# <INDO-PAK WAR (It's all about Kashmir)>

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# 1. Introduction

## 1.1 Abstract

Indian army attack Kashmir, but Kashmiri people are unable to defend themselves. Some militants from Pakistan start the war against the Indian army and they are players which will be controlled manually. Indian army work through neural network to defeat the militants and some helpers from the Pakistani army will also work and follow the militant's strategy using a communication medium and they will also work with neural networks and if they find something better than the manually layers and they give the idea using artificial intelligence. In the beginning of the game we will show the militants of Pakistan attacking Indian check posts. They will try to occupied the check post of Indian army. Players use the machine learning and strategical algorithms. At the start of the game if the players failed to choose the right path, then in another attempt by the help of the machine learning they are able to choose the right path and make strategies for better results. They will also use strategical algorithms for better planning if they were failed in the first attempt. Every militant has some special expertise and they will use to accomplish each strategy will be planned by the militants. They can either work together or either they work individually to complete the strategy. We will add some natural phenomena like animals and insects are also killing our players. If they will win the game against the opponent team and make the check post free then the army of Pakistan hold the flag of Kashmir and entered in the area of Kashmir.

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## 1.2 Objectives

We want to build the game in which we discuss the factor of war and also result of war. Similarly, the conflicts between America and Afghanistan is almost the same conflicts between India and Pakistan

## 1.3 Goals

We want to use machine learning and artificial intelligence in our game. Players uses past experiences for performing next task by using artificial intelligence.

# 2. Software Specification

This section describes many of the software in which we build our game.

