An Online Multi Player Strategy Game

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Abstract

The current Model "Online Multiplayer Strategy Game" is an online multiplayer strategy game which is developed as a web application. Each player starts the game as the leader of a small undeveloped village, surrounded by undeveloped resource fields. Creating military units will allow them to attack a person or defend from enemy attacks. The main motive of the game is to gather resources with villagers, developing village by constructing new buildings, creating as many troops as you can and destroying the enemy alliance with your alliance. The current Model is developed using mean stack. A standard java stack called MEAN is used for designing and building the dynamic web pages. Also the same software is used for MongoDB and other sources etc,. The current work sparks the player's creativity, develops problem solving skills, and improves one's planning, management and foresight. The game is portable and can be accessed from anywhere.

Keywords: Strategy, Online Game, Multiplayer's, Villagers, Game.

1. Introduction

Browser games are getting famous day by day and also the games which were developed targeting mobile devices also getting day to day [1]. Browser games are those users can use the personal computers to play the games. The development of such games includes the usage of various web technologies and other technologies for further more interactive with the end users. These games include the combination of both single players and sometimes double players and in some games more than two players also possible to play the games[2]. Program diversions are regularly allowed to-play and don't require any customer programming to be introduced separated from an internet browser or program module. Multiplayer program recreations have an extra spotlight on social association, either between a few players or on a huge scale. Because of the availability of program diversions, they are regularly played in progressively visit, shorter sessions contrasted with conventional PC recreations [3][4]. Since program diversions run separated from equipment in an internet browser, they can keep running on a wide range of working frameworks without being ported to every stage. In a diversion Model the item is amusement, which is substantially more than just programming [5].

1.1 CASTLE OF HEROES

Castle of Heroes, is an enormously multiplayer online dream program based procedure amusement created by the Chinese designer Snail Games and distributed in the United States by its U.S. distributing division, Snail Games USA [6][7]. Errands for the player to finish help to direct the player through the amusement once the instructional exercise is finished [8][9][10]. The client side programming Languages is JavaScript while the server side programming language is PHP[11]. The JavaScript Library used is jQuery 1.8.3 and Modernizr with HTML5 as the mark up language.

2. OBSERVATIONS FROM THE EXISTING MODELS

"Age of Empires" uses PHP and ASP.NET for server side scripting and jQuery javascript Library for client side programming.

The Web Hosting provider for Age of Empires is Microsoft.

The major drawback in Age of Empires is the limitation on the number of villagers and limitation on the number of troops.

2.1. PROBLEM STATEMENT

All the existing models have certain limitations on the number of villagers that can be added to the game and number of troops that can be created with the help of the villagers. Also, the production cannot be changed in these existing models. Also, we are adding additional features like "Watch Tower" to make this more interesting. Watch tower is a building which helps to locate the enemies at a particular distance based on the level of watch tower which can be upgraded.

The modules involved in this Model are,

2.2 INTERFACE DESIGNING

User interface design (UI) or user interface engineering is the design of user interfaces for machines and software, such as computers, home appliances, mobile devices, and other electronic devices, with the focus on maximizing usability and the user experience. The goal of user interface design is to make the user's interaction as simple and efficient as possible, in terms of accomplishing user goals (User-Centered Design).

2.3 SERVER SIDE SCRIPTING

A database is a collection of information that is organized so that it can be easily accessed, managed and updated. This will include the specification of an appropriate storage schema, security enforcement, and external schema and so on. Implementation is heavily influenced by the choice of available DBMSs, database tools and operating environment.

3. IMPLEMENTATION, RESULTS AND DISCUSSIONS

The implementation of the currently developed model with various inputs or as various test cases can be observed in the following section as follows,
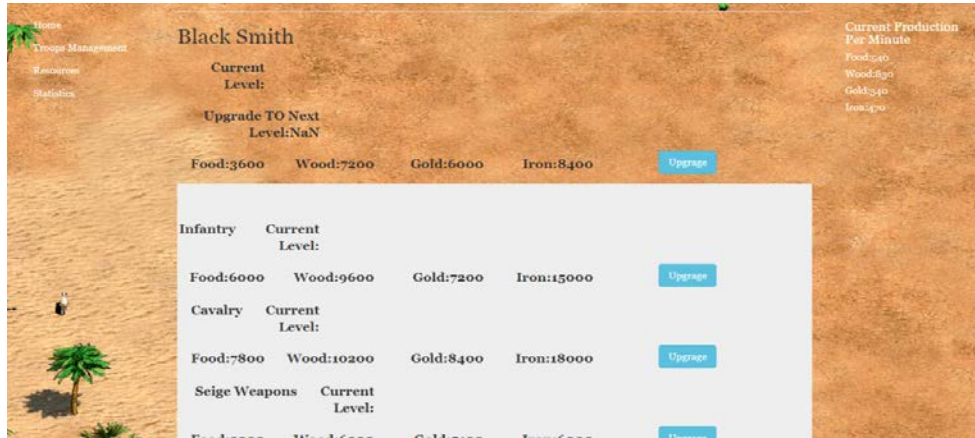
Figure 1. Blacksmith

