CP-II Project Report on

MEDIVEAL AGE: MONSTER HUNTER

at

U. V. Patel College of Engineering

Internal Guide:

Prof. Amit Solanki

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B. Tech Semester-VI
(Computer Engineering/Information Technology/Computer Engineering-Artificial Intelligence)
May-Jun, 2023

Submitted to,
Department of Computer Engineering/Information Technology
U.V. Patel College of Engineering
Ganpat University, Kherva - 384 012

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This is to certify that **Mr.Rushabh Bhatiya** student of **B.Tech. Semester-VI (Computer Engineering)** has completed his/her full semester on site project work titled "**MEDIVEAL AGE: MONSTER HUNTER**" satisfactorily in partial fulfillment of the requirement of Bachelor of Technology degree of Computer Engineering of Ganpat University, Kherva, Mehsana in the year 2022-2023.

Prof. Amit Solanki	**Dr. Paresh M. Solanki**
College Project Guide	**Head, Computer Engineering**

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This is to certify that **Mr.Vikas Chudasma** student of **B.Tech. Semester-VI (Computer Engineering)** has completed his/her full semester on site project work titled “**MEDIVEAL AGE: MONSTER HUNTER**” satisfactorily in partial fulfillment of the requirement of Bachelor of Technology degree of Computer Engineering of Ganpat University, Kherva, Mehsana in the year 2022-2023.

Prof. Amit Solanki	**Dr. Paresh M. Solanki**
College Project Guide	**Head, Computer Engineering**

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This is to certify that **Mr.Nihar Patel** student of **B.Tech. Semester-VI (Computer Engineering)** has completed his/her full semester on site project work titled "**MEDIVEAL AGE: MONSTER HUNTER**" satisfactorily in partial fulfillment of the requirement of Bachelor of Technology degree of Computer Engineering of Ganpat University, Kherva, Mehsana in the year 2022-2023.

Prof. Amit Solanki **College Project Guide**	**Dr. Paresh M. Solanki** **Head, Computer Engineering**

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This is to certify that **Mr.Darshil Swami** student of **B.Tech. Semester-VI (Computer Engineering)** has completed his/her full semester on site project work titled “**MEDIVEAL AGE: MONSTER HUNTER**” satisfactorily in partial fulfillment of the requirement of Bachelor of Technology degree of Computer Engineering of Ganpat University, Kherva, Mehsana in the year 2022-2023.

Prof. Amit Solanki
College Project Guide

Dr. Paresh M. Solanki
Head, Computer Engineering

ACKNOWLEDGEMENT

This satisfaction that successful completion of any task would be incomplete without the mention of people whose ceaseless cooperation made it possible, whose constant guidance and encouragement crown all efforts with success. I am grateful to my internal guide **Prof. Amit Solanki** for the guidance, inspiration and constructive suggestions that helped me in the preparation of this project. I also thank my colleagues who have helped in successful completion of the project.

ABSTRACT

This report describes all the requirements for the project. The purpose of this research is to provide a virtual image for the combination of both structured and unstructured information of our project.” MEDIVEAL AGE: MONSTER HUNTER “ is a single-player strategy game on almost all available platform. The plyer will progress through levels which require precise manipulation of the environment , through the game encourages creativity and daring via branching pathways. The episodic structure of the game facilitates the pace of the story. We demonstrate the action flow between inputs , scripts , display(output). We are working mainly with story, levels, object, animation, graphics, scripts, game engine facilities. We are not working with web launching , free hand programming , cartoon making. The final project report is designed to build a 3D game for entertainment and for practical purpose.

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LIST OF FIGURES :

1. INTRODUCTION :

In the fast growing field of software engineering and development and even more rapidly growing sector of game development the future is hard to predict. We are working with this game as out Capstone project – 1 and as a part of our degree we choose this type of work doing better with development cycle , development period , graphics , scripting , adopting new technology , animation.

In general software project is a project focusing on the creation of software. Consequently , success can be measured by taking a look at the resulting software.

In a game project , the product is a game but ,here comes the point: A game is much more than a software. It has to provide content to become enjoyable. Just like web server : without content server is useless , and the quality cannot be measured. This has an important effect on the game project as whole. The software part of the project is not the only one , and it must be considered in connection to all other parts. The environment of the game , the story , characters , game plays , the artwork , and so on.

1.1 Purpose :

In our project it's a single player strategy game emphasizing logical thinking and planning. They often stress resource and time management, which usually takes precedence over fast action and character involvement. Tactical organization and execution are necessary, and the game creators usually place the decision-making skills and delivery of commands in the player's hands.

1.2 Overview :

This document provides the complete idea and structure of this project to the reader. The purpose of this section is to serve the general overview of this project to whomever it may concern.