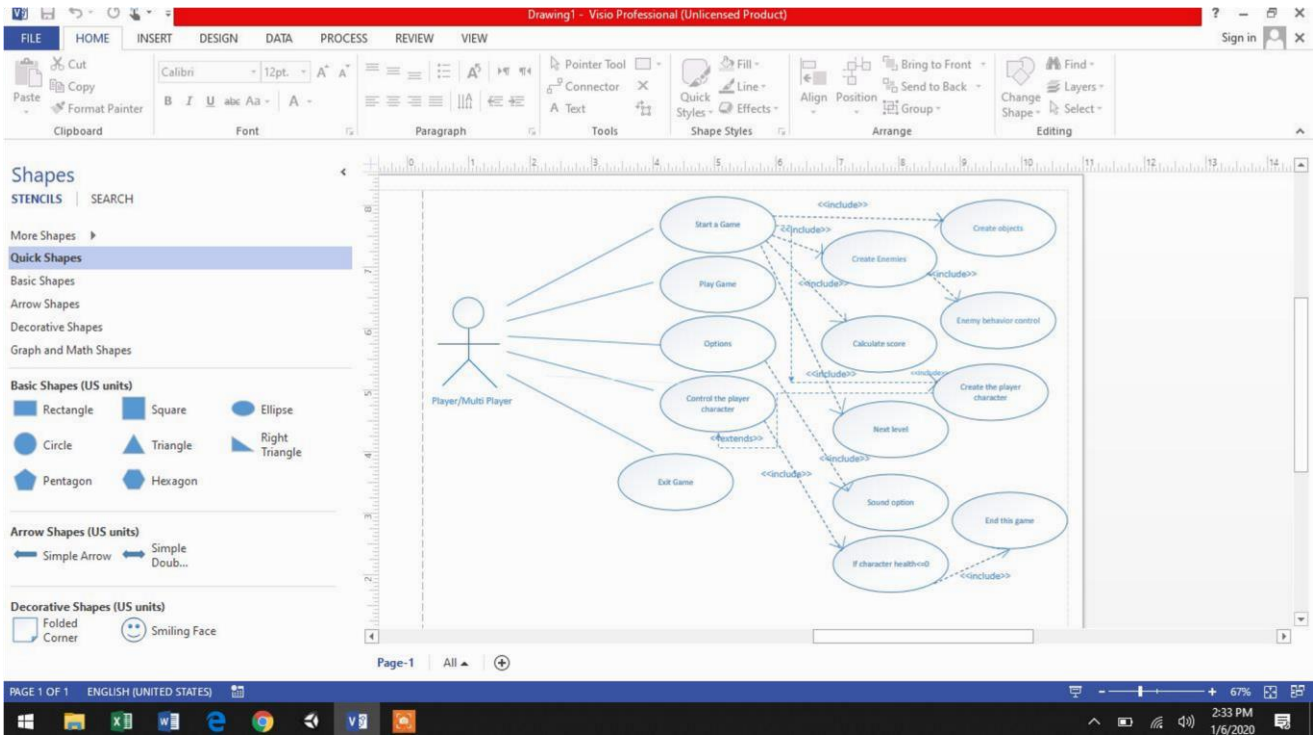
## 2.1 Working Tools and Platform

| | Product of | Tool | Usage | Work exp. |
|---|---|---|---|---|
| | | | | |

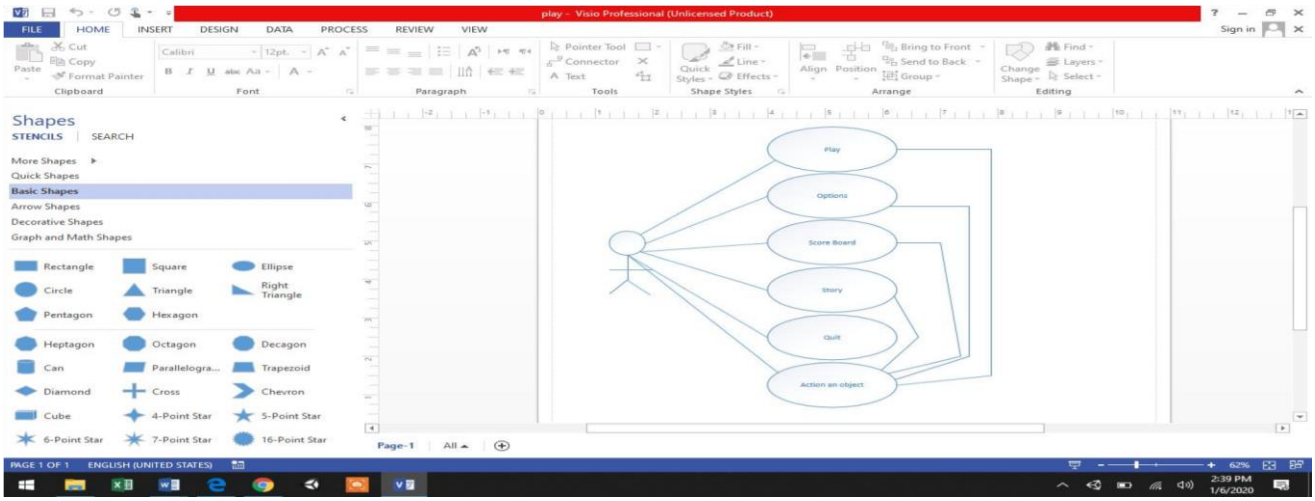
| | | | | |
|---|---|---|---|---|
| (1) | Unity technologies | Unity 3d | Game Development | Functionality |
| (2) | Blender | Blender 3d | Create Model | 3d Modeling |
| (3) | Adobe Photoshop | Photoshop cs6 | Editing ,texturing | Texturing 3d model |
| (4) | Python | Tensor flow | Artificial intelligence | Functionality of players |

## 2.2 Use Cases

- Use case Diagram




"Play" module of use case




Use case:

Start Game (Play Game)

Primary actors:

- Any one playing the game
- May be multi users

Goal:

To start a new game

Preconditions:

- System must support the game configuration system.
- The file has been triggered to and the game screen (including main menu) has displayed.

Triggers:

The player needs to start a new game.

Scenario:

- Go to the main menu of the game
- Click the new game button
- New game is loaded on system

Exception:

Game disturbed (crashed).

1. Use case:
2. Resume Game

Primary actors:

Any one playing (player) the game. Goal in context:

To resume game from previous play Preconditions:

- Game was played before.
- Game supports to have a checkpoint to start from

Triggers

Need to resume game

Scenario

- Go to the main menu of the game
- Click the resume game button
- Game is loaded from the last checkpoint

Exception

- Level cannot be loaded  Game crushed

3. Use case: Select level

Primary actors

Anyone playing(player) game from user side Goal in context:

To load the game from a required level Preconditions:

- Required level has been unlocked
- Game support loading levels

Triggers:

Need to load a level

Scenario:

- Go to the main menu
- Click the select level button
- Select a level
- The level is loaded for play
- Need to load a level

Exception:

Level cannot be loaded

4. Use case:
    - Exit Game
    - Game Over

Primary actors:

Any one playing the game Goal

in context:

To exit from the game level Preconditions:

