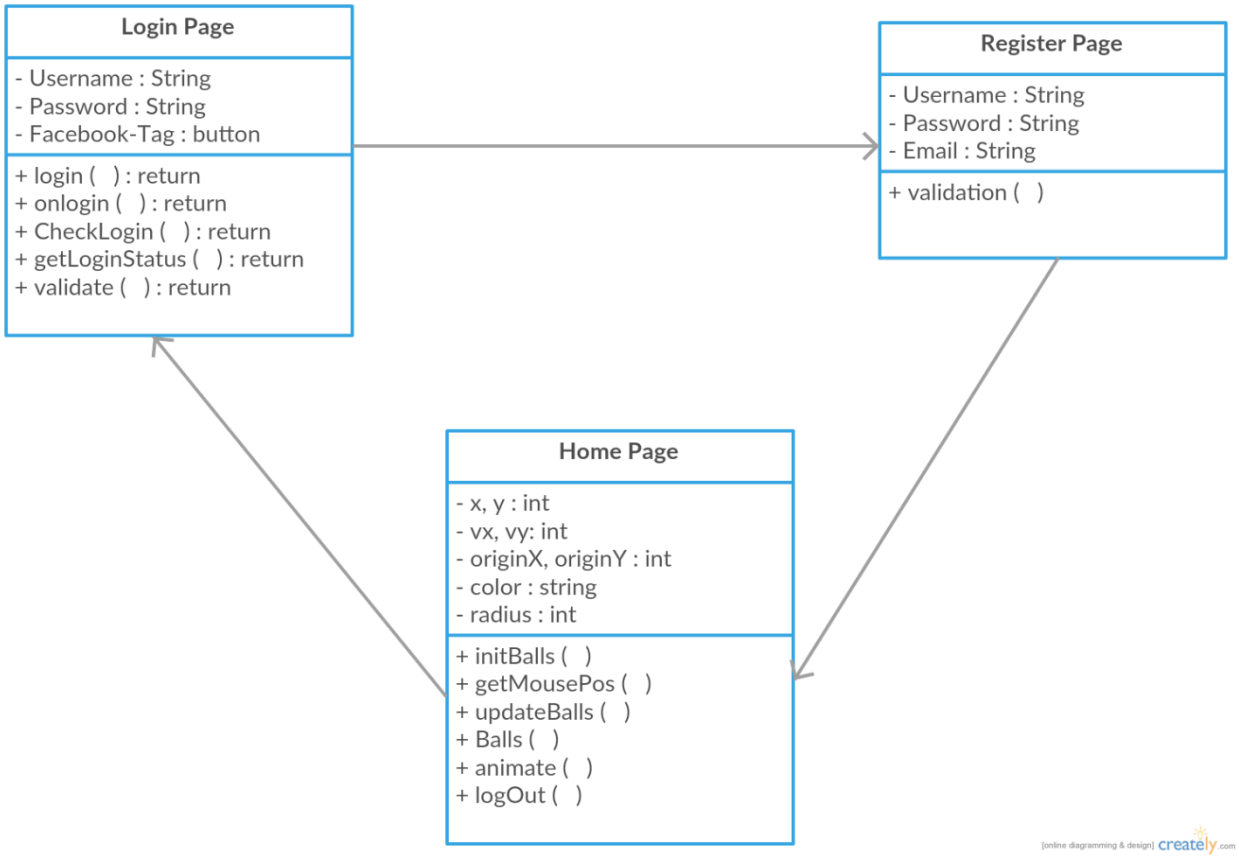
Sequence Diagram



Architecture Diagram

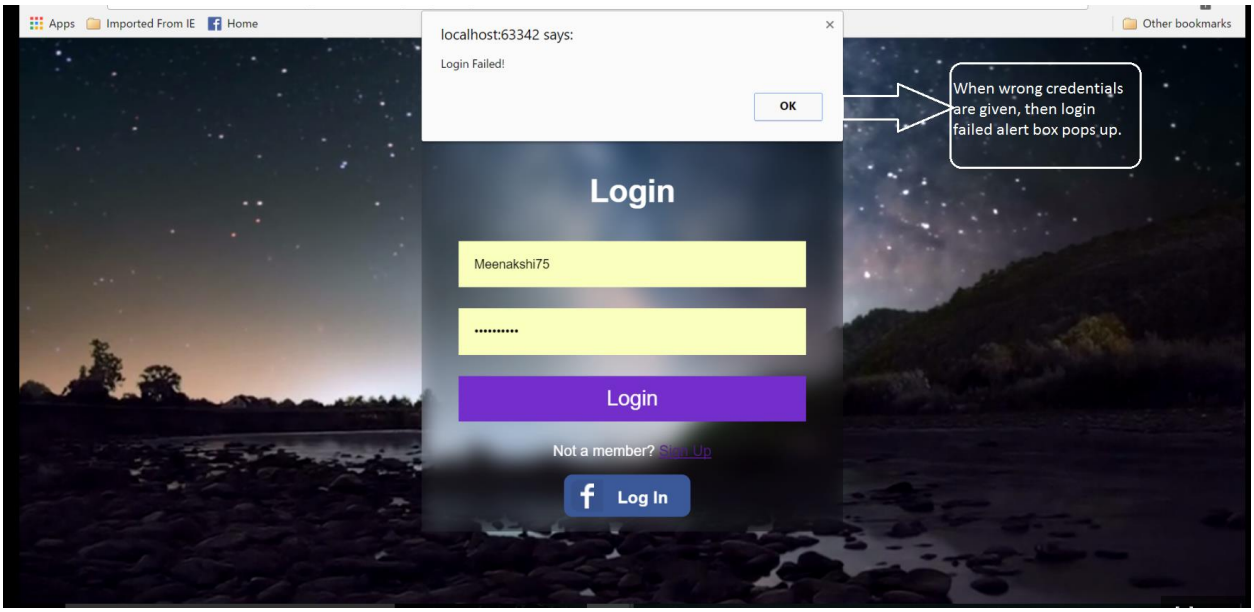


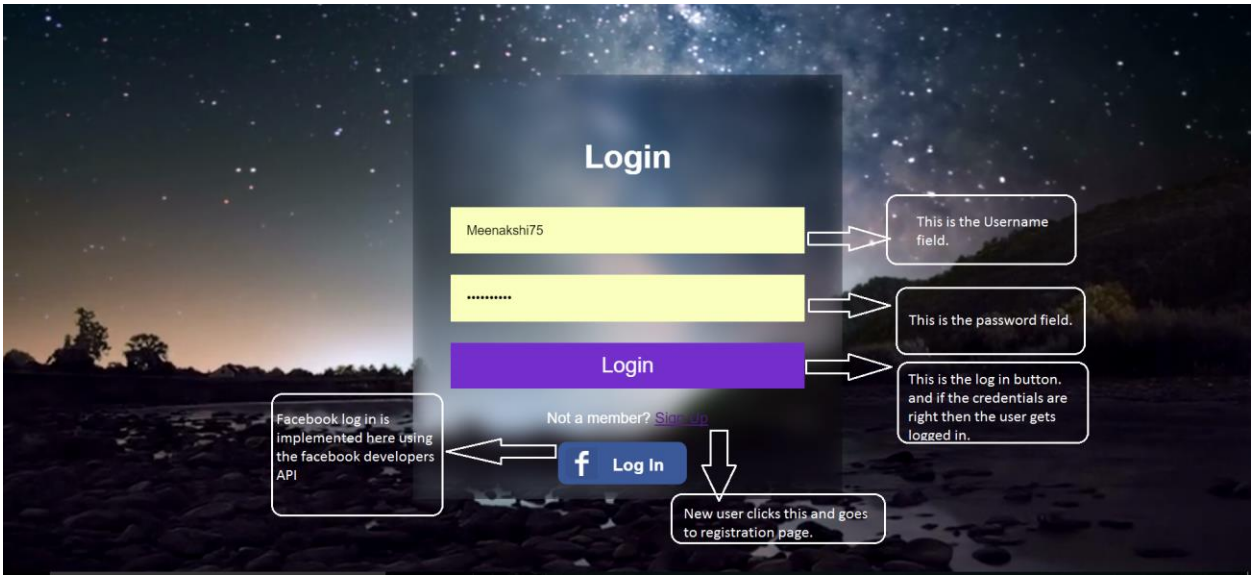
Class Diagram

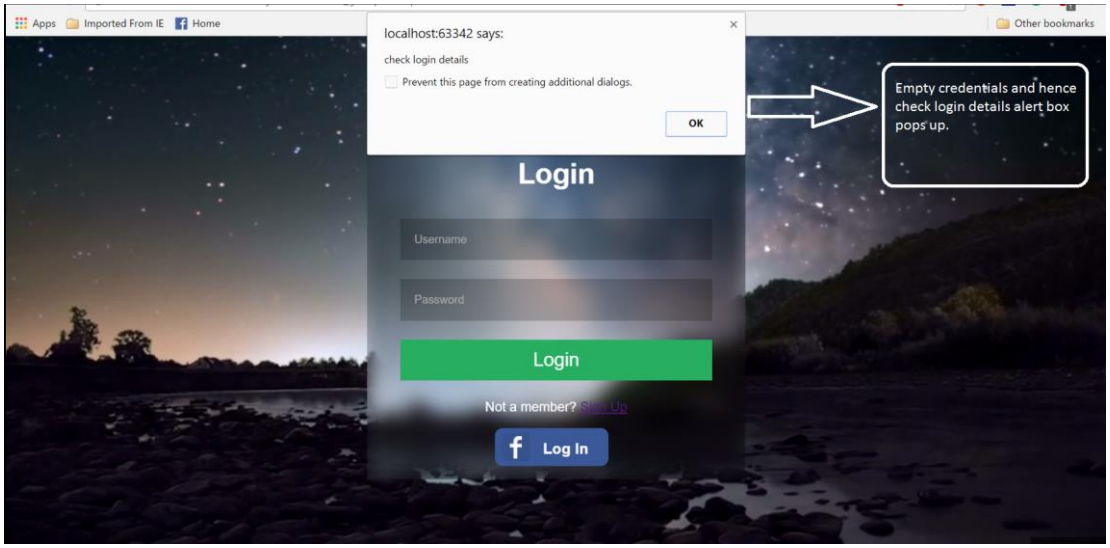


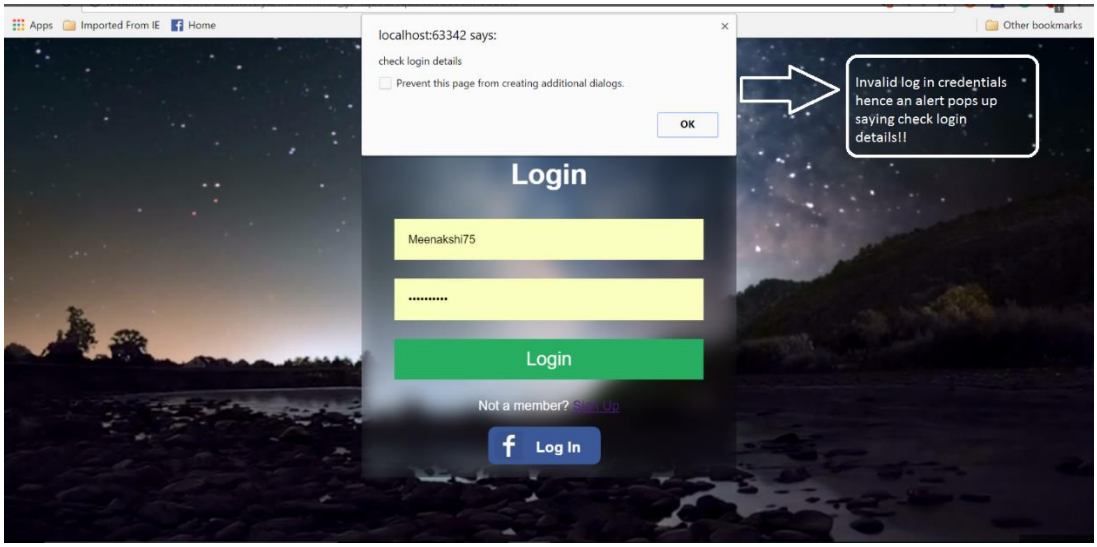
4.2.3 User Stories

Login Page






Apps
Imported From IE
Home