1.3 Objective :

- To tackle all the problems the user faces while using any document scanning app along with the problems which are listed in our problem statement.
- To make our app most unique and efficient over the current apps which are already available out there

2. PROJECT SCOPE :

- **Objective**: To build an efficient 3D game
- **Benefits**: Portable, fast, high quality, lifetime free with no ads, AI models (in future)
- **Existing Technology:** Unity , Visual studio (c# / Scripts).
- **Project Cost:** Visual Studio (free version), Unity (free version).
- **Project Limits:** Size (More than 1Gb) estimated , Open world.
- **Targeted audience:** Gamers

3. FEASIBILITY ANALYSIS :

The scope of this project is to build a windows base game application which can be accessed by user through at any time, from any place. In feasibility study phase of this Unity 3D Game we had undergone through various steps which are describe as under:

- Technical feasibility
- Operational feasibility
- Schedule feasibility
- Information feasibility
- Motivation feasibility
- Legal and ethical feasibility

3.1 Information Feasibility:

Information feasibility source is very important for the completion of our project. We have full access to internet, and collect data from University, Internet and also Instructor.

3.2 Motivation feasibility:

Unity 3D game helps the users that they play with each other easily and manage their game activities efficiently so that they can respond to the game.

3.3 Legal & Ethical Feasibility:

Game will be developed in such a way so that the information provided by the user and Player is completely confidential. There are no infringements or liabilities arise from this project. We have legal and Ethical feasibility regarding completion of this project.

3.4 Technical Feasibility:

Our team can develop this system on technical basis as we have all the resources to complete this project. Internal and external supervisors are available for help; we had fully equipped labs for working. Time available to us is enough to complete the project as per schedule.

3.5 Operational Feasibility:

Our team is consist of four members all members have the knowledge of Database, Software Engineering, Gaming Development. We will prepare this system with full documentation. so that there will be no problem for any person in operating this system. Its user interface will be GUI based so user and stakeholder will very comfortable in handling this system.

3.6 Schedule Feasibility:

Time is important and most valuable factor. The completion of this project with the cooperation of team members and resources within time. For the purpose we have already decided our meeting deadlines and milestone in order to avoid and break down. We have scheduled every meeting so that time for the completion of project is viable so maximum time which is estimated for the finishing point of our project is about 6 months that are sufficient to meet our goals and objectives.

3.7 Specification Feasibility:

Requirements are the features that system must have all the functional requirements such as play the game, select the level etc. Allocated in this project are properly defined. Not only functional requirements but also non-functional requirements such as reliability, use ability, performance, and supportability constraints as well as design factors which are necessary to provide a complete and comprehensive description. All these functional and non-functional requirements both are clear and definite.

4. SOFTWARE AND HARDWARE REQUIREMENT :

4.1 Functional Requirements :

Following are the requirements which must be performed by the proposed system:-

- Player can Chose the different levels of game.
- User can move the player and gain some upgrades.
- User can restart the game whenever he is dead by enemy.
- User can pause the game while the game play scene in the running condition.
- User can resume the game when game is paused.

4.2 Non-Functional Requirements :

Following are the requirements which are related to the performance of the system:-

- System must be easy to use so that a person with basic knowledge of computerand internet can understand the working in 5 to 10 minutes.
- Language should be English.
- Minimum requirements for a system to use it are :

  Windows 7 or above OS.
  4 GB RAM.
  Internet Connection
- Following web designing languages must be used : C#.

Because above are the most common and user friendly language to design aGame based environment

5. PROCESS MODEL :

We will be using “Waterfall” model for the project, as it is best to get fully familiarize with the beginner’s project flow.

About Waterfall Model:

The waterfall model is a breakdown of project activities into linear sequential phases, where each phase depends on the deliverables of the previous one and corresponds to a specialization of tasks. The approach is typical for certain areas of engineering design.

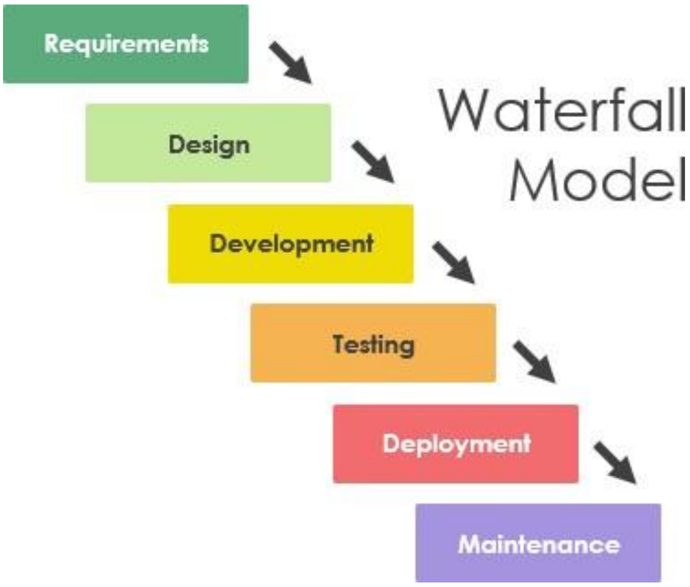


Figure 5.1(“Waterfall Model”)