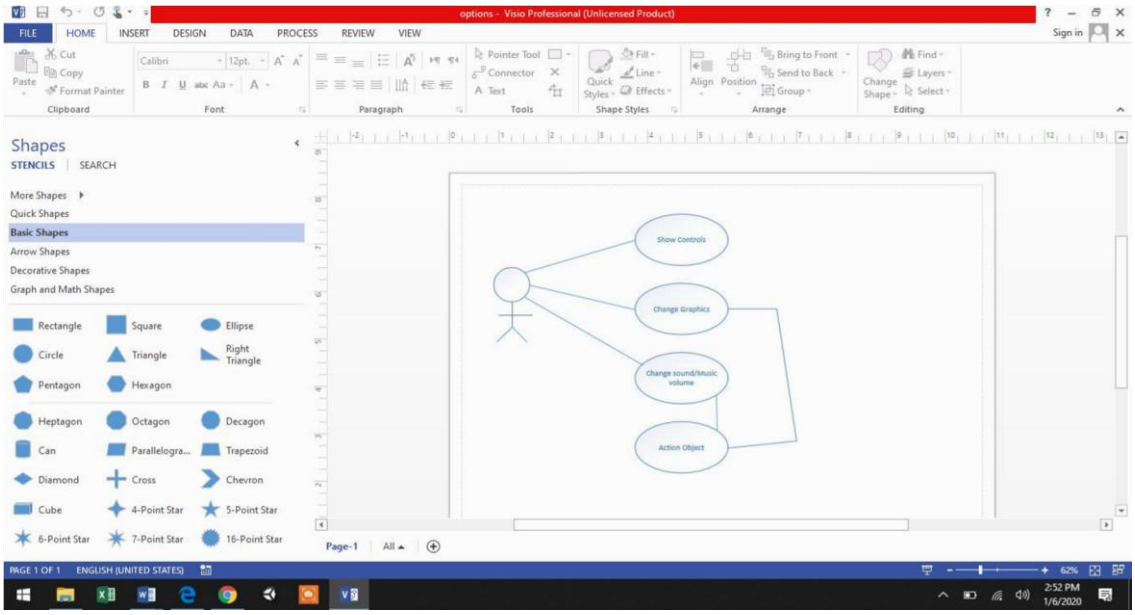
A game level is being played Triggers:

Players needs to exit from the game level Scenario:

- Press game pause
- When pause menu appears, click Return to Menu button

Game is exited and Game Title screen appears

❖ "Option" module of Use case




# Options

1. Use case: Show Controls

## Primary actors

Any one playing the game

## Goal in Context

To Know the controls of playing game

## Precondition

Game provides control information

## Triggers

Player needs to know the controls to play the game

## Scenario

- Go to the main menu
- Click the options button
- When options menu appears click the show control button

- Game controls are being showed

Exception

No control information

2. Change Graphics Configuration

Primary actors

Any one playing the game

Goal in context

To change the graphics configuration of the game

Precondition

Player is allowed to change the configuration

Triggers

Player has need to configure graphics

Scenario

- Go to the main menu
- Click on options button
- Click on graphics slider and set required value
- Game is updated

Exception

System does not support any given graphics configuration system.

3. Use case: Change Sound/Music volume

Primary actors

Any one playing(player) the game Goal

in context

To change the background sound or music volume. Precondition

Player is allowed to change the volume of the game according to need. Triggers

Player has a need to change volume of the game(requirements).

