

# CSE325\_ISD Report

## First Person Shooting Game

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# 1 Introduction to First Person Shooting Game

First-person shooters are a type of [three-dimensional](#) shooter game, featuring a first-person point of view with which the player sees the action through the eyes of the player character. They are unlike third-person shooters, in which the player can see (usually from behind) the character they are controlling. The primary design element is combat, mainly involving firearms.



Figure 1: Most popular FTP game

## 1.1 Origin

The earliest two documented first-person shooter video games are [Maze War](#) and [Spasim](#). Maze War was originally developed in 1973 by Greg Thompson, [Steve Colley](#) and [Howard Palmer](#), high-school students in a NASA work-study program trying to develop a program to help visualize fluid dynamics for spacecraft designs. The work became a maze game presented to the player in the first-person, and later included support for a second player and the ability to shoot the other player to win the game. Thompson took the game's code with him to Massachusetts Institute of Technology, where with help from Dave Lebling to create an eight-player version that could be played over ARPANET, computer-run players using artificial intelligence, customizable maps, online scoreboards and a spectator mode. Spasim had a documented debut at the University of Illinois in 1974.

## 1.2 Business value

Call of Duty one of the most popular game is the king of profits when it comes to FPS games. It was recently reported that their profits reached a total of \$10 billion!! Our main aim to take as a part of massive profitable market area. Our main profit will come from game and it's others related products like as gun skin,jacket,new weapon etc.

# 2 System Overview

Our project includes two sub-system,one is play-game and another is market places.

- Play-game : This portion mainly focus on how to operate game, like at first player get into player inventory and select other related terms to start game and server portion mainly keep track entire game.
- Market-Place : In this part consists of selling gaming features. Admin works on it to sell the product and update any relating market area.

Actor : In this project actor are player and admin. Player can play game and buy game features. On the other hand admin mainly function are adding-discount product and other market place related activites.

### 3 Use case Diagram

#### 3.1 Game\_lobby

In our player use-case diagram main actor is player and he can select game map,gaming mode,add his friend into friend list. He can play with his friends and game finally start based on his selecting mode,map,friends.