Other bookmarks
localhost:63342 says:
check login details
Prevent this page from creating additional dialogs.
OK
Login
Username
Password
Login
Not a member? Sign Up
Log In
Empty credentials and hence check login details alert box pops up.


Apps
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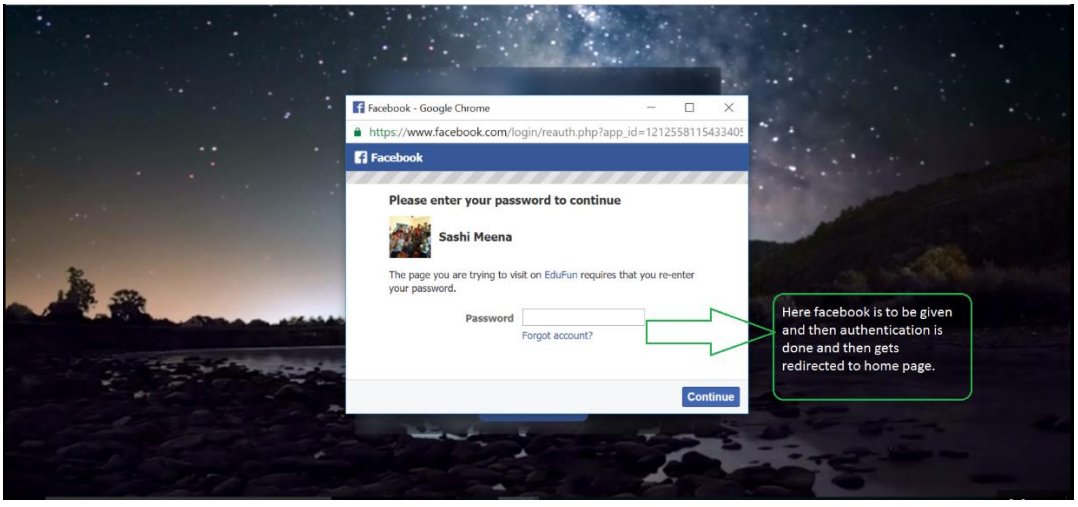