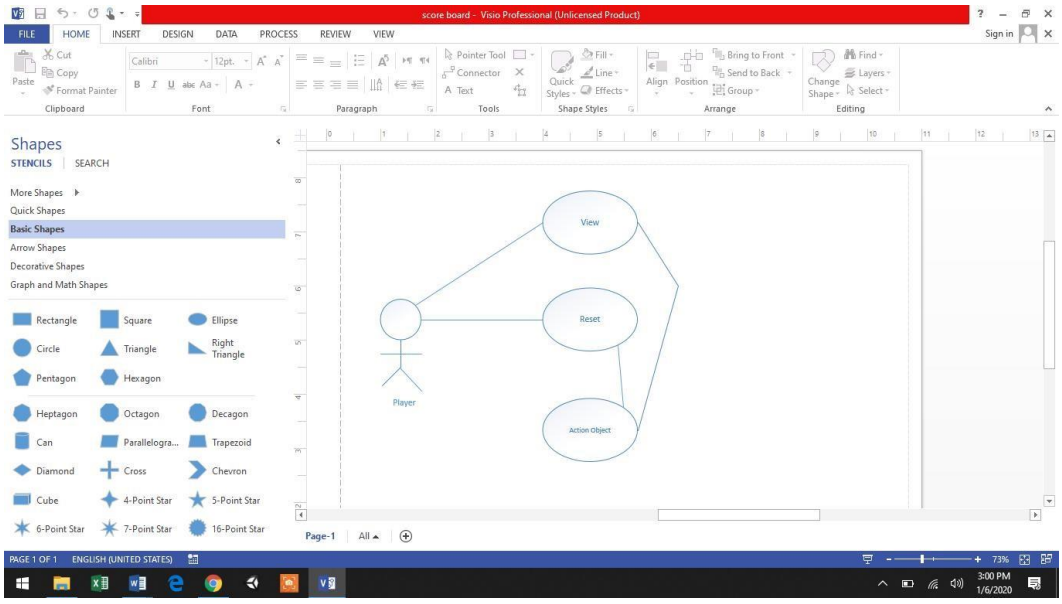
Scenario

- Go to the main menu
- Click on Options button
- Click on Music/sound button and change the value of sound.
- Music or sound volume is changed

Exception

System is in mute mode, cannot increase volume/sound

❖ “Score Board” module of use case




Use case: Score Display

Preconditions:

- Programming required to save scores in database.
- Game has a prepared list for the players an in sequence.

Triggers

Player needs to see the game scores at the end of the game.

Scenario

- Go to the main menu
- Click the score board
- Select a level
- Scores of the level is shown in ranking order

Exception

- There is no score (Game is not played once yet)
- Score Board has been reset

2. Use case: Reset Score Board(Display)

Primary actors

Any one playing(player) the game

Goal in context

To reset the score board(display)

Preconditions

- Game has a score board
- Player are allowed to reset the scores of the game

Triggers

Player wants to reset the scores of the game

Scenario

- Go to the main menu
- Click on score board button
- Click reset score board
- Score board is reset

Exception

There is no score in score board.

The use case for story is given below

Story

1.Use case: View Story

Primary actors Any one playing the game

Goal in context To watch the game story

Preconditions

- Game has a background story
- Story is prepared for the games

Trigger

Player wants to see the game story

Scenario

- Go to the game menu
- Click story button
- Story of the game is played

Quit

Use case: Quit

Primary actors

Any one playing(player) the game

Goal in context

To exit from the Game process

Preconditions

Player has entered in the game process

Triggers

Player needs to exit from the game

Scenario

- Go to the main menu
- Click quit button
- Game is exited

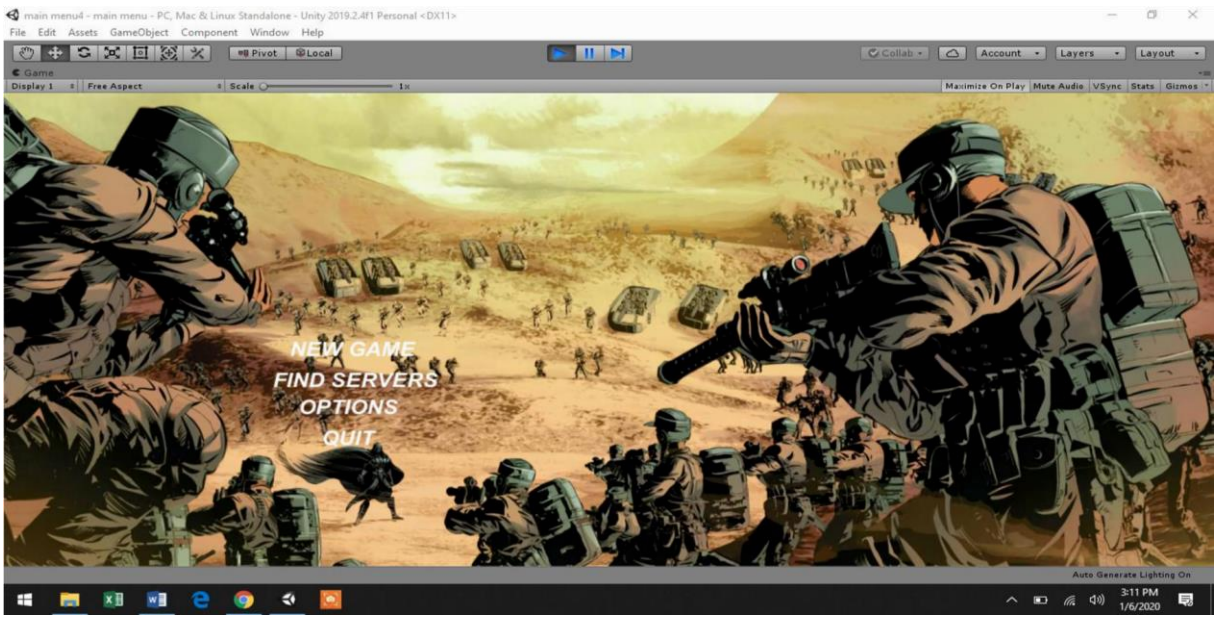
Exception

Something went wrong. Cannot exit now.

