



Bilkent University

Department of Computer Engineering

# CS353 Project Proposal

*Video Game Digital Distribution Service*

Section 1 / Group 5:

**İrem Seven** 21704269

**Ataberk Gözkaya** 21501928

**Münevver Uslukılıç** 21602297

**İlhan Koç** 21603429

**Instructor:**

**Özgür Ulusoy**

# Table of Contents

<b>1. Introduction</b>	<b>3</b>
<b>2. Description</b>	<b>3</b>
<b>3. Requirements</b>	<b>4</b>
3.1 Functional Requirements	4
3.1.1 Users	4
3.1.2 Developers	5
3.1.3 Publishers	5
3.1.4 Curators	5
3.2 Non-Functional Requirements	6
3.2.1 User Friendliness	6
3.2.2 Security	6
3.2.3 Performance	6
3.2.4 Capacity	6
3.3 Constraints	6
<b>4. Limitations</b>	<b>6</b>
<b>5. Entity-Relationship(ER) Diagram</b>	<b>8</b>
<b>6. Website</b>	<b>9</b>

# 1. Introduction

This project proposal is provided for giving information about the web application we are about to implement, which is named as Video Game Digital Distribution System. In the report, the description part includes information about the project such as what the application aims to do and how it is going to be used. The description section also includes information about why we need to design a database and how a database is going to be used in our system. The requirements section is divided into three subsections, which are functional, non-functional, and pseudo requirements. Functional requirements are essential to define functionalities, scope, and components of the system. Non-functional requirements specify system attributes. The pseudo requirements subsection includes implementation information. The limitations section lists all boundaries and restrictions of our application. These limitations will illustrate what users can do or cannot do. After defining project requirements and limitations, in the end, we will illustrate the conceptual design of the application by providing an E/R diagram to summarize the design of the application.

## 2. Description

Video Game Digital Distribution System aims to provide a platform that will work as a digital game marketing. It will be a web-based application that aims to provide a safe and useful environment where users can easily get the game they want. Users will be able to browse through the games to discover and download the games they want. Users may pay for a game in the market in order to download it. If users do not like the game they bought, they have the right to return it. On the other hand, many free games will be available in the system. Users not only will be able to download games but also they will be able to make friends with anyone they want and write comments on the games they want. In the system, there will be curators whose ideas are considered valuable in the gaming industry. Curators will be able to rate games by providing comments on them. As a result of the evaluations provided by the reliable sources here, it will be to ensure that the games that are liked stand out and that the users can access high-quality content. Users will be able to follow the curators they want, thus facilitating their access to the games that suit their game tastes. Users may become a curator as a result of certain evaluation criterias via other users or with our permission. Users will not be limited to these activities. Some players like to play games as much as they like to develop mods for games, so they can install mods they have developed for a particular game on the system or download mods created by other users.

Not only for users but also we aim to provide a convenient and safe environment for developers and game publishers. Game developers will be able to put their games on the market. However, to maintain the quality in the market, game developers must first obtain permission from the relevant publishing companies to publish the game. After obtaining the necessary permissions from the publishers, the games can be published by the publisher. Publishers may choose to sell games by providing prices on them, or they sell them free. Developers whose games are published will have the authority to update their games.

Entries to the system will be provided with an e-mail address and password. Users can log in directly in this way. On the other hand, developer and publisher companies must provide extra information to register in the system. After logging in as a normal user, they will fill out a form stating that they are a publisher, and as a result, their accounts will be given the necessary authorization.

It is important to use a database, which is commonly used by many web-based systems, for our project. Database systems provide the ability to manage systems that have many objects and where objects are associated with much information. While there are many types of users in our application, especially end-users, developers, publishers, and curators, using a database system will allow us to do data management since there are many related data. Also, we need to use a database system to control the activities between the entities. There are some specific relationships between each entity. For example, the user downloads games or makes friends. Managing such relationships is again possible thanks to a well-designed database system.

Our database will provide anything to manage a basic video game distribution service. Users can access various games. Each game will be searched through their names. The database essentially will be able to contain all account information of the users, so users can access, modify their account information and look at their games. The database will also provide a collection of review data of each game, which users can read and decide whether they want to buy it or not.

## 3. Requirements

### 3.1 Functional Requirements

#### 3.1.1 Users

- The users can load money to their accounts and spend that money when they purchase games.
- The users can return the game in 15 days.
- The users can review the games that they had purchased and downloaded.
- The users can review the games by their maturity contents and select / deselect the contents they would like to see.
- The users can review the games by their available operating systems and select / deselect the contents they would like to see.
- The users can write comments to the games.
- The users can rate the games.
- The users can show the list of the games by their genres.
- The users can review trending, upcoming and free games.
- The users can add games to their wishlist.
- The users can add other users as friends.
- The users can review their friends' activity such as the games that they purchased or comments that they wrote.
- The users can search for the games by their names.
- The users can personalize their accounts by the changing settings.
- The users can build mods for the games if they want and release the mods on their profile so that other users can download it.
- The users can follow and unfollow curators.

#### 3.1.2 Developers

- The developers should specify the publisher company that they work with.
- The developers should send a request to publisher companies so as to upload their new game which is already published.
- The developers can update the games.

### 3.1.3 Publishers

- The developers can determine the cost for their games.
- The publishers can publish the games that developers have requested.
- The publishers can make discounts on games.
- The publishers can review the users that purchased their games.
- The publishers can notify the users when they release or update a game.

### 3.1.4 Curators

- The curators can write comments for games.
- The curators can rate games.
- The curators can view their followers.

## 3.2 Non-Functional Requirements

### 3.2.1 User Friendliness

- The contents and display of the system must be user-friendly and easy to use and navigate.

### 3.2.2 Security

- The system must be protected with high security regulations with the account passwords like length and uppercase, lowercase letters and digit usage since the users load money by using their credit card numbers.

### 3.2.3 Performance

- Since this system is based on the database, the query efficiency and the entity relationship must be strong so that the system becomes quick and efficient to use.

### 3.2.4 Capacity

- Since this database system stores the video games, users, comments, the system requires a huge amount of data to store.

### 3.3 Constraints (Pseudo Requirements)

- MySQL ,which is the one of the most popular sql languages, will be used as the structured query language
- Php will be used for the back end.
- Javascript will be used for the front end.

## 4. Limitations

- Users can only use one email address to enter their accounts.
- End-Users and Curators can review games only one time. However, they can edit their reviews.
- Users cannot rate one game more than one time.
- Each game cannot have more than one publisher company.
- Users can have only one unique setting. In other words, the settings cannot change device by device.
- A user can add a user as a friend only one time.
- A mod can be developed by only one user.
- There will be only one payment method which is an application wallet. Users can add money to their wallet and then buy games with money in that wallet.

## 5. Entity-Relationship(ER) Diagram