6. SYSTEM DESIGN :

6.1 Use case Diagram

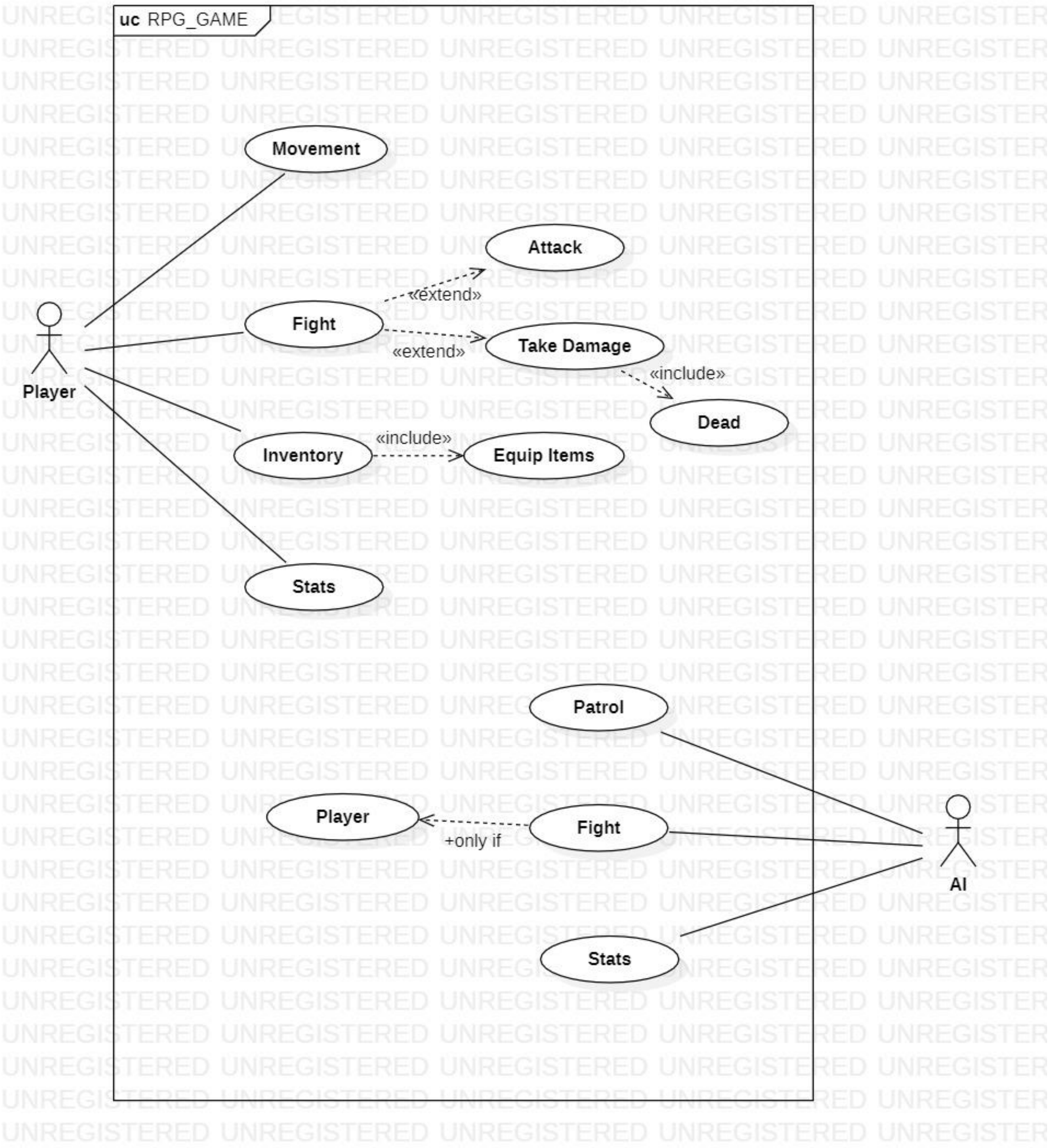


Figure 6.2 (Use Case Diagram)