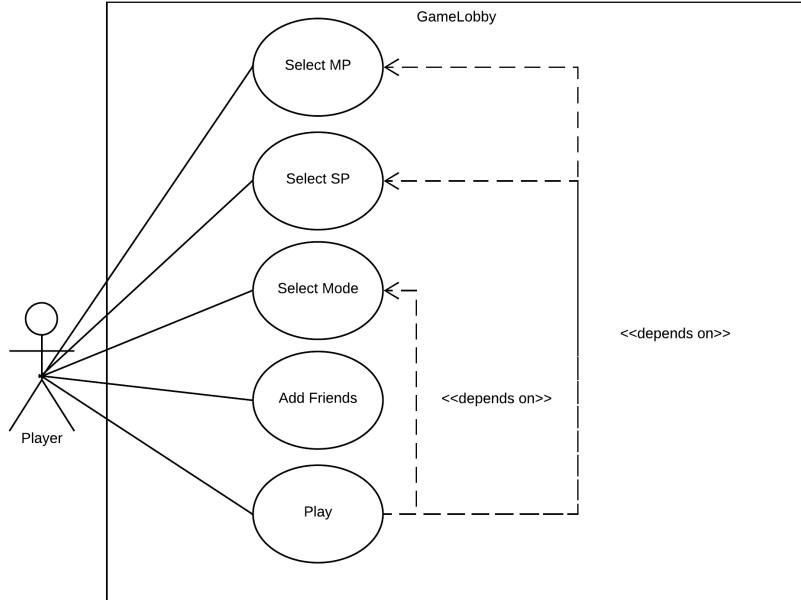


Figure 2: FPP\_Use\_Case

### 3.2 Market\_place

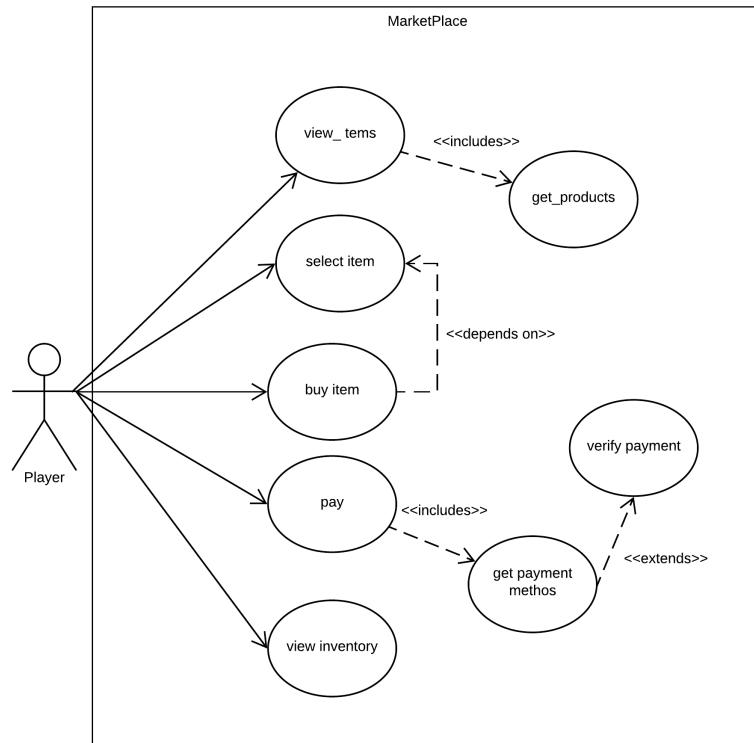


Figure 3: FPP\_Use\_Case

In our market place, actor can view our available items and opting his item by paying systems. Into buy-item use\_case depends on selected\_items. Into Pay use\_case includes paying method like Bkash,Dbbl card,Visa card etc which is extends with verifying system.

## 4 ERD

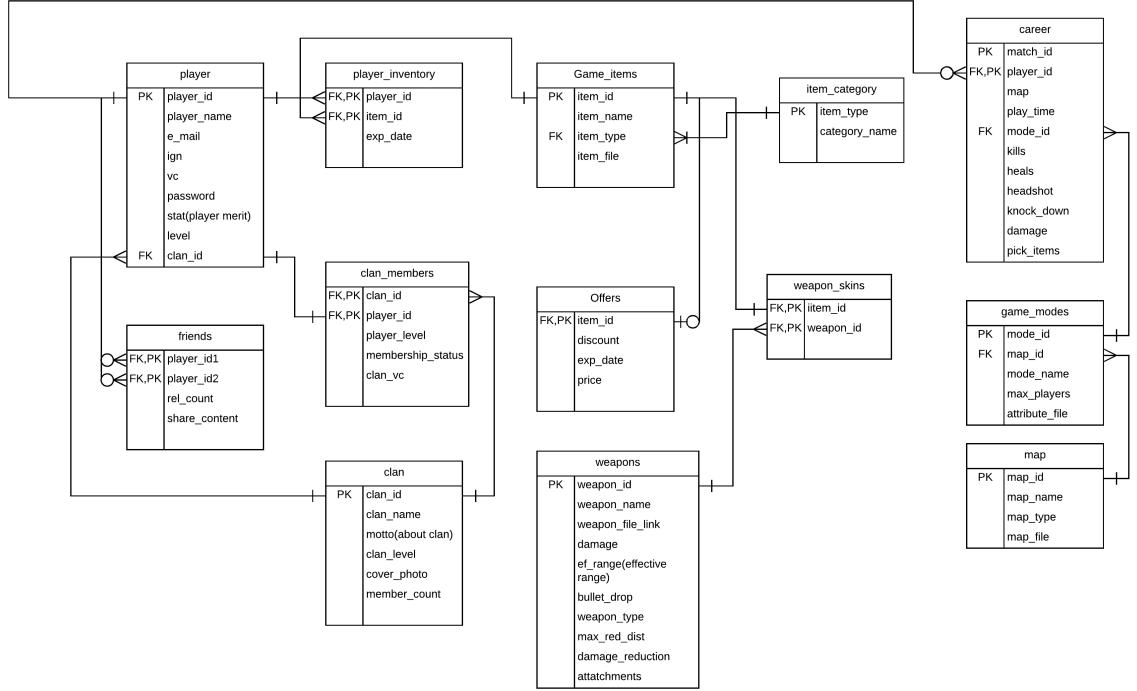


Figure 4: FPP\_ERD

Here in the player table, every player having unique id and it's the primary key of player table. Every player may be have different career result like how many kills, healing amount, headshot, total damage in different map. So, it's a one to many relationship with player table. Each player can connect with other his friends. So, its one to many relationship with friends table. In this table player\_id1 and player\_id2 both are primary and foreign key. A group of players can make a clan with themself. So, clan leader fixed up clan\_id(PK) and every clan member can access clan game through matching with clan\_members table's clan\_id(PK,FK) and player\_id(PK,FK). And ours marketing features like new weapons, weapon\_skins its market prices are connected with Game\_items table like all weapons has unique item\_id(PK) has weapon\_skin, So, it's one to one relationship. A weapons may have more than one weapon\_skin so weapons table's weapon\_id(PK) having one to many relations with weapon\_skins table weapon\_id(FK,PK).

## 5 Class Diagram

### 5.1 In\_Game

We have Use case diagram of two sub-systems.