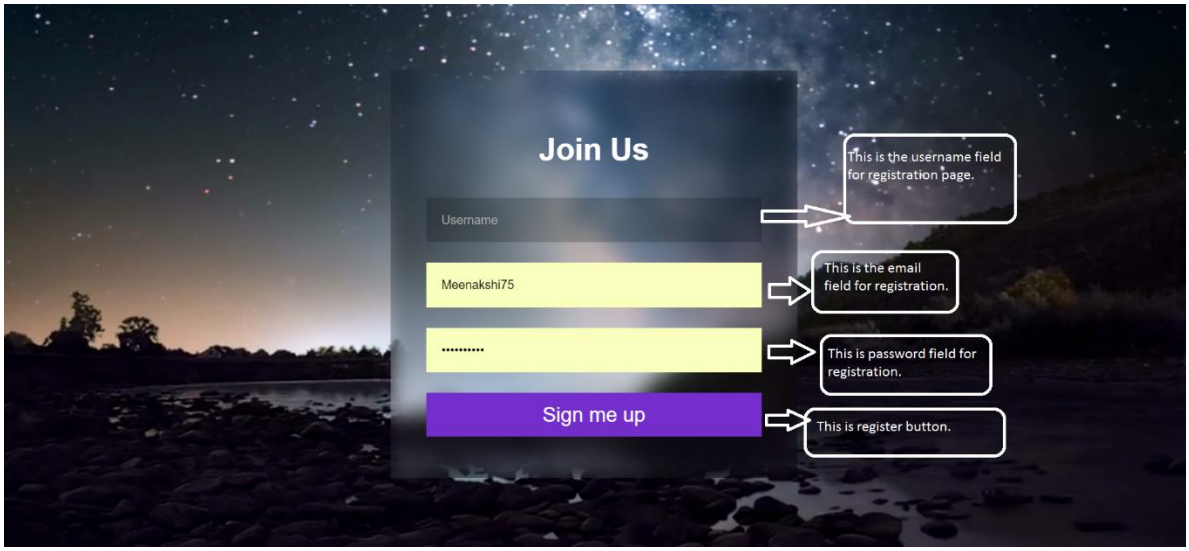
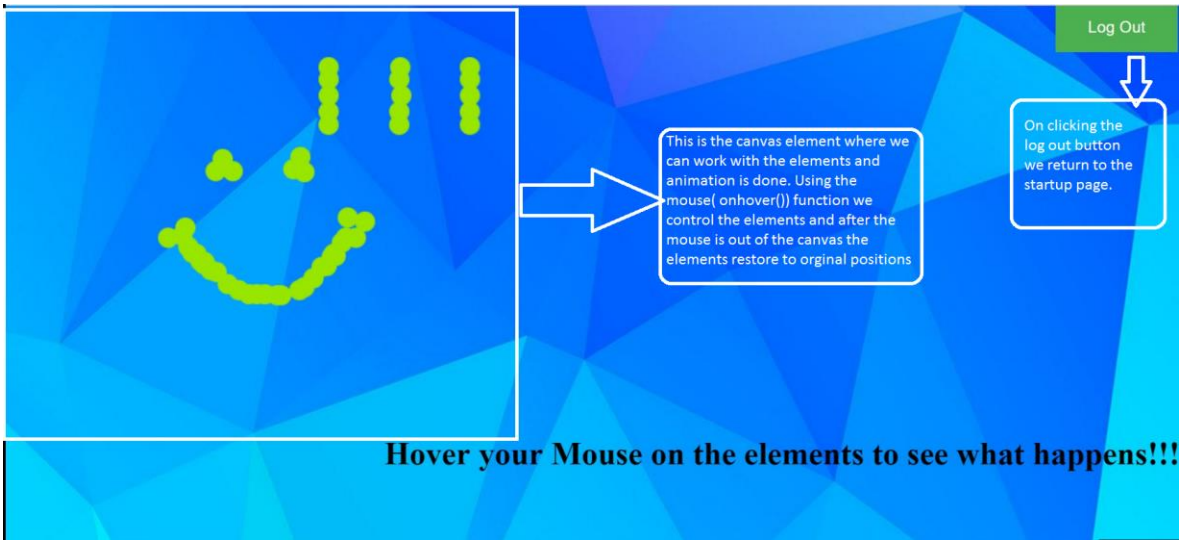
Other bookmarks
localhost:63342 says:
check login details
Prevent this page from creating additional dialogs.
OK
Login
Meenakshi75
Login
Not a member? Sign Up
Log In
Invalid log in credentials hence an alert pops up saying check login details!!