Note: AI features will be added in future**.**

6.2 Class Diagram

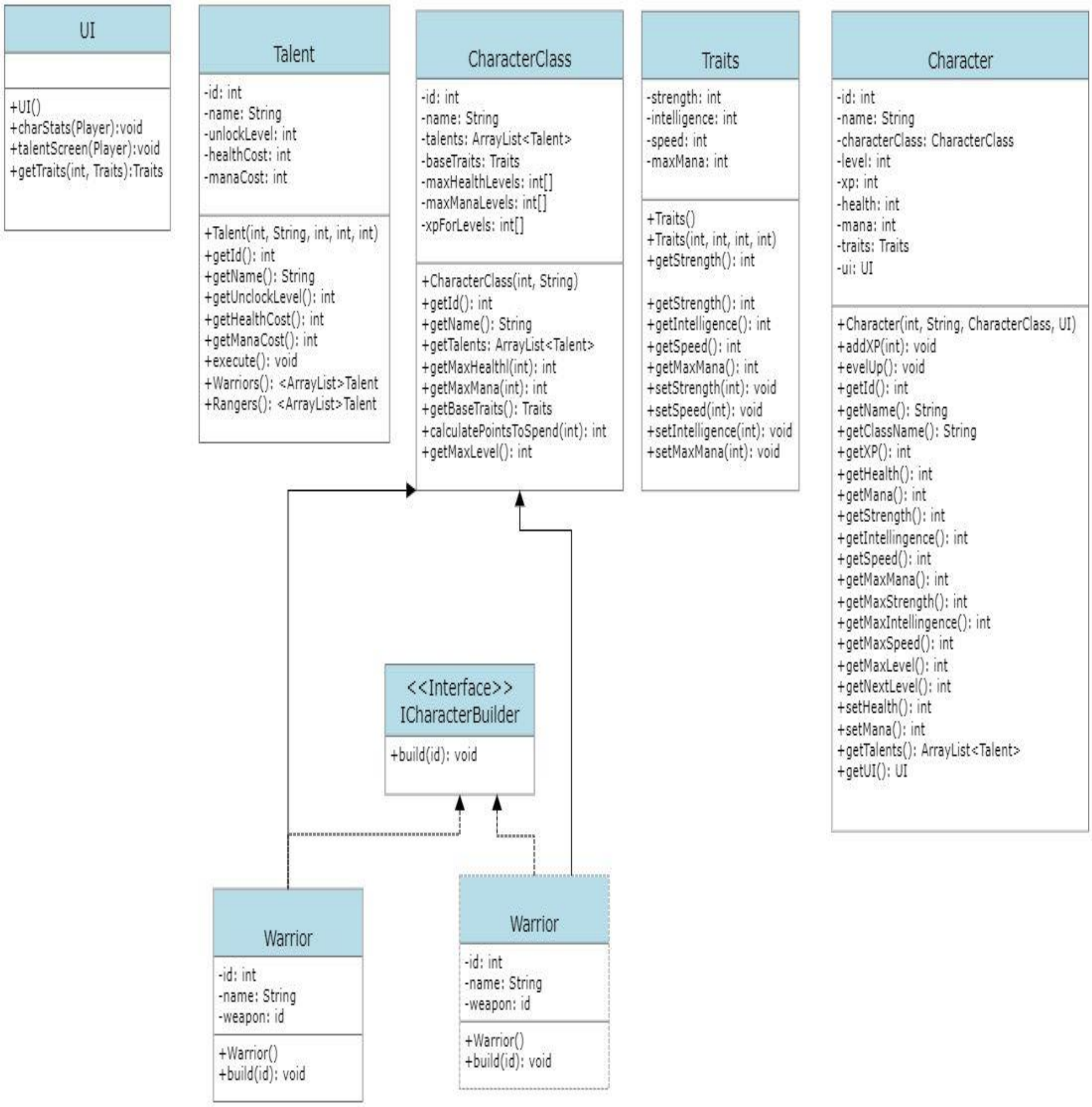


Figure 6.3 (Class Diagram)

6.3 Activity Diagram

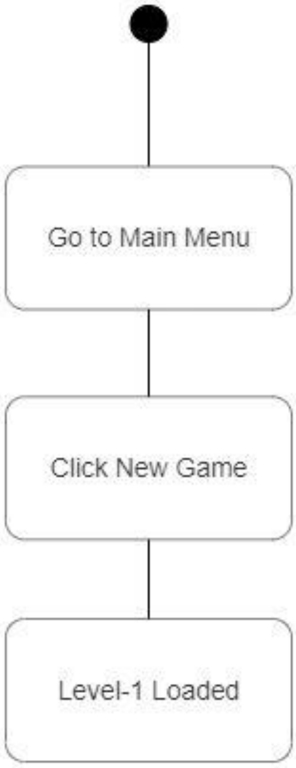


Figure 6.3.1 (Activity Diagram for "New Game" Module)

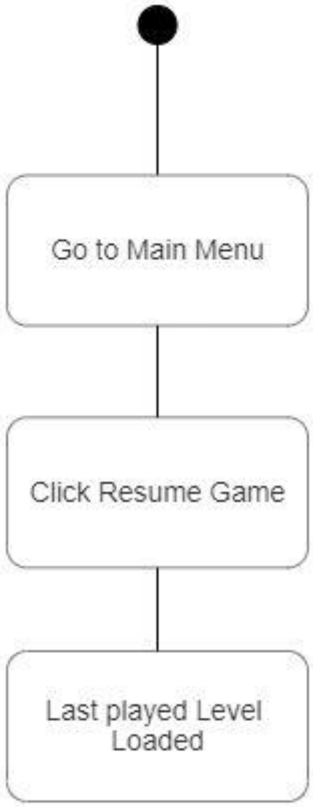


Figure 6.3.2 (Activity Diagram for "Resume Game" Module)

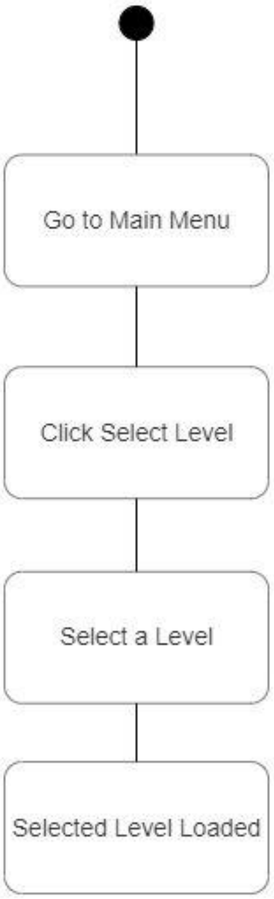


Figure 6.3.3 (Activity Diagram for "Select Level" Module)