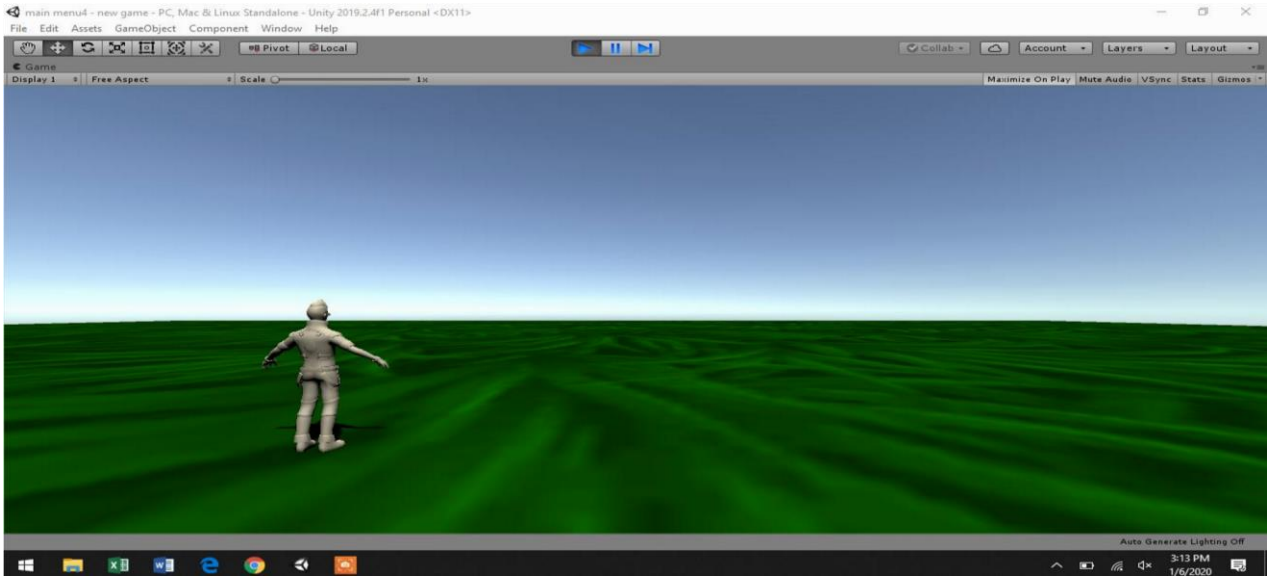
# 3. Design and Implementation

## 3.1 Main Menu

Design Main Menu

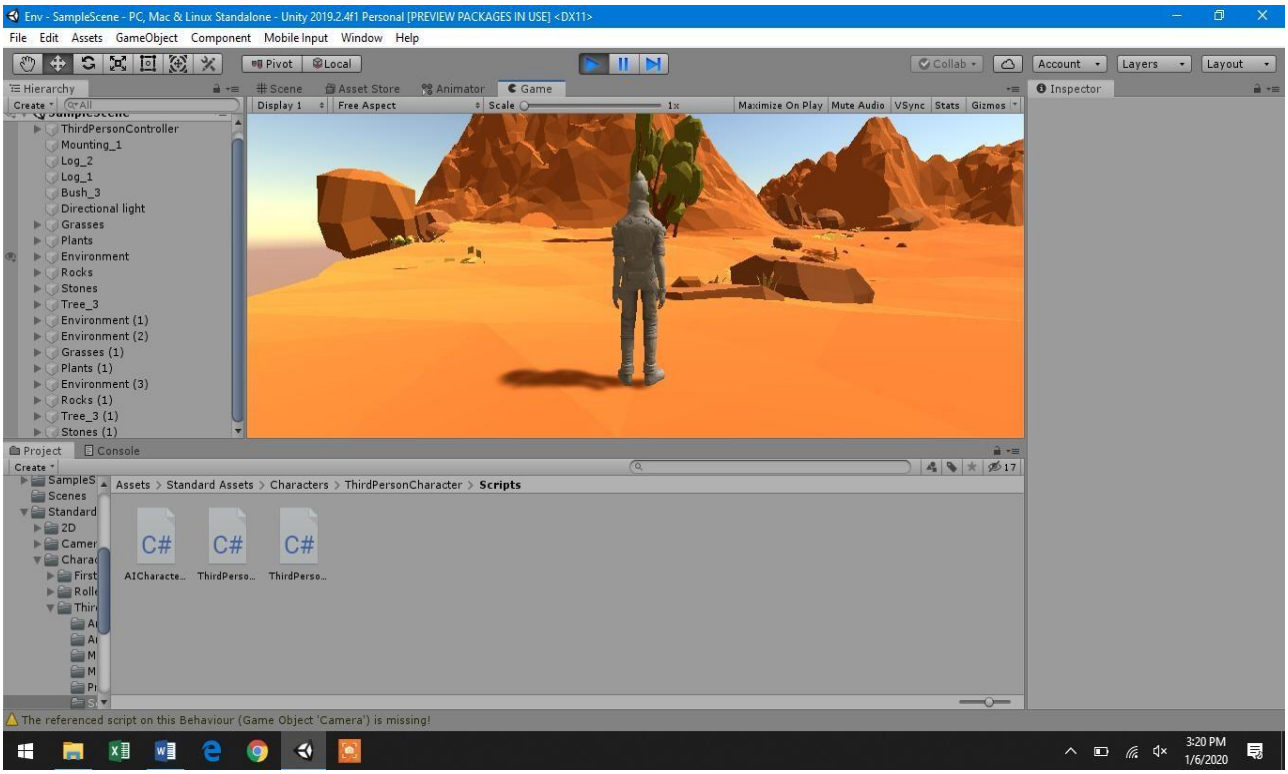