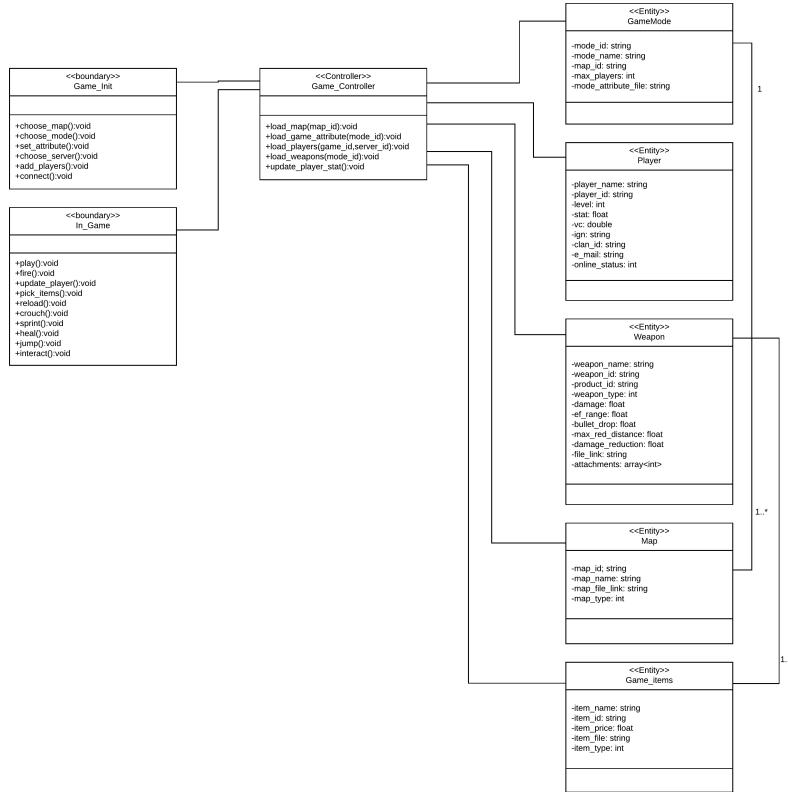


Figure 5: FPP\_Class\_Diagram\_InGame

- In\_Game : In this sub-system having two boundary class for user interfaces. One is game\_init which responsibility to set up initial requirements to start a game like choosing map,gaming mode(classical/war),connecting with friends,server. Other is in\_game which serves when players in gaming mode,it's functionalities are fire,pick\_items,heal,jump,interact,crouch And controller class has five entity class which retrieve requirement data to operate game from database.For example player entity retrieve player's id,name,status(offline/online),mail etc.