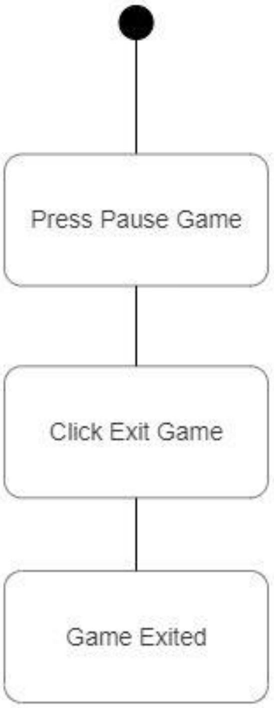


Figure 6.3.4 (Activity Diagram for "Exit Game" Module)

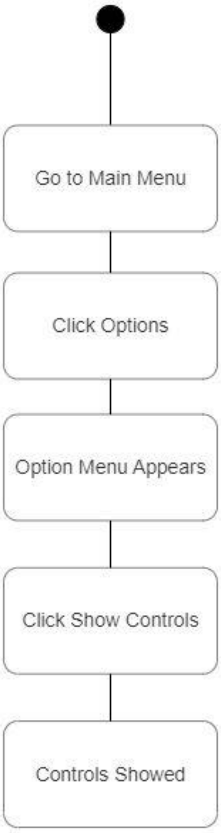


Figure 6.3.5 (Activity Diagram for "Show Controls" Module)

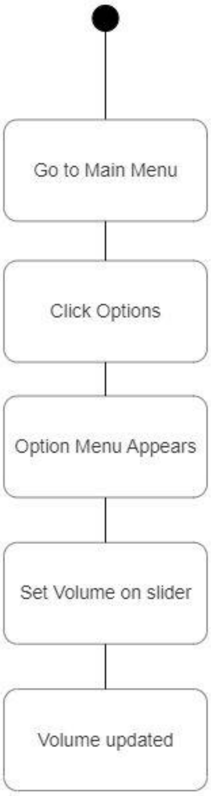


Figure 6.3.6 (Activity Diagram for "Change Volume" Modules)

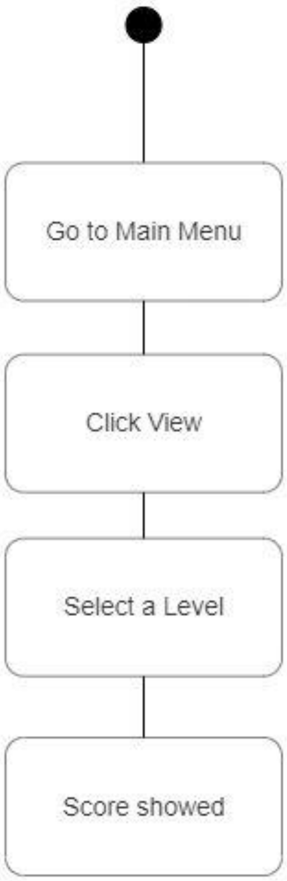


Figure 6.3.7 (Activity Diagram for "View" Module)

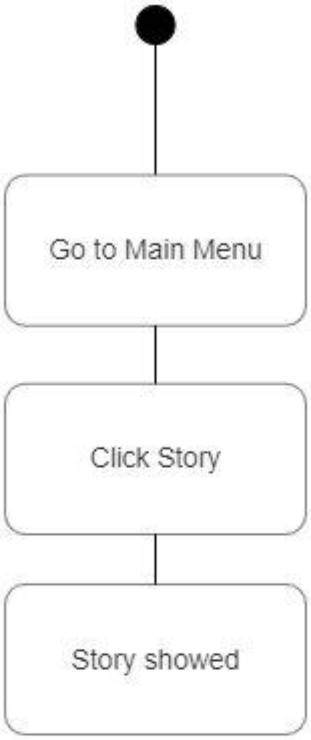


Figure 6.3.8 (Activity Diagram for "Story" Module)