After Clicking on button (New Game)




## 3.2 Environment Setting

### Design Environment

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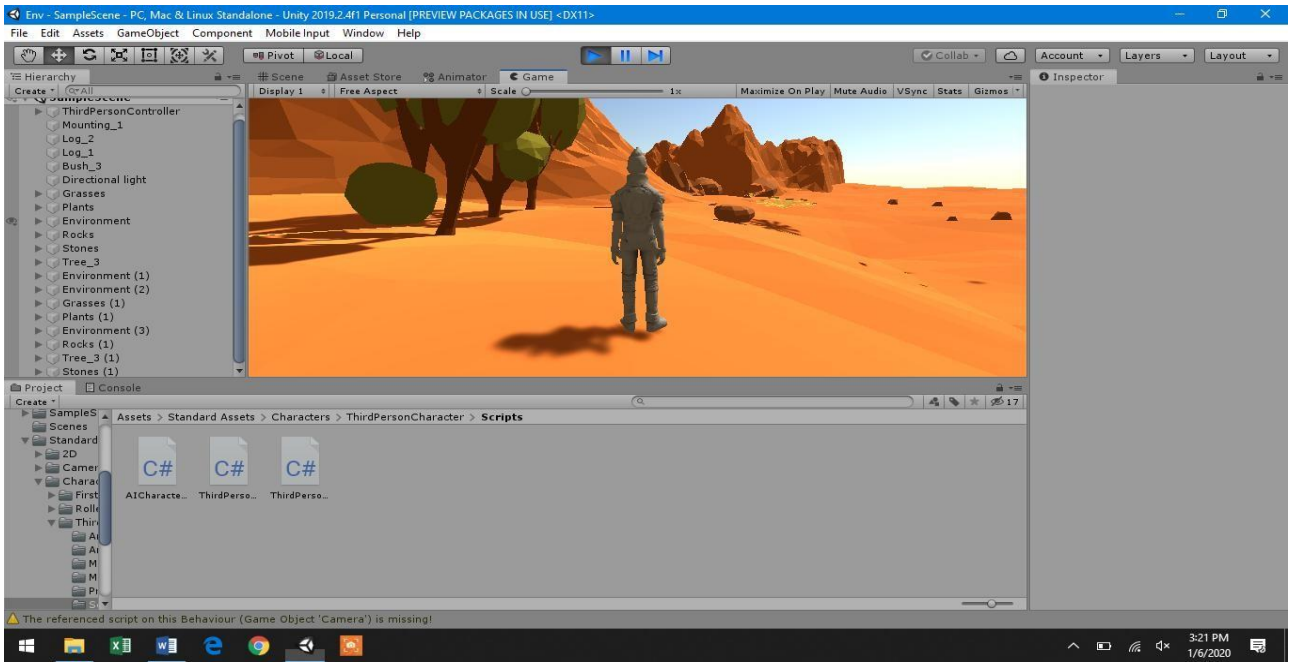