## 5.2 Marketplace\_Controller

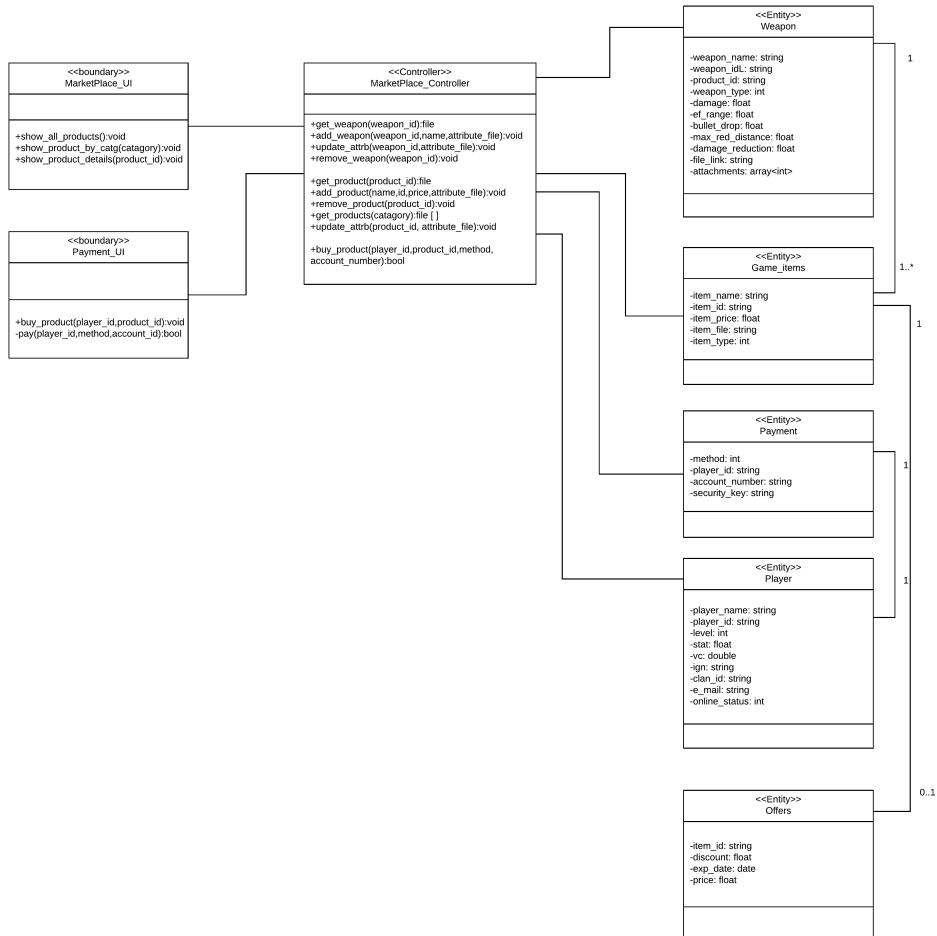


Figure 6: FPP\_Class\_Diagram\_MarletPlace

- `Market_place` : In this sub-system having two boundary class for user interfaces. One is `MacetPlace_UI` for the particulars for the product. And other is `Payment_UI` for buying product by reliable payments. And controller class has five entities. `Weapon` entities retrieves data from database to show the particulars of it. `Payment` entity retrieves data for authentication the user for payment. `Player` entity retrieves player's information. Controller class takes up the data to operate the system.like `get_weapon` takes `weapon_id` and loaded the `weapon` file and return to the user.

## 6 Sequence Diagram

We have two sequence diagram one is In\_game and other or Market\_place.

### 6.1 In\_game

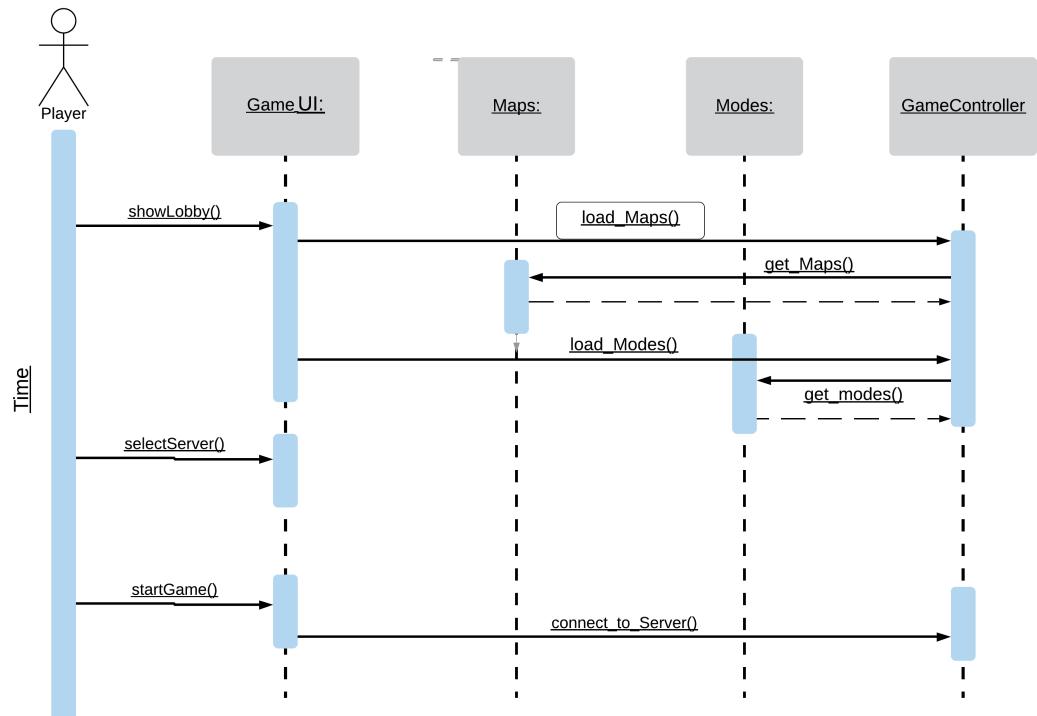


Figure 7: FPP\_In\_Game\_sequence\_diagram

- In\_game : vertical axis express the elapsed time and horizontal axis indicates the object calls,like as when user call startGame from Game\_UI then it calls GameController object to connect with server.