6.4 Sequence Diagram

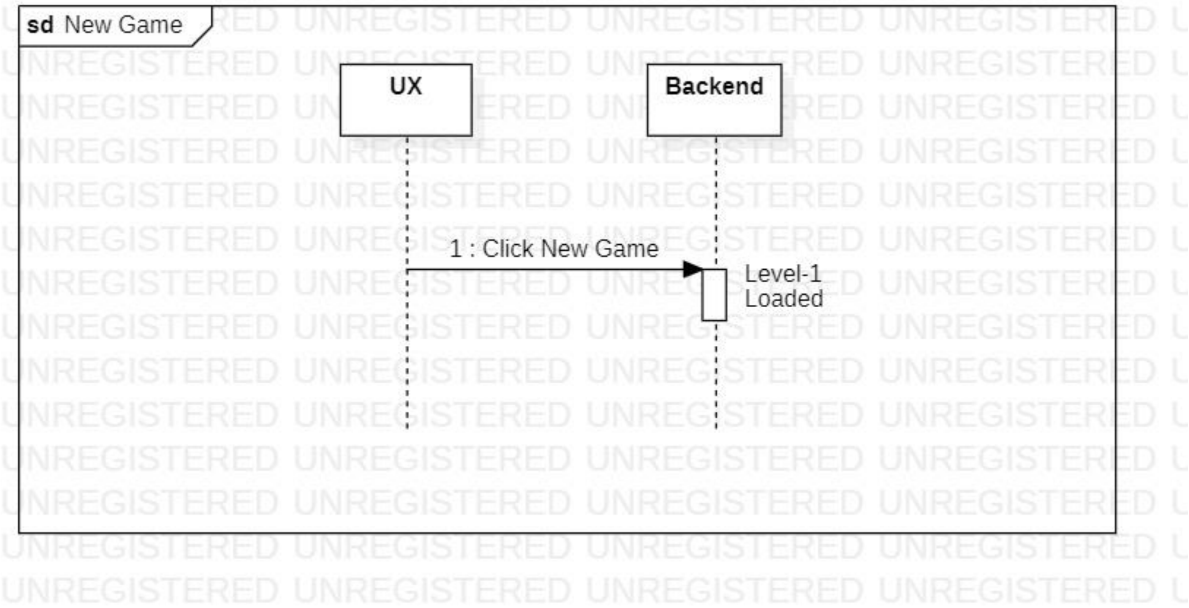


Figure 6.4.1 (Sequence Diagram for "New Game")

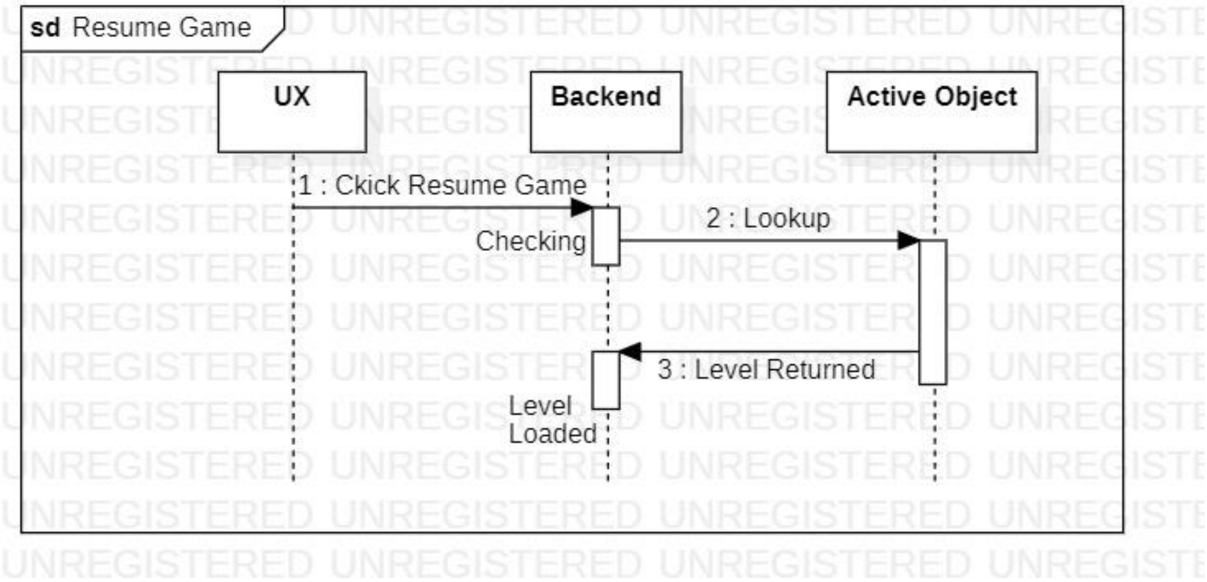


Figure 6.4.2 (Sequence Diagram for "Resume Game")