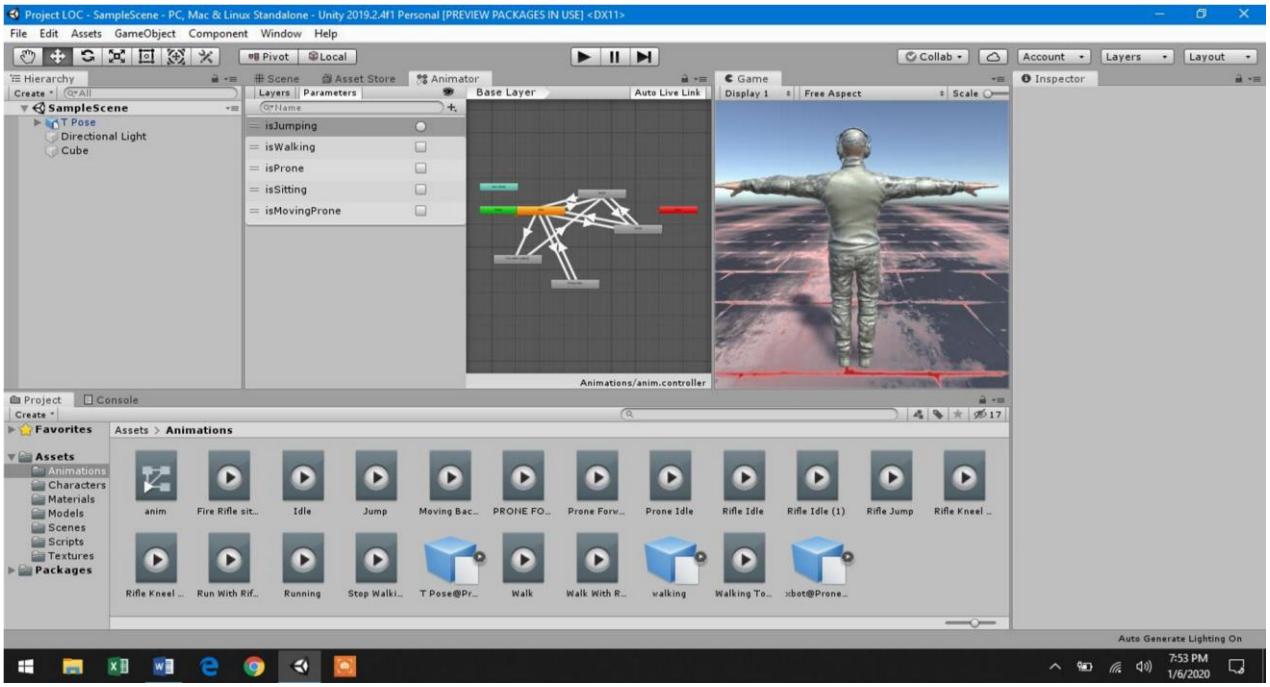
### 3.3 Multi Player

Game a


Fire from one player


3.4 Create Model and Animations of Model(movements)

## Movements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Hierarchy
SampleScene
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Directional Light
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Base Layer
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isWalking
isProne
isSitting
isMovingProne
Animations/anim.controller
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Display 1
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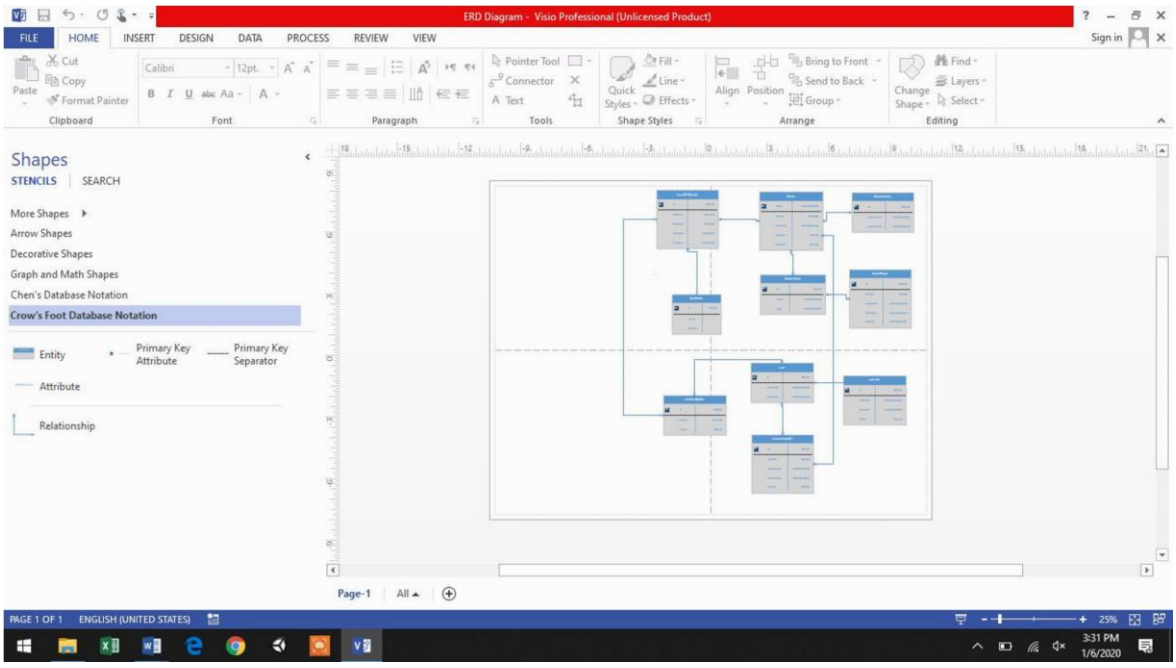
## 4.1 Normalization ER Diagram

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# Entities

- Game
- game_results
- GameTeam
- TeamPlayer
- levelstats
- LevelOffResult
- user
- userinfo
- users_games
- userstatspicks

Attributes

- Game
  - Id
  - name
  - levels
  - time
- game_results
  - Id
  - levelno
  - money
  - guns
  - levelname
  - total_score
- GameTeam
  - Id
  - name
  - logo
- TeamPlayer
  - Id
  - teamId
  - Firstname
  - LastName
  - Position
- Levelstats
  - Id
  - demo

- mission

- LevelOffResult
  - team1
  - team2
  - starttime
  - endtime

- user
  - Id
  - username
  - password

- userinfo
  - Id
  - firstname
  - lastname
  - email

- users_games
  - Id
  - score
  - name

- userstatspicks
  - Id
  - userId
  - levelId

## Normalization

We are choosing keys; the logical phase contains applying normalization forms on existing entities which have redundant data.

## Anomalies and Normalization

Anomalies are inconvenient or error-prone situations arising when the tables are processed. There are three types of anomalies:

- Update Anomalies
- Delete Anomalies
- Insert Anomalies

The end result of normalization is a set of entities, which removes redundancy (i.e. duplication of data) and avoids the anomalies.

## Normalization Stages

Normalization stages involve applying a series of tests on a relation to determine whether it satisfies the requirements of a given normal form or not. We are going to apply three types of normalization in this project such as 1NF, 2NF, 3NF. First, we are removing the duplicate data from the table by giving entities of attributes, then the table is in 1NF. After converting in 1NF, we convert into 2NF by all the non-key attributes are fully functional dependent on the primary key. At last we convert table data into 3NF from 2NF. In 3NF, no transition dependency exists.