Facebook - Google Chrome
https://www.facebook.com/login/reauth.php?app_id=1212558115433405
Facebook
Please enter your password to continue
Sashi Meena
The page you are trying to visit on EduFun requires that you re-enter your password.
Password
Forgot account?
Continue
Here facebook is to be given and then authentication is done and then gets redirected to home page.

Register Page

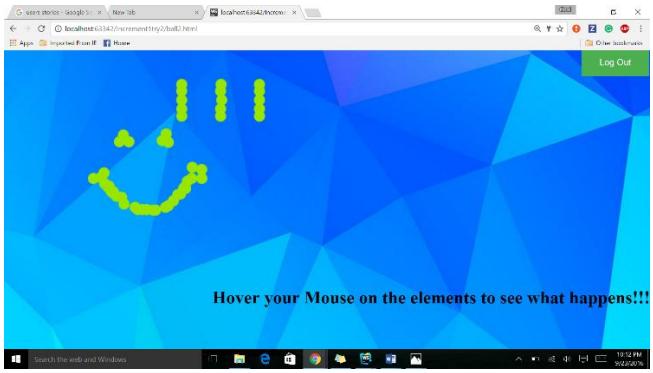


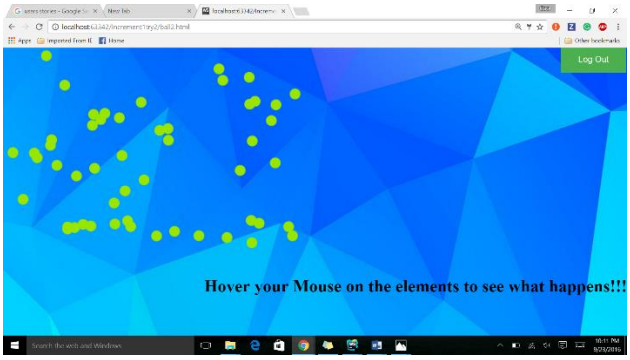
Home page

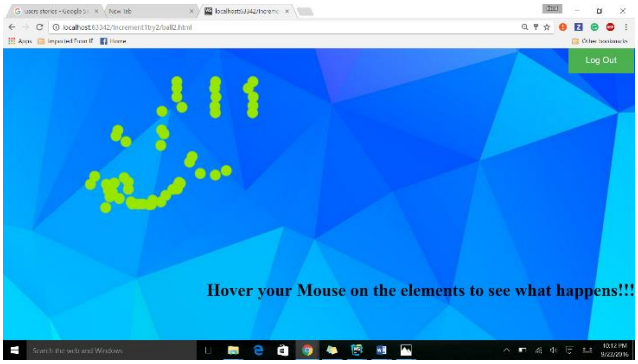


Output

Below is the output for result of animation and canvas element used in the homepage







