



**Submitted by:**

**Course No: CSE 1200**

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## **INTRODUCTION:**

1. What is video game?
2. What are the devices used to play a video game?
3. But how do we communicate with the game interface
4. It must have started some day?



## TYPES OF GAMES:

Mainly games are divided into two parts

- **2D games**
  - Parallel Projection
  - Top-down perspective
  - Side-Scrolling game
  - 2.5D
- **3D games**
  - Fixed 3D
  - First-person perspective
  - Third-person perspective



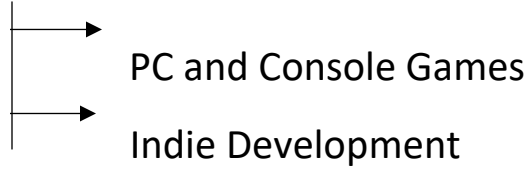
Our game is a 2D game and the name of our game is “**Rangers**”.

**Genre:** Fighting and Shooting



## **GAME DEVELOPMENT:**

- **Video game development is the process of creating a video game.**



- **Roles**

Producer

Publisher

Development Team

Designer

Artist

Programmer

Level Designer

Tester

## DEVELOPMENT PROCESSES:

- 1.Pre-production
- 2.High concept
- 3.Game design document
- 4.Production
- 5.Design
- 6.Programming
- 7.Level creation
- 8.Audio production
- 9.Testing
- 8.Milestones
- 9.First playable
- 10.Maintenance

We developed our game using **Object Oriented Programming Language** and **iGraphics** through **Visual Studio Code 2013**.



## **PROJECT NAME: “Rangers”**

**Genre:** Fighting and Shooting

**PROJECT TYPE:** 2D Game made by IGraphics

### **TEAM MEMBERS:**

<b>NAME</b>	<b>Student ID</b>	<b>WORK DISTRIBUTION</b>
1.RAFIUL AWAL	20200204062	Player movement, Obstacle adding and their functionality, Enemy Attacking, Firing and Attacking with knife and their functionality.
2.Saba AL Mukter Mahin	20200204071	Menu bar, Background, Score part, All kinds of Image adding, Sound works.
3.Mohammad Sadman Ishrak	20200204083	Enemy movement, collisions, Boss movement in last level.

### **OUR MOTIVE:**

Through this project, we, the team members not only tried to showcase our hard work but our creativity as well. Our goal was to present and create a game that has a unique concept and at the same time, make it relatable in a fun way. Initially we had a lot of ideas about the features we wanted to add. We are glad to add almost all of the features from our proposal.

We have put a lot of effort and time into creating our first project. We have learned a lot from this course and project and even though our game may still have some lacking, we hope to do better in future projects. We also hope that everyone appreciates our hard work and likes our game.

We are very grateful to our teacher for showing us guidance during this period. Inspired from this concept, we have created a 2D game adding our own twist. In our game- Rangers, three characters representing the main character is on a mission to battle with enemies who shoot multiple enemies and the enemies also attack at the main character. The enemies’ movements are just moving forward and backward motion to replicate the concept of ups and downs that the main characters has to face. Our character’s goal is to tackle these attacks and at the same

time destroy the enemies by shooting at them as well. A score is counted at the end of each level. When the characters succeeds in destroying all of the enemies, only then he comes to the end of his journey and achieve his goal.

#### **SOFTWARE REQUIREMENTS:**

- **Language-** C++
- **IDE-** Microsoft Visual Studio 2013
- **Library-** iGraphics.h
- **Design-** Photoshop and Power Point