## 6.2 Market\_place

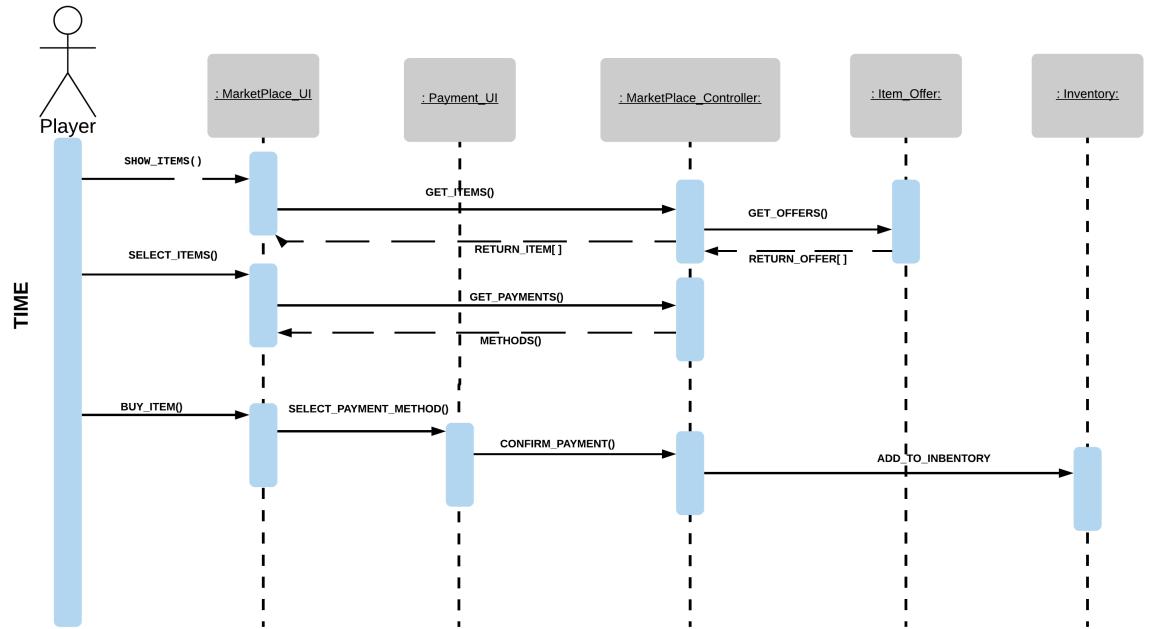


Figure 8: FPP\_marketPlace\_sequence\_diagram

- MarketPlace : vertical axis express the elapsed time and horizontal axis indicates the object calls, when user calls `Buy_item` from `MarketPlace_UI` firstly it calls `Payment_UI` object, then it calls `Confirm_payment` Method for calling `MarketPlace_controller` Object, after confirming calling `Inventory` Object to save the items to players inventory.

## 7 DFD

We have two Data flow diagram one is In-game and other or Market\_place.

### 7.1 In\_game

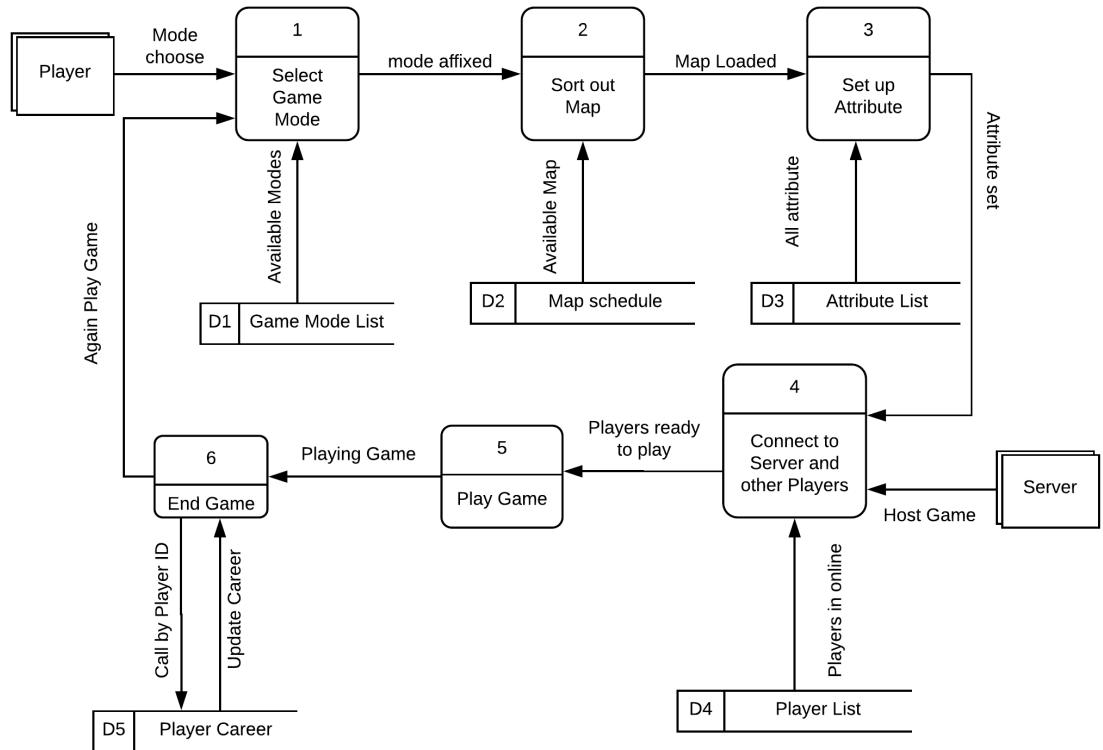


Figure 9: FPP\_IN\_Game\_Dataflow

- In\_game : Firstly select\_game\_mode process takes player choice as input and reload data from D1 store,after selecting map, set attribute processes server will host the game with D4 player list data store, after ending game player career will be updated through end game process from 6 processes and 5 data stores.