4.3 Testing

4.3.1 Unit Testing

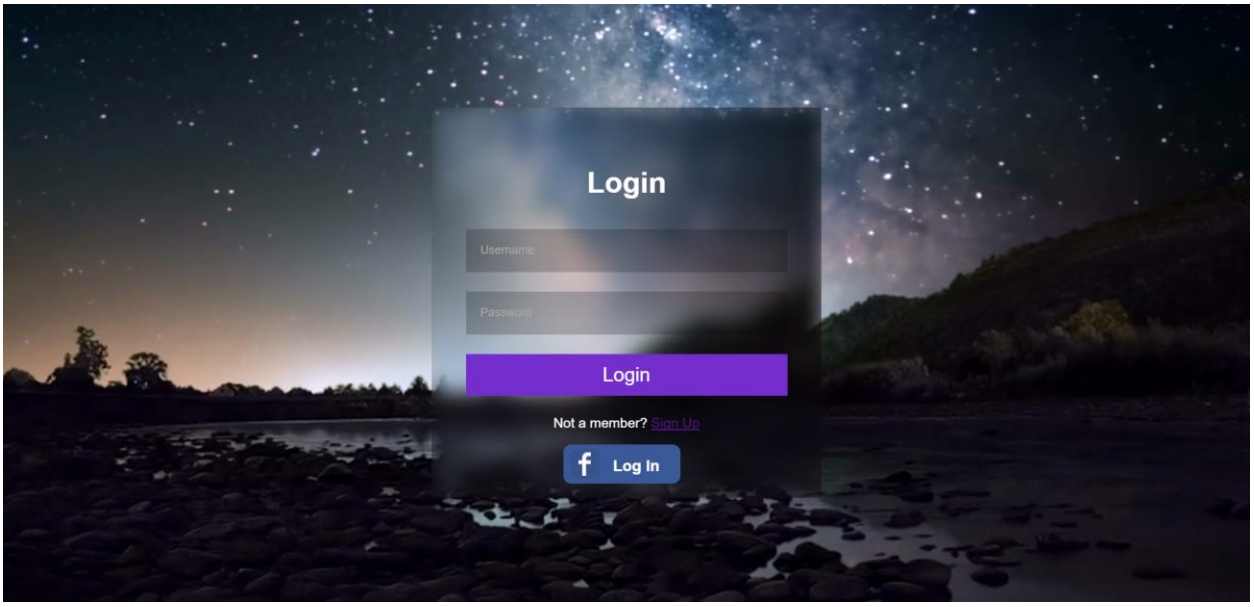
S.NO	Test case Title	Description	Expected Outcome	Result
1	Successful User Verification	The user logs in using correct credentials (correct login name and password)	The user credentials must be verified correctly.	Success
2	Unsuccessful User (Invalid Authentication)	Wrong credentials Given so invalid login.	If invalid details given, then authentication must fail.	Success
3	Successful User Login	Given the correct credentials user should be redirected to home page.	If the valid details are given, then authentication is a success and it must be redirected to home page.	Success
4	New user should register	If the user is new, then he should be redirected to register page and get registered.	For a new user a registration page will be displayed and they can add details to be registered.	Success
5	Invalid Email	Email validation must be checked if invalid then it must be return check credentials.	If invalid email is given, then an alert box pops up showing check credentials.	Success
6	Field details required	Every field detail is compulsory nothing must be left empty.	If all the field details are given, then the activity continues if not an alert box pops up saying check credentials.	Success

7	Facebook Login Validation	Facebook validation is checked here.	If Facebook login is valid then it should be redirected to the home page otherwise an alert box pops up showing login failed.	Success
8	Log out Validation	The page must be redirected to the startup page when log out button is pressed.	If the user wants to log out, then by clicking the log out button they will be redirected to startup page.	Success
9	Element Animation 1	Checking for element animation.	If the mouse is hovered upon the elements, then all the elements get scattered and move accordingly to the mouse co-ordinates.	Success
10	Element Animation 2	Checking for element animation.	When the mouse is moved away from the canvas element, then all the elements restore to their normal positions.	Success