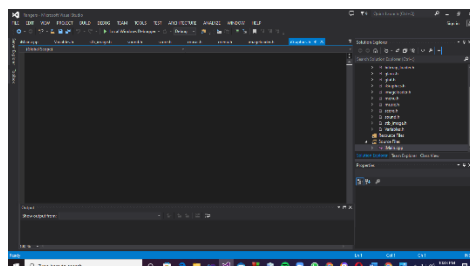
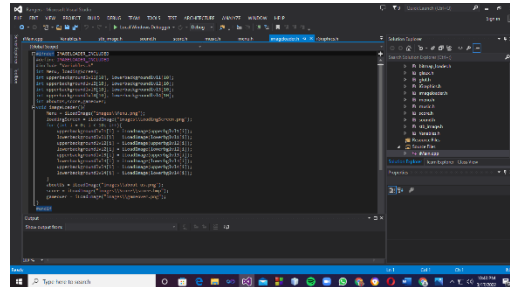
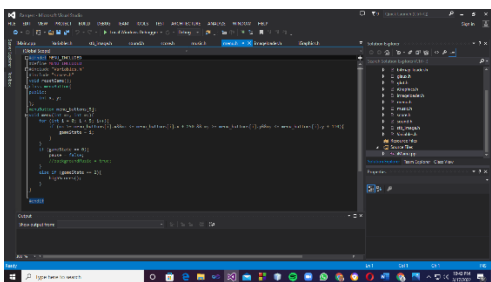
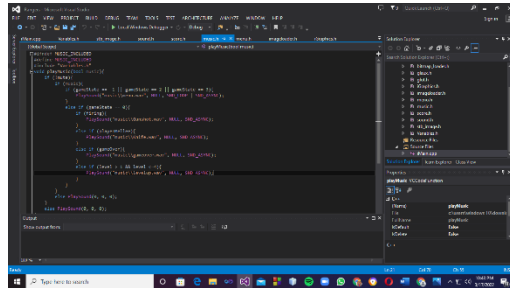
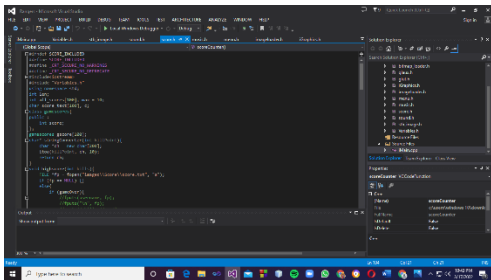
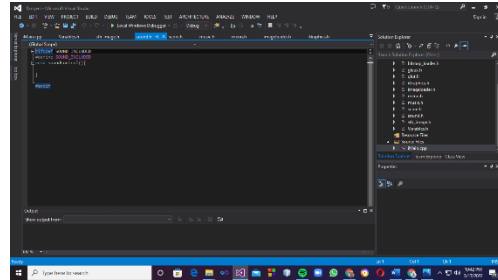
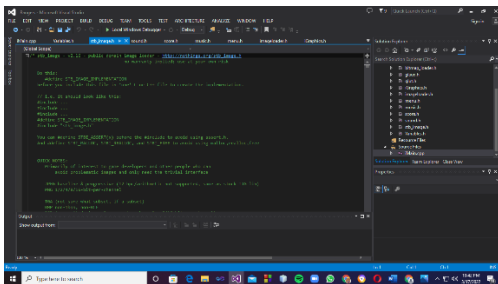
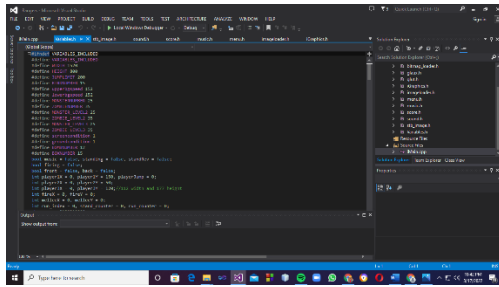
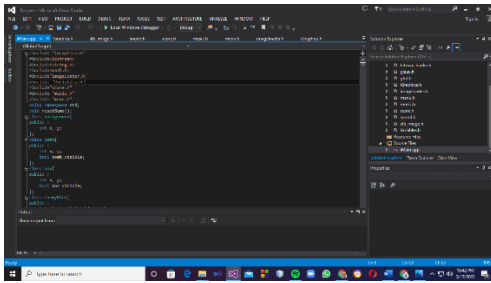
#### **FEATURES:**

- Several unique characters ,guns,knife.
- Multiple Levels
- Background Sound
- Menu Page and different pages
- Buttons - Pause, Resume, Back, up, down, right , left.
- Special scenes
- Different backgrounds for each level
- High Score saved
- Music on/off settings

