ZigZag - A Web Application for Online Game

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ABSTRACT

In modern time computer game is one of the trendiest way of entertainment. It's a rule based system that let an individual interact with the object on a screen produce quantifiable outcome based on players effort. It is the workout of brain which involves skills and elevated level of thinking to win just like the adaptive learning of human child. Our project ZigZag provides multilevel online classic gaming experience. Moreover, the web platform offers some modern aspect of online gaming such as leaderboard, online chatting, feedback etc. to the players.

PROJECT SYNOPSIS

Project ZigZag is a combination of game and a web gaming platform. The minimum requirements are distinct for each part. The game needs to entail multiplayer and leaderboard functionality along with the single player mode while the web platform requires user authentication and live chatting facilities. However, the initial requirement of the project is to build a web application using java script in front and back end. The game has been developed using phaser which is a JavaScript framework and to store player information firebase database has used exclusively. The web platform includes the following technologies:

Front End: JavaScript, EJS, CSS, HTML5, JQuery, Bootstrap

Back End: NodeJS, Passport, ExpressJS, Socket.IO, Mongoose

Database: MongoDB

PROJECT FEATURES

Project ZigZag consists of two components the game and the web platform. The arched game provides multilevel gaming experience where the difficulty level increase gradually. The game is available in both single and multiplayer mode. The web platform provides the player the opportunity to communicate with other players and challenge each other. In addition, the added leaderboard will drive the competition among the players. Since the web application is platform independent everyone with a desktop browser will be able to access the website and play the game.

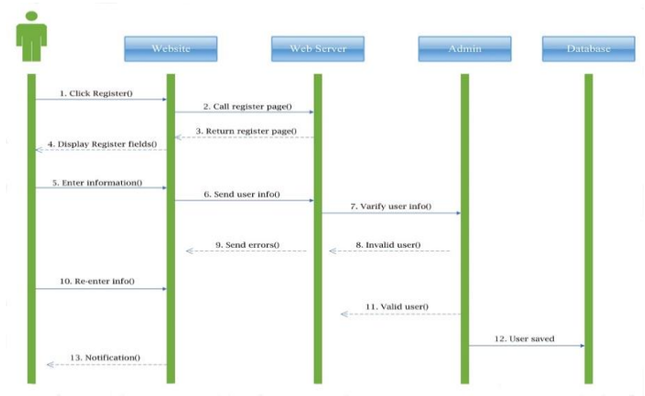

Figure: Sequence diagram for new user registration

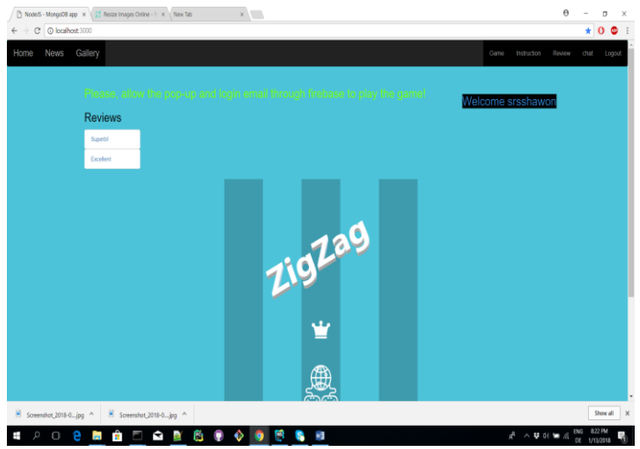

Figure: Home page after login to play the game

PROJECT OUTCOME

The typical outcome of project ZigZag is that it helps us to gain web development capabilities. What are the common client and server-side scripting technologies and how to script with them. How different web technologies work with each other. In addition, we get introduced with different program libraries and web application frameworks. Another major outcome of this project is working in a group towards the same goal. We have learned how to work in a group and set responsibilities among the group members to complete the project at a given time. Moreover, was a great implementation platform of our software engineering concept. We had the opportunity to witness the software development life cycle right from the beginning. Overall, it was a great learning experience for us and hopefully will help us in the long run to be expert in this particular field of JavaScript programing.

LIMITATIONS AND FUTURE WORKS

The followings are the limitations of our projects, which could be resolved over time. So, some future works could be taken into account to resolve this issue

1. Limited number of games.
2. No support for mobile browser.
3. No email confirmation during registration process.
4. No available option for password reset.
5. Single player gameplay is not possible without registration.

There are some elements in this project which offer the opportunity for further development. Almost any project that includes a software component will provide an endless future enhancement. We will start with all the limitations that we have mentioned in the previous section to make the system more comprehensive. In addition, further enhancement can be performed by (a) Adding customizability in user profile, (b) Linking to another online partner gaming webserver, (c) Adding the search option for other member and send add request, (d) Adding error/bug reporting.