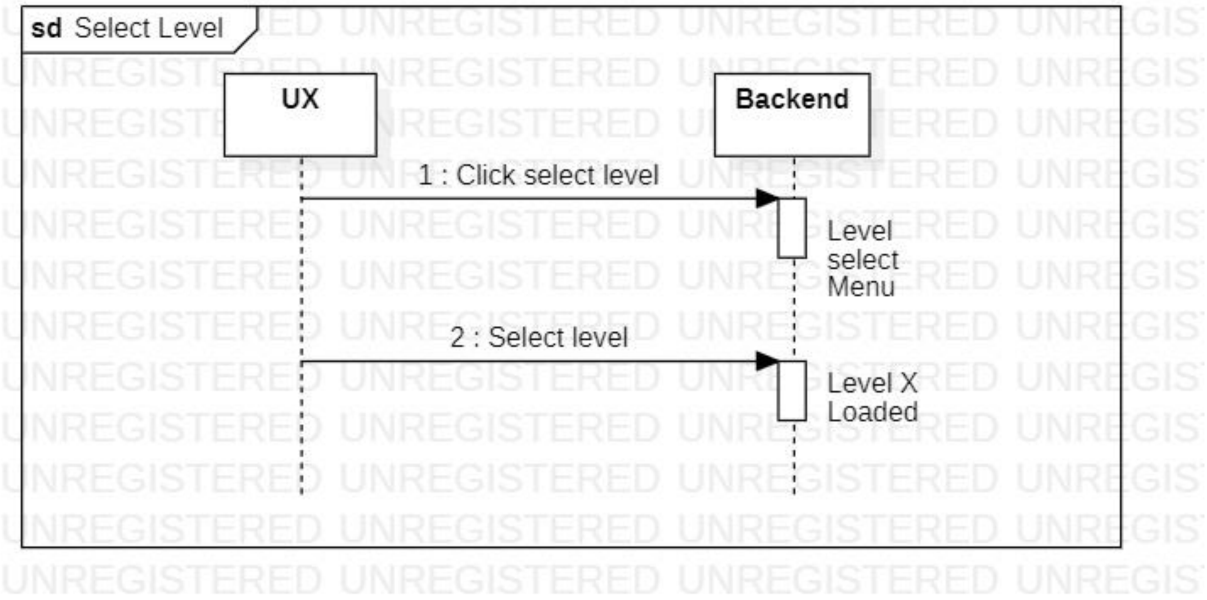


Figure 6.4.3 (Sequence Diagram for "Select Level")

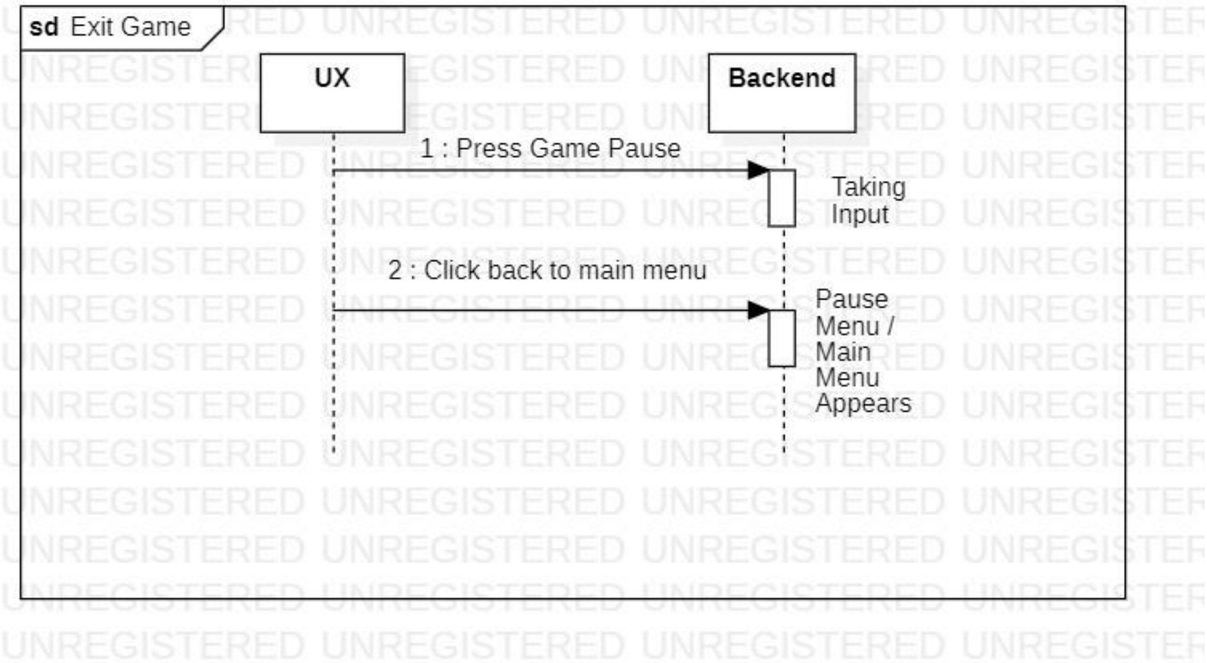


Figure 6.4.4 (Sequence Diagram for "Exit Game")

