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**TERM PROJECT PROPOSAL REPORT**

**Social Gaming Marketplace - Ethereal**

**GROUP 23**

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# **Introduction**

This is the project proposal for the Social Gaming Marketplace named Ethereal, which is Steam-like gaming application where users can play and buy games from the game store. The proposal includes the description of the project, the functional and non-functional requirements, the limitations and the entity-relationship model of the application. In visualized E/R model we illustrated the design of the application in terms of its database system, which later will be implemented for this project.

# **Description**

Ethereal is a web-based social platform where the users will buy and play games from the game store. In addition, by using this platform, the users will be able to interact with the fellow users either in terms of the game or in terms of the communication.

The users will have their own unique identification numbers or usernames depending on their preferences and unique passwords. After the registration or sign up, the users will log into the platform and will be able to see the homepage of the site. In the homepage section, the users will be able to see the list of the games, buy any game they wish and play it later. If the user cannot see the game they want to play, they will be able to click the search button, enter the name of the game and buy it that way. There will be a game history, which will store the last played game history for each player. There will be different types of players such as premium and regular players. All of the players will be able to search other players’ usernames, add other players as a friend, see their friend lists, block other players and chat with them. However, there is a difference between regular and premium player in a way that premium players will be able to invite other players into multiplayer games and change the background theme of the platform. From the homepage, users can also access their own profiles where they will see the information about themselves including their picture, the bought games, the updated games, list of their friends and the message section. Additionally, players will be able to comment on games. Admins will be able to administrate the players. They will be able to ban users.

Main entity of this project is games. Each game will have developers, publisher, description, published date and a picture stored in the database. In addition, a game will have a game category, which will limit the players to an age limit. In addition, there is a company entity which owns a game. Therefore, they will be able to add new games and provide events and with these events, there will be discounts on games.

## **2.1 Why do we use a database for Social Gaming Marketplace?**

In this project, the database will play an essential role. Database is one of the most efficient ways of keeping the records of various information and analyzing them. We are using the database system for several reasons. First of all, since we will store a greater amount of information, the database system is the most applicable data storage arrangement for our project.

In addition, databases allow the manipulation, retrieval, and query of the data in an easier and faster way. Therefore, usage of database is necessary in order to add, update and analyze the data in terms of our non-functional requirements. For example, in order to have a Social Gaming Marketplace that function properly we should keep the list of the games in the marketplace, the list of users, their information and the list of friends/blocked players etc.

Since connecting and deriving this information cannot be done by simple data structure like the array and other data storage alternatives is not efficient in a large amount of data such as file storage, we will use the database system in order to create an efficient and reliable platform.

## **2.2 How do we use a database for Social Gaming Marketplace?**

We will use the database system to keep the record of games in the store, the information about users such as their names, usernames, passwords, the bought and unbought, lastly played and not-played games, their friends, and chats. This information will be used for creating a more well-liked gaming marketplace platform from both users and companies. For instance, we will analyze the list of events and its connection with the sale amounts for companies. Therefore, it can make Ethereal more preferable for the companies. In addition, with the help of the list of played games history, we can suggest more suitable suggestions for players and increase their percentage of buying games.

Thus, we will use the database to store and relate information in order to get meaningful data that can be used for pleasing both the players and companies. Additionally, we will use the database for updating our data regularly to provide the sustainability of our marketplace.

# **3. Requirements**

## **3.1 Functional Requirements**

In Ethereal there are mainly three users of the platform; administrators, players, and companies. Players are the users who will buy and play the games. There are also special players called Premium players that have much more options to do with the platform. Administrators are the users who control the players and their activities. Companies are the users who control games. For each user, functional requirements are different.

All players are able:

* To buy a game
* To play a game
* To search for a game
* To see the list of their bought games
* To change or upload a profile picture
* To update their bio information
* To set a new password
* To set a new email address
* To update their balance
* To search for a user
* To add a user as a friend
* To chat with a friend privately
* To see the list of their friends
* To see other players’ profiles
* To block another player
* To see the list of blocked players
* To unfriend a friend

Premium Players are able:

* To invite other players into multiplayer games
* To change the theme of the platform

All players except for Premium players are able:

* To upgrade their players and switch to the premium player

Admins are able:

* To ban or warn the users violating certain limitations

Companies are able:

* To add new games to the platform
* To update games
* To create discount events for the games

## **3.2 Non-Functional Requirements**

The non-functional requirements listed below are essential for the design goals and efficiency of the platform.

### **3.2.1 Portability**

* The website should work on all computers, tablets, laptops etc.
* The website should support all modern browsers such as Chrome, Opera, Safari etc.
* The website should be compatible with most used operating systems such as Windows, Linux, and MacOS X

### **3.2.2 Performance**

* The website should work quickly.
* The entries and updates in database should take milliseconds.
* The response time of database and website should be minimized.

### **3.2.3 Security**

* The permission of different user types such as players, companies and admins should be arranged
* There should be a password limitation to strengthen the password security of users
* The user information should be kept secure in the database

### **3.2.4 Scalability**

* The platform should be able to take a few amount of the users at the same time without any problems and freeze

### **3.2.5 Usability**

* The website should be user-friendly, understandable and easy to use by the users aged over 16.
* A help page for users should be provided to increase the user friendliness of the website.
* The user interface should be pleasant and functional for user.

### **3.2.6 Availability**

* The website should be available at all hours of the day
* Maintenance of website should be done regularly

### **3.2.7 Reliability**

* The website should work without any failures when the player is in the middle of the game.
* Website should be work properly while user making a payment

### **3.2.8 Maintainability**

* The bugs and errors should be easily captured and fixed.

# **4.Limitations**

* The descriptions and game lists can be seen by all people, however to play a game user should create an account and buy the game
* Players cannot set the usernames with unethical content .
* Players cannot message to the users who are not on their friend list.
* Players cannot message or play with a person that she/he is blocked by.
* Users cannot set the profile pictures with unethical content.
* Players should be older than 16 years.
* Users should set the passwords with at least 5 and at most 8 characters, which should include at least one upper case letter and one number.
* Users cannot have their names in their passwords.
* Companies cannot add additional category for their game, if a company creates a game which is not found in the category choices, that company should create a request, if the admin approves the request the new category will be added to category list.
* Users and companies that is banned by admin cannot login the system in their suspended time.
* Players can only comment the games that they downloaded/played.

# **5. E/R diagram**

# **6.Conclusion**

The Social Gaming Marketplace - Ethereal is the implementation of a marketplace that enables players to buy games, play these games, add friends and with this way premium accounts can play games with their friends, players can chat with their friends. There are two types of games as single player games and multiplayer games. While everybody can play single player games, only premium users can play multiplayer games. There are also different categories of games such as action, arcade, casual, racing, simulation, sport, strategy, RPG, indie, adventure etc.

In this report, we aim to give form to the idea of social gaming marketplace. We tried to visualize our project’s database by designing the ER diagram in this way we could understand better about our project’s objects and their relationships. We divided this report into 4 parts as description, requirements as functional and non-functional requirements, limitations and ER diagram.

# **7.Website**

This proposal and other activities of the project are available here: https://github.com/mertosmandy/Ethereal