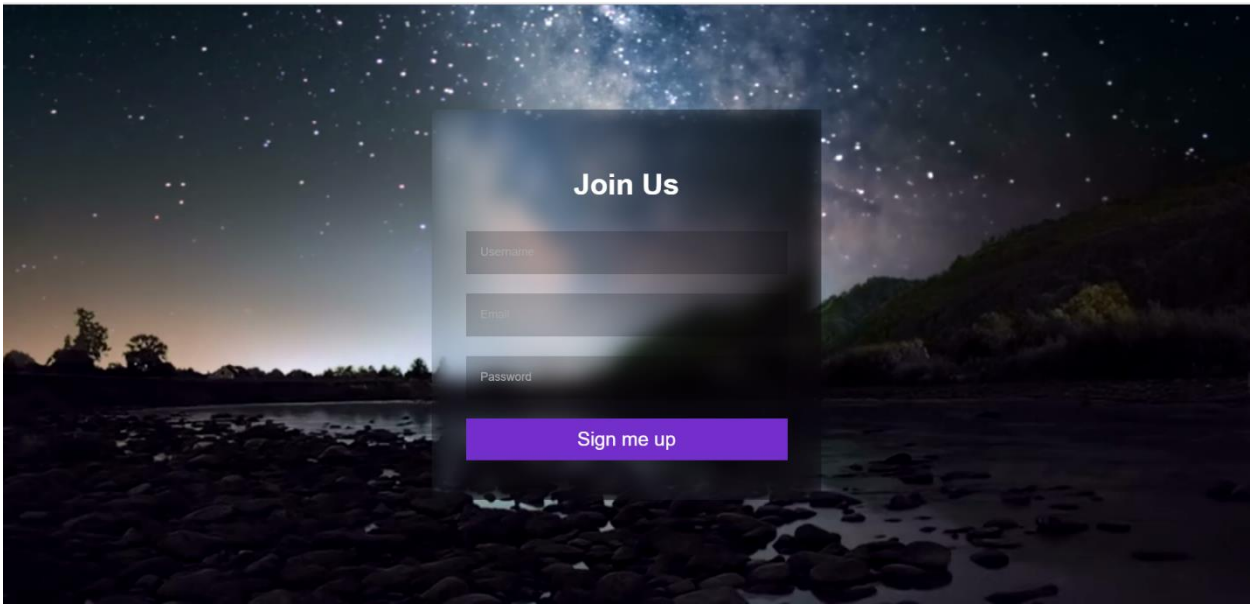
4.4 Deployment

4.5.1 Screenshots

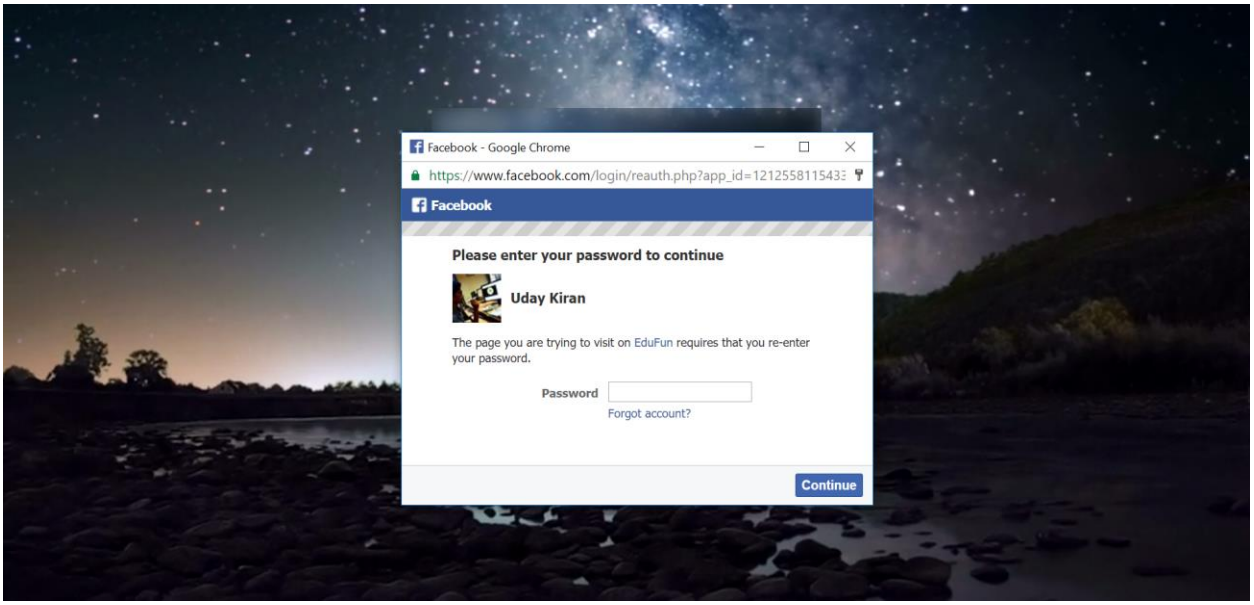
Login Page



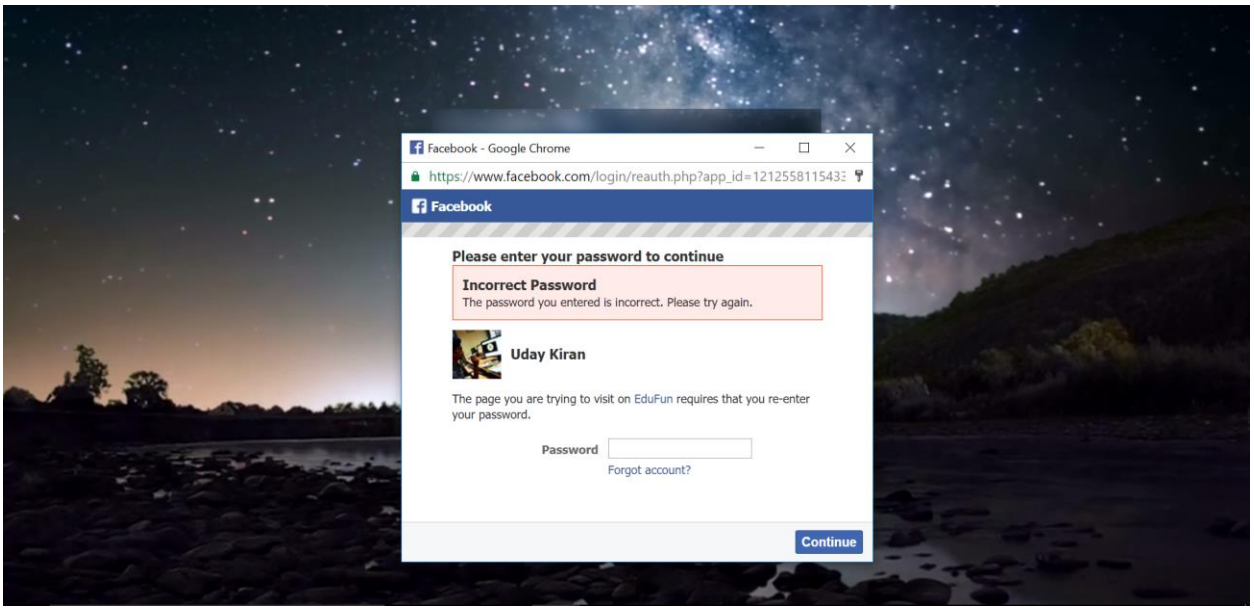
Registration Page



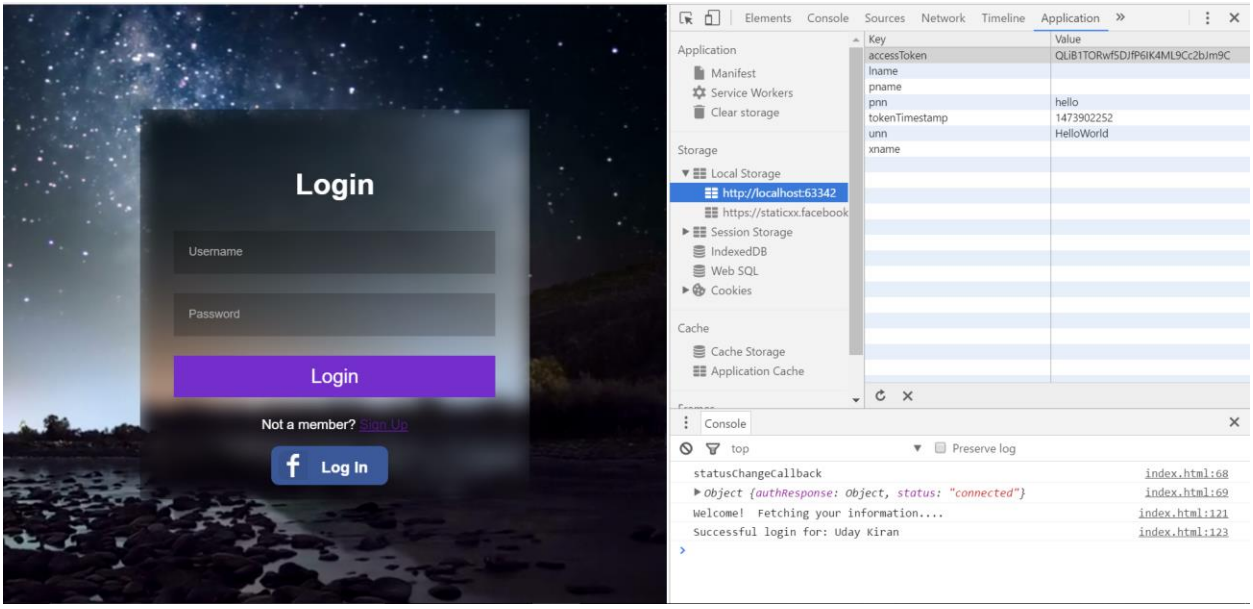
Facebook Login



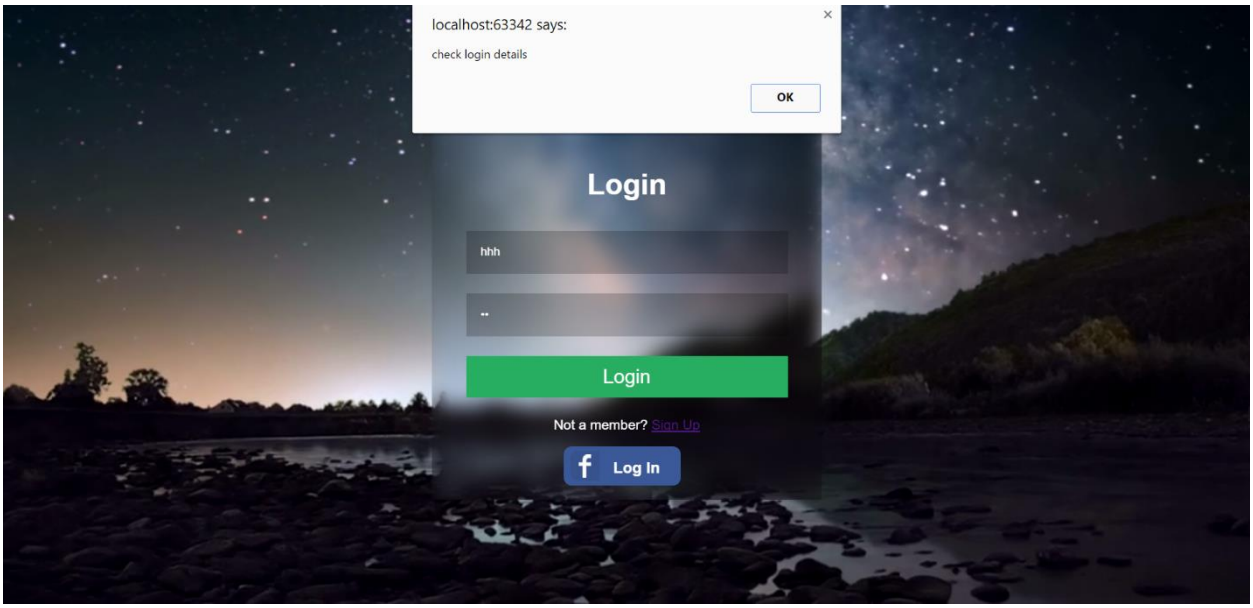
Facebook Login Fail



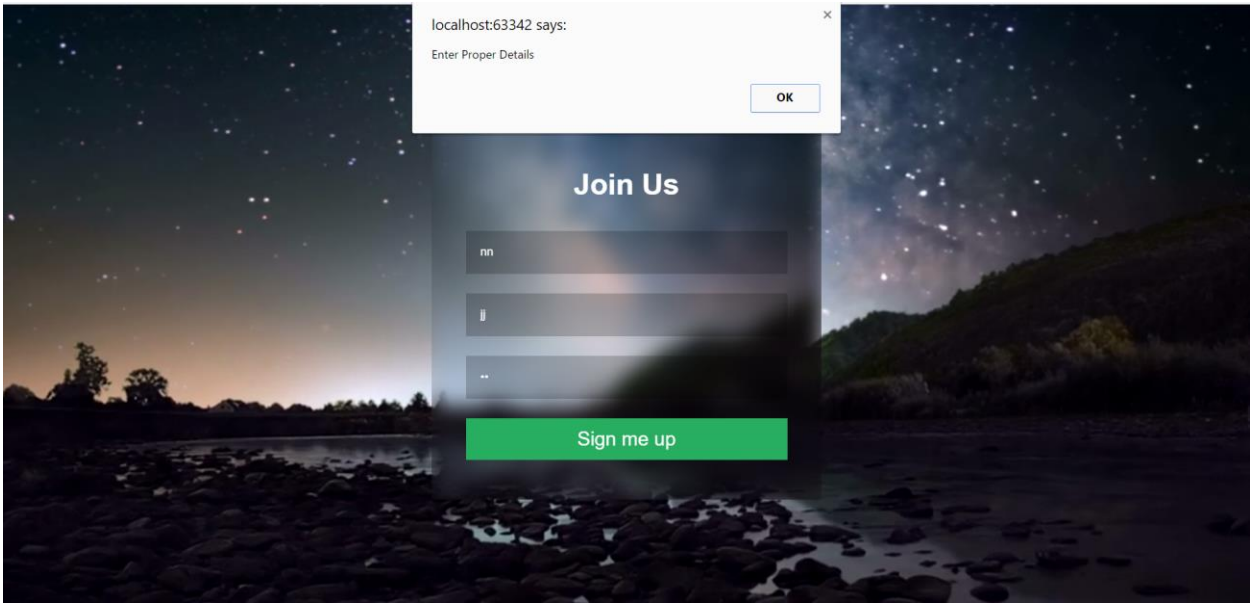
Local Storage for Login



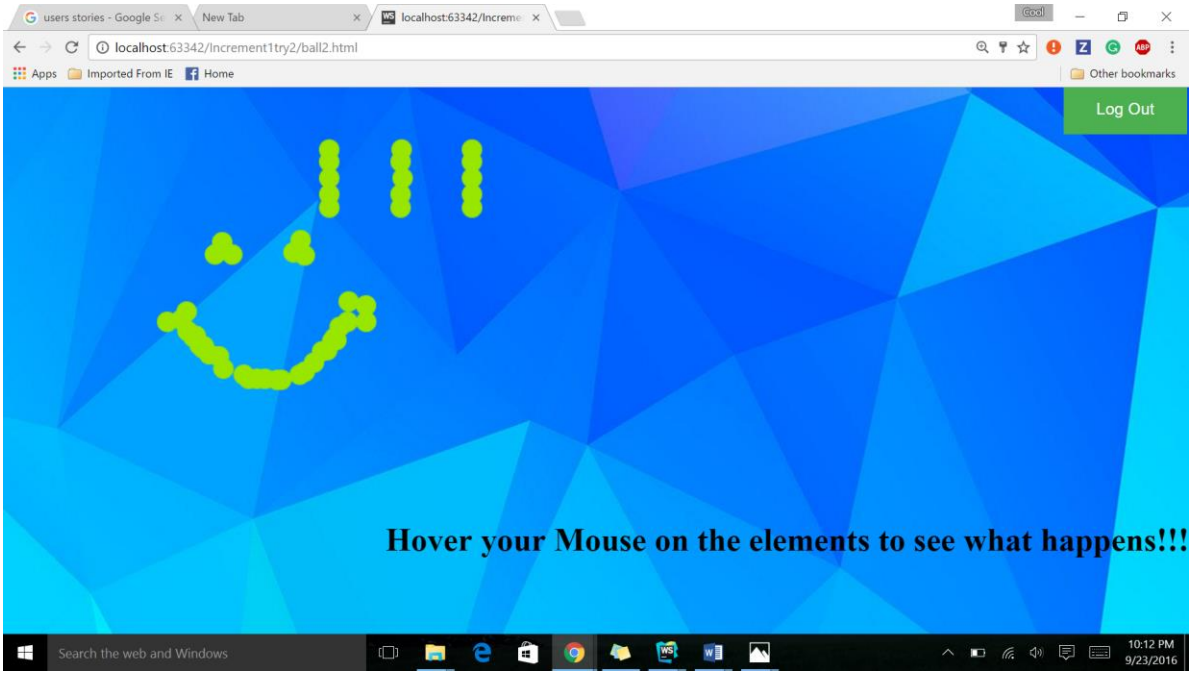
Login Validation



Registration Validation



Home Page



4.5.2 Github Link:

The below is the Link for the GitHub Repository in which the project documentation and source code and the project, its analysis in burndowns and Zen hub tools are present