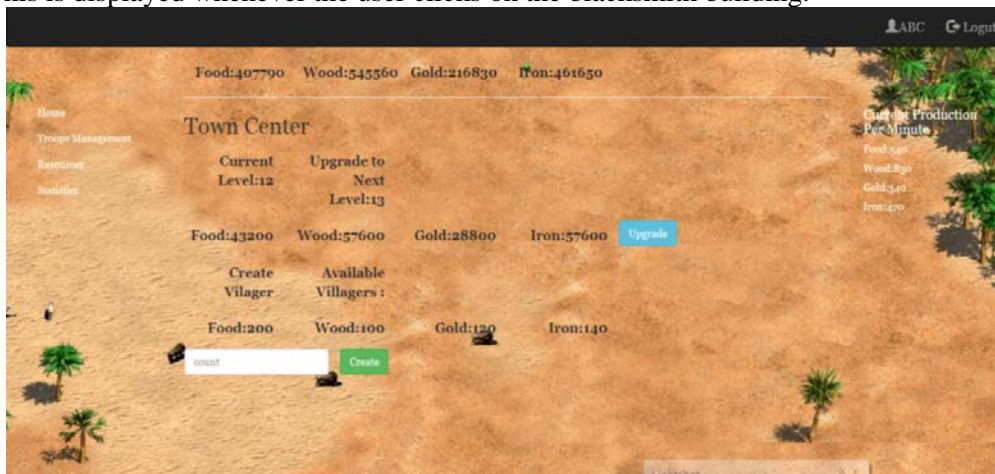This is displayed whenever the user clicks on the blacksmith building.

Figure 2. Town Center

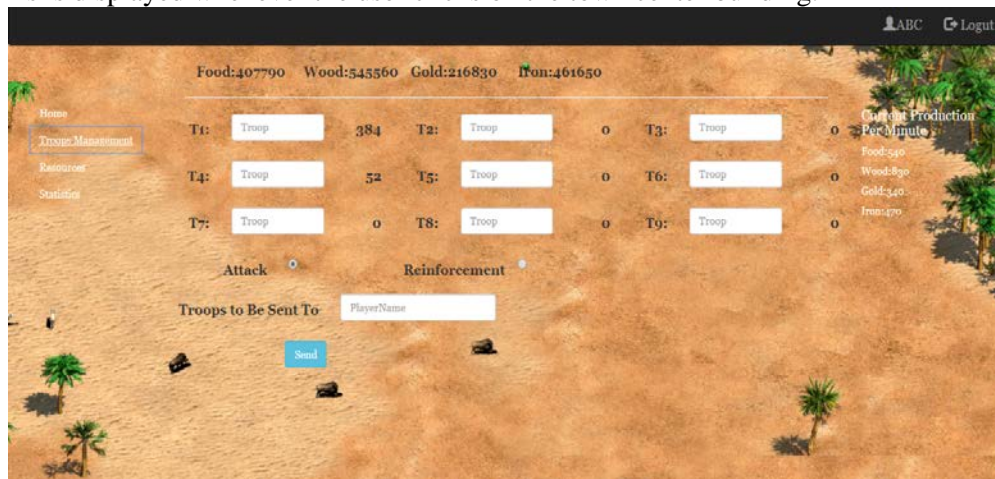This is displayed whenever the user clicks on the town center building.