## 7.2 Market\_place

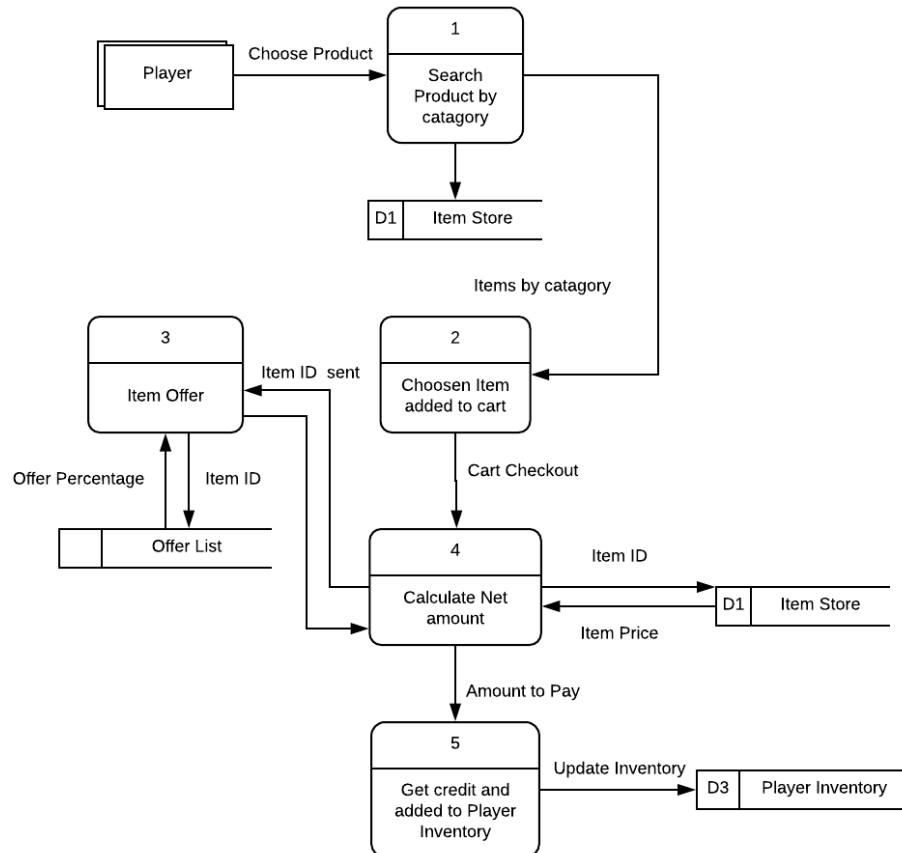


Figure 10: FPP\_IN\_Game\_Dataflow

- Market\_place : Firstly user select product and process 1 retrieve corresponding data from D1,after passing through cart process, process 4 calculate net price from retrieving data D2,if any item offers are available it being updated from process 3.Finally, process 5 will update the player inventory.