https://github.com/UdayKiranDora/ASE-FINAL-PROJECT

4.5 Project Management

4.5.1 Work Completed:

- Description
    - Planning for the whole project
    - Balls Game
    - Login and Registration Page using Bootstrap and Social Logins
    - Design and working of base application
- Responsibility & Time taken
    - Login Page, Meenakshi 1hr.
    - Registration Page, Uday 1hr.
    - Design Elements, Ramana Kumar 3hrs.
    - UML creating, Rakesh 2hrs.
    - Social Login OAuth, Rakesh 2 ½ hrs.
    - Wireframes, Ramana Kumar 20 mins.
    - Integrating Projects, Ramana Kumar 2hrs.
    - Project Increment Report, Uday Kiran & Ramana Kumar 4hrs.
    - Home Page, Meenakshi 5hrs.
    - UserStories, Meenakshi 30mins.
- Contribution
    - Everyone had equal contribution.

4.5.2 Work to be Completed

- Description
  - Making the main base game
  - Designing the flow of process and platform
  - Making Quiz questions and game design
  - Creating
- Responsibility
  - Not decided yet.

6.Biblography

- http://www.blahblahtech.com/2008/03/the-future-of-gaming-interactive-gaming.html
- https://en.wikipedia.org/wiki/Interactive_Learning
- https://en.wikipedia.org/wiki/Game_physics
- http://brm.io/game-physics-for-beginners/