Figure 3. Manage Troops

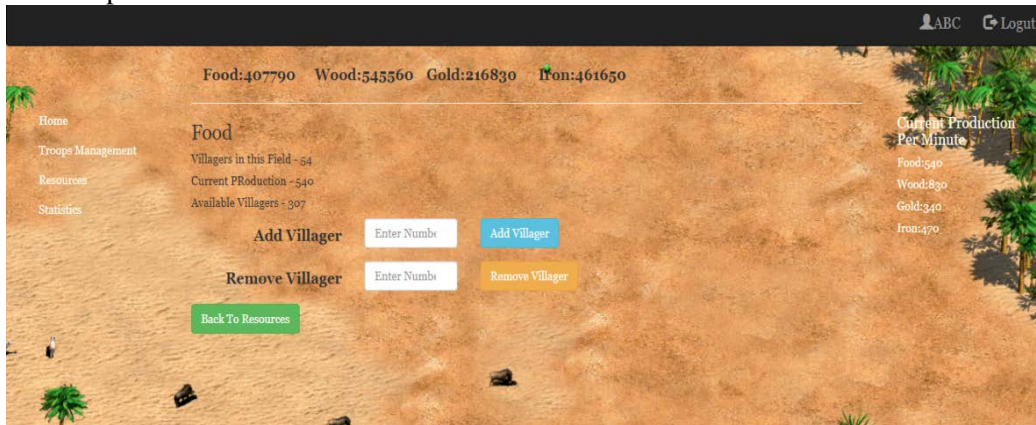These are the different resources available in the game. Every resource has a particular production per minute.

Figure 4. Manage Villagers

This displays the defence ranking of the user.
Before adding villagers

Figure 5. Before Adding Villagers

After Adding Villagers

Figure 6. After Adding Villagers

The performance of the currently developed online strategy was tested in various cases. Several cases considered are like the login of the user to the game, login of several users at a

time, checking of the correctness of the username and password of the users with less amount of time and other issues were tested and verified with various scenarios under the actual processing of the game. These scenarios are considered under the actual number of users or the actual number of players playing the game. But, after adding the new set of online players or the new set of players to the existing set of players might have some impact on the performance of the game. The performance of the online game strategy was observed the performance and the results are studied in the form of execution time. These scenarios are given in the following as tables with various scenarios. The scenarios are given as before adding the number of villagers to the existing game and the performance of the game after adding the new set of users or the new villagers adding to the existing set of villagers. These scenarios can be seen as follows,

Before adding the Villagers to the actual number of users in the game and observed in table I, table II and table III as,

Table 1. Test Case 1

S.No.of Test Case	1	Execution Time
Name of Tset	User Login Success	7 Seconds
Sample Input	Here The user Enter Username,Password For Entering In To His Account	
Expected Output	Displays Message As "user Login Success"	
Actual Output	Same As Expeted This Component Clearly Tells That user Is:Login Success	

Table 2. Test Case 2

S.No.of Test Case	2	Execution Time
Name of Tset	User Login Success	5 Seconds
Sample Input	Here The user Enter Username,Password For Entering In To His Account	
Expected Output	Displays Message As "user Login failure"	
Actual Output	Same As Expeted This Component Clearly Tells That user Is:Login failure	

Table 3. Test Case 3

S.No.of Test Case	3	Execution Time
Name of Tset	Assign Villager	2 Seconds
Sample Input	Here The user Enters the number of villagers to be assignsed	
Expected Output	Displays Message As "Villagers Added"	
Actual Output	Same As Expeted Output	
Remarks	This component clearly tells that villagers are added successfully	

After adding the new villagers to the existing set of villagers for playing the game and analyzing the performance of the game as follows,

Table 4. Resources for Creation of Troops

S.No.of Test Case	5	Execution Time
Name of Tset	Insufficient resources for creating troops	6 Seconds
Sample Input	Here The user Enters the number of troops to be created	
Expected Output	Displays Message As "not Enough Resources"	
Actual Output	Same As Expeted Output	
Remarks	This component clearly tells that the troops are not created with insufficient number of resources	

Table 5. Overall Performance Comparison

S.NO	Consolidated Cases	Average Execution Time
1	Before adding new villagers to the game players	4 Seconds
2	After adding the new villagers to the existing game players	5.5 Seconds

From all the above six cases or six scenarios of various cases, it is understood that the execution time for the first three cases have less time than the next level three cases of after adding villagers to the actual number of villagers or players playing the game. The time taking by the machine for implementing or doing such tasks was more than the regular time that was expected. Hence, the execution time for the above six cases can be understood very clear that the time is more when more number of villagers are being added to the existing set of players or with the existing set of game players.

4. CONCLUSION

The current Model "Online Multiplayer Strategy Game" successfully combines all the interesting features of "Age of Empires" and "Travian" and overcomes all the mentioned disadvantages in these two games and successfully passed all the test cases in the testing phase. Unlike "Age of Empires", there are no limitations on the number of villagers and number of troops. The production can be changed easily in the current Model. This also has an additional feature of "Watch Tower" which enables the user to notice enemies from a particular distance depending upon the level of the watch tower. The user can login to access his game status and continue playing the game successfully from any browser provided with an active internet connection. The current Model also sparks the player's creativity, develops problem solving skills and improves one's planning, management and foresight. The game is portable and can be accessed from anywhere.

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