In all tables, we make a primary key and all non-key attributes are fully functional dependent on the primary key. Also remove transition dependency if exists.

## Purpose of Tables

## Games

This table consists of the past games, whether those games are finished or not. Attributes of this table are name of the game, number of rounds played, and the path name of the chart file related to the game.

users_games

This table consists of the information of every user in every game and contains some attributes such as a score.

game_results

This table includes the data of every level/round for every user, such as level number, money, guns, knife, total score, personal and levelname, etc.

GameTeam

This table holds the information of different teams and user selects own team.

TeamPlayer

This table contains the record about players and contains some attributes such as firstname, lastname and position.

levelstats

This table carries information of different stats of a degree, including some attributes such as easy, hard stats etc.

LevelOffResult

This table holds data about off level results. Sometimes user pause level for some duration and play game again after some delay.

user

This table contains user information. User start game by entering little information. This table includes some attributes like username and password.

userinfo

This table contains information about user containing some attributes like Firstname, Lastname, email.

users_games

This table consists of user information related user scores. It contains some attributes such as name and score.

userstatspicks

This table consists of data about user. What type of level pick user? It also includes attributes such as userId and levelId.

Implementation Tools required

| Product of | Tool | Usage |
|---|---|---|
| Unity Technologies | Unity3d | Game Engine |
| Blender, Maya, Zbrush | 3d modeling tool | Create models |