#### **GAME DIFFICULTIES:**

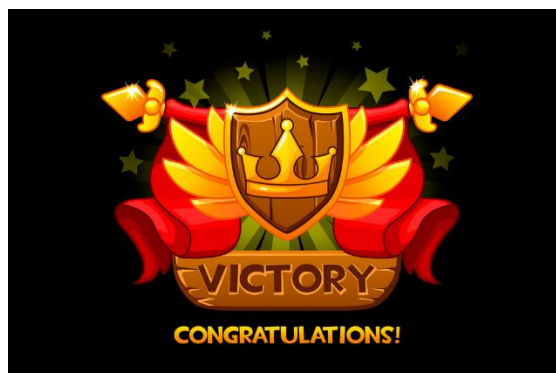
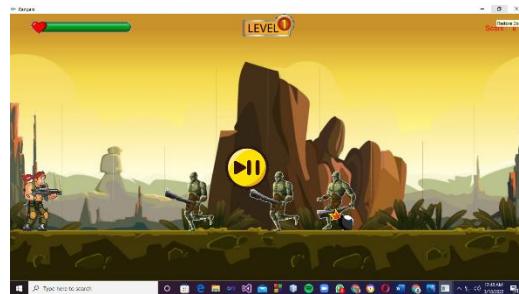
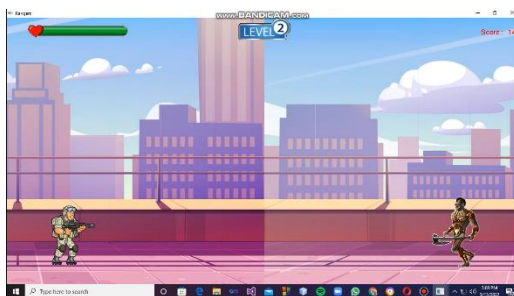
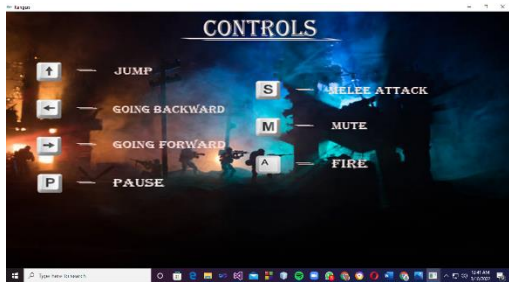
- There are four levels in total.
- All the enemies of a level need to be destroyed in order to go to the next level.
- Number of enemies increases in upper levels and have different kind of obstacles as well in every level.
- If the main character fails or loses his life, he has to start from the beginning i.e., from level-1.

# The images of code in our game:





After execution of the code:



We have created multiple pages for the home page that were necessary for our game. The first page that appears when starting the game is the Home Page. In the Home Page, there are five buttons that take us to different pages/scenes. Firstly, Start button starts the game. Help button take us to a page where the instruction for playing the game is written. Next, we have a Credits button. This shows information about the developers. The Home Page also has a High score button which saves the highest score. The Exit button will close the game.

### **DIFFICULTIES AND LIMITATIONS WHILE CREATING THE GAME:**

There were many difficulties that we faced during this project creation. But through discussion and proper research we tried to solve all the bugs and problems. Moreover we tried to adjust to the best solution for some limitations of iGraphics. Some difficulties that we faced are

- Background Rendering – In Background Rendering, the function iShowBMP requires the background to be cropped to allow it to render. We have used iLoadImage function instead which requires a jpeg/png file and does not need to be cropped.
- Screen Size – In iShowBMP, Screen height and width need to be fixed. It cannot be changed.
- In iShowBMP2, the blurred square background of the character's image sometimes gets counted in the height of the character. So, it creates problems in bullet collision i.e., when bullet goes above the character, collision seems to occur.
- We can't use more than one music at a time. So, we have to stick to one music or to add a new music, the previous music needs to be stopped. We decided that it's better to one overall background music.
- Button set in a specific position always remain active in that position despite leaving that page and going to a different page. So, we had to set the buttons in such a way that it does not collide with another button's position.
- In iText function, string value is stored but string variable cannot be taken. So, we took character pointer.

- We had error in opening the File for saving/updating the last score scored by the player.

### **The good and bad effects of our games:**

Video games are frowned upon by parents as time-wasters, and worse, some education experts think that these games corrupt the brain. Playing violent video games are easily blamed by the media and some experts as the reason why some young people become violent or commit extreme anti-social behavior. But many scientists and psychologists find that video games can actually have many benefits – the main one is making kids smart. Video games may actually teach kids high-level thinking skills that they will need in the future. This game is all about entertain purpose it has no positive effects for our nature or society but it can only remove our monotony and make our mind fresh. People above **age 7** can play this game.

**Thank  
you!**