## 8 Gantt Chart

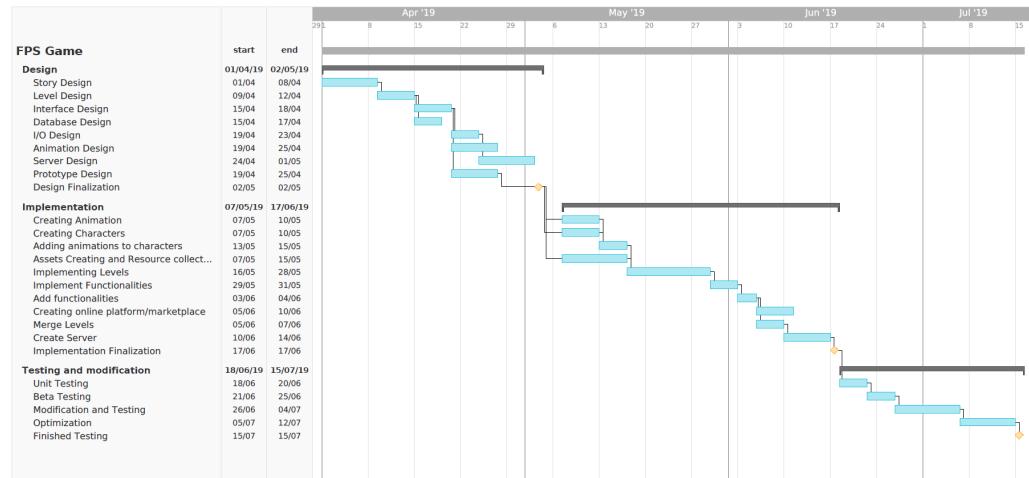


Figure 11: Gantt\_Chart\_for\_Project

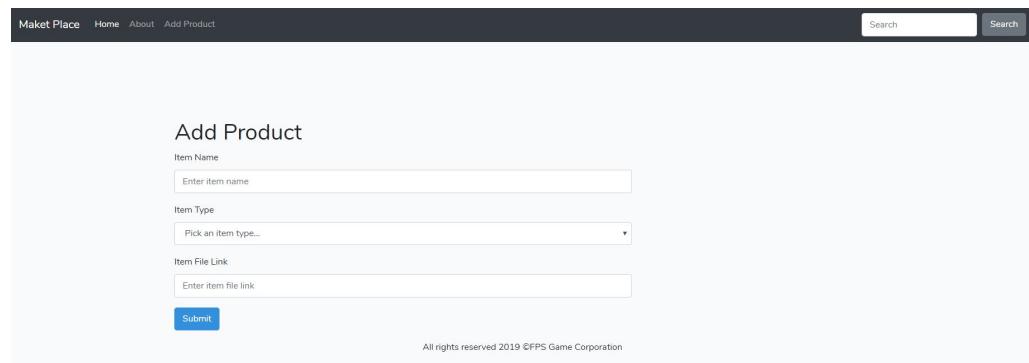
## 9 Implementation examples

We have partially implemented the Market Place admin subsystem. There an employee(admin) can add some product like skins, weapon etc into the system. And anybody can see the skins or weapons on our market place website.



#	Item_Name	Item_Type	Item_Link
7	Kar98	2	Cabcd
8	M416	2	Cabcd
9	M416	2	Cabcd
10	Scar-L	2	cab/c
11	Jacket	1	cab/c
12	AVM	2	cab/c
13	Ump-9	2	cab/c
14	Vector-.99m	2	cab/c
15	Uzi-.99mm	2	cab/c
16	DP-28	2	cab/c
17	A16A4	2	Cabcd
18	M24	2	Cabcd
19	BUGGY-car	1	Cabcd
20	AKM	2	A:a/b/v

Figure 12: Home\_Page\_of\_MarketPlace



The screenshot shows a form titled "Add Product". It contains three input fields: "Item Name" (with placeholder "Enter item name"), "Item Type" (a dropdown menu with placeholder "Pick an item type..."), and "Item File Link" (with placeholder "Enter item file link"). Below the form is a "Submit" button and a small footer note: "All rights reserved 2019 ©FPS Game Corporation".

Figure 13: Admin\_Page\_for\_Adding\_Product

The partial implementation has been done using laravel framework that strictly follows the MVC pattern. There was a mistake though while following it. Any kind of query should be done in the model classes, but instead it was done in the controller class.

We have also partially implemented the our first person shooting game where a player can move, shoot an enemy, kill them and also interact with environment.

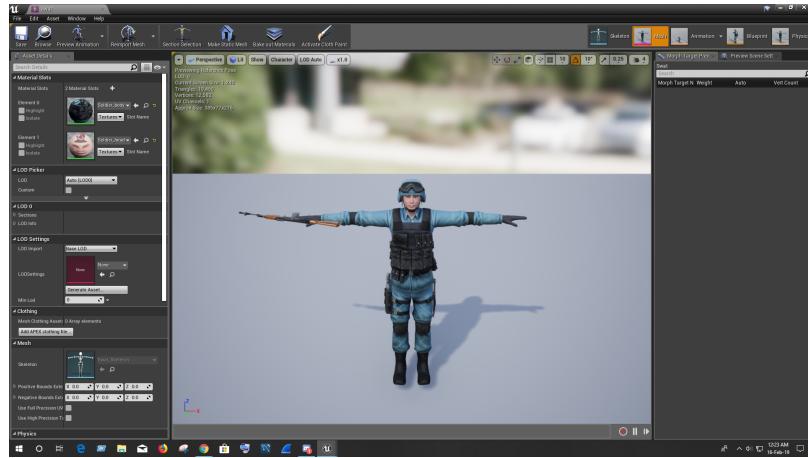


Figure 14: Player\_Outlook

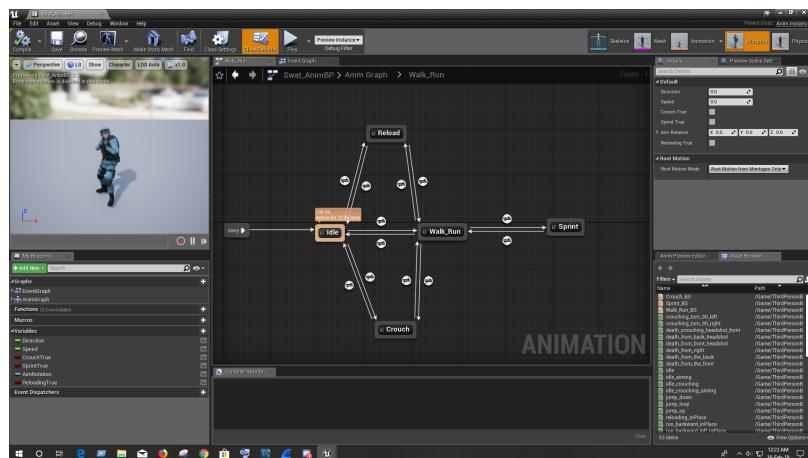


Figure 15: Data\_Flow\_of\_Game

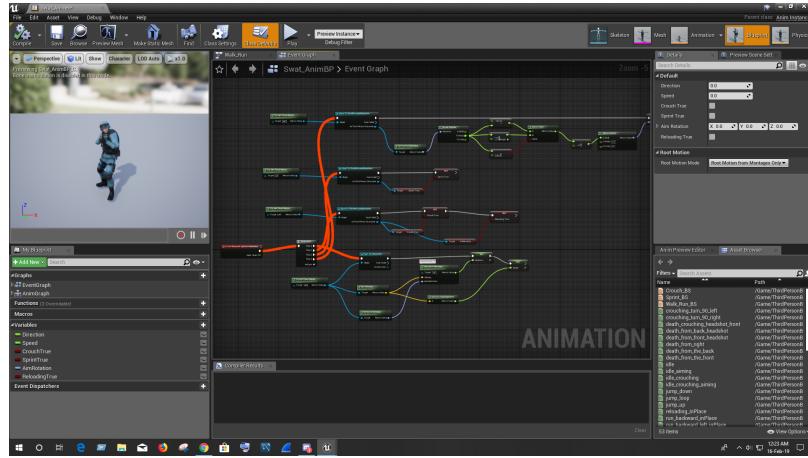


Figure 16: Blueprint\_of\_All\_Methods

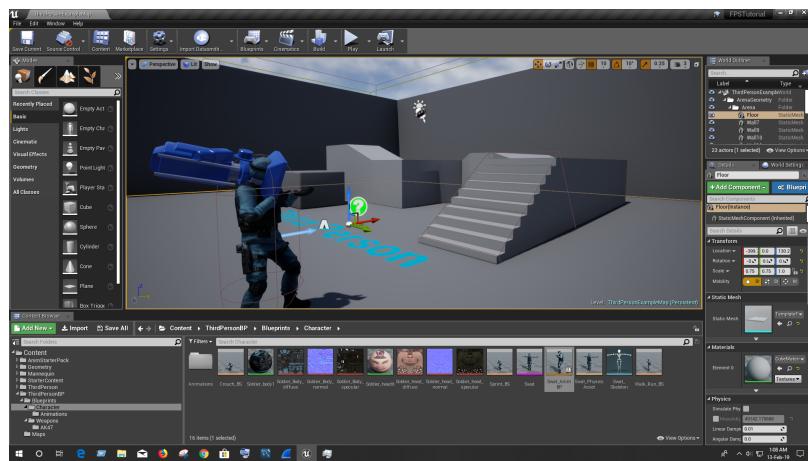


Figure 17: Interaction\_of\_Player\_With\_Environment1

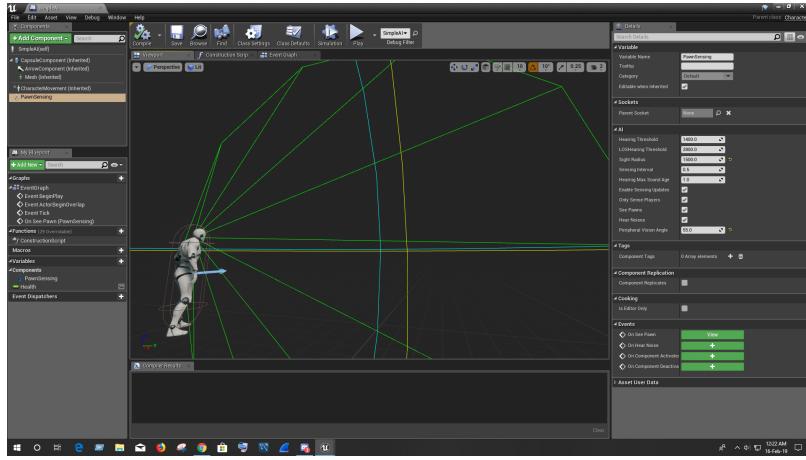


Figure 18: Interaction\_of\_Player\_With\_Environment2

## 10 conclusion

[h!] Video gaming is relatively a new sector in Bangladesh. Our main motivation is to make gaming as a professional business criteria level. In our country only few number software development company(Apple Soft IT: Red Cloud 71, Trimatrik Interactive: Arunodoyer Agnishikha, Team 71: Liberation 71, LAI MASSIVE: The Reels: Welcome to Bangladesh ) release PC games. Most of them have faded away due to low maintenance and marketing weakness. Besides today's in our generation, Online multiplayer games have achieved popularity largely as a result of increasing broadband adoption among consumers. Affordable high-bandwidth Internet connections allow large numbers of players to play together, and thus have found particular use in massively multiplayer online role-playing games. So, that we it will be great opportunity to take as gaming project in CSE325 for aim.