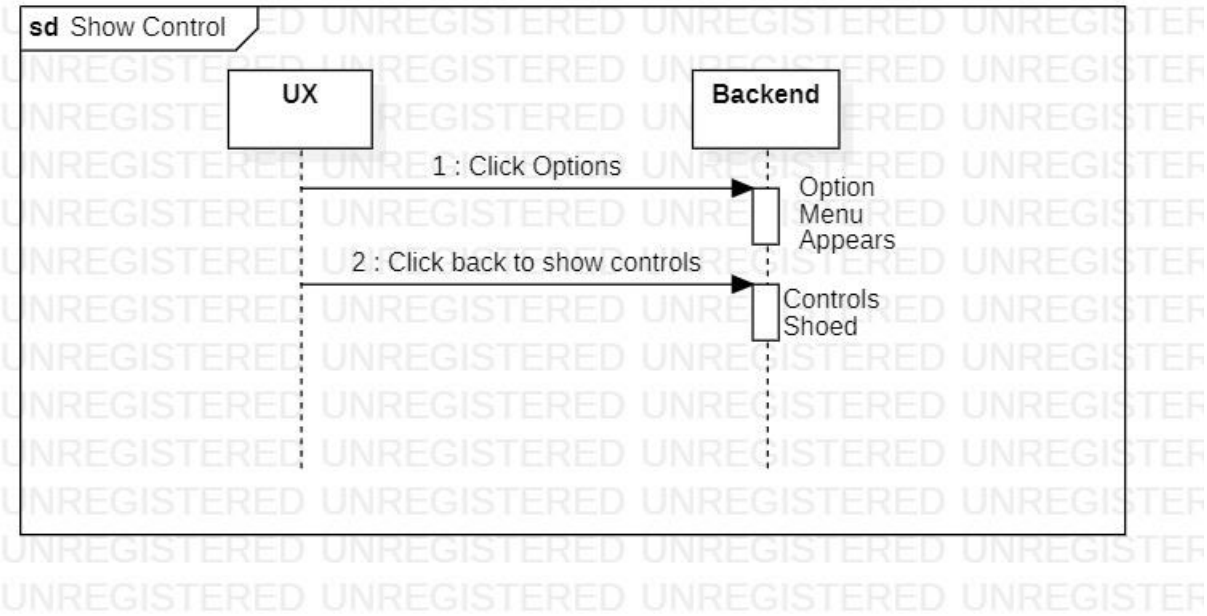


Figure 6.4.5 (Sequence Diagram for "Show Control")

6.5 State Diagram

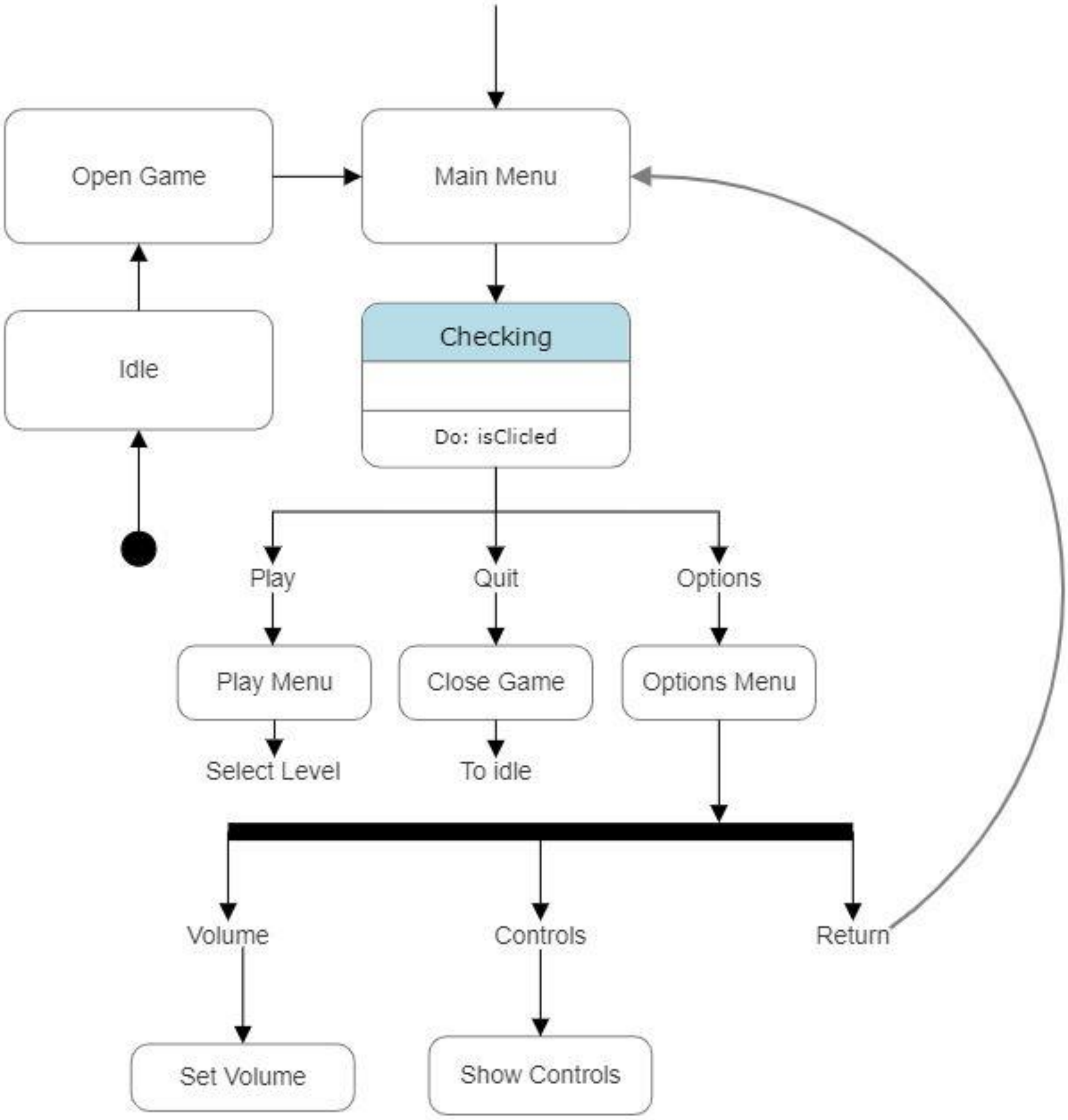


Figure 6.5.1 (Top Level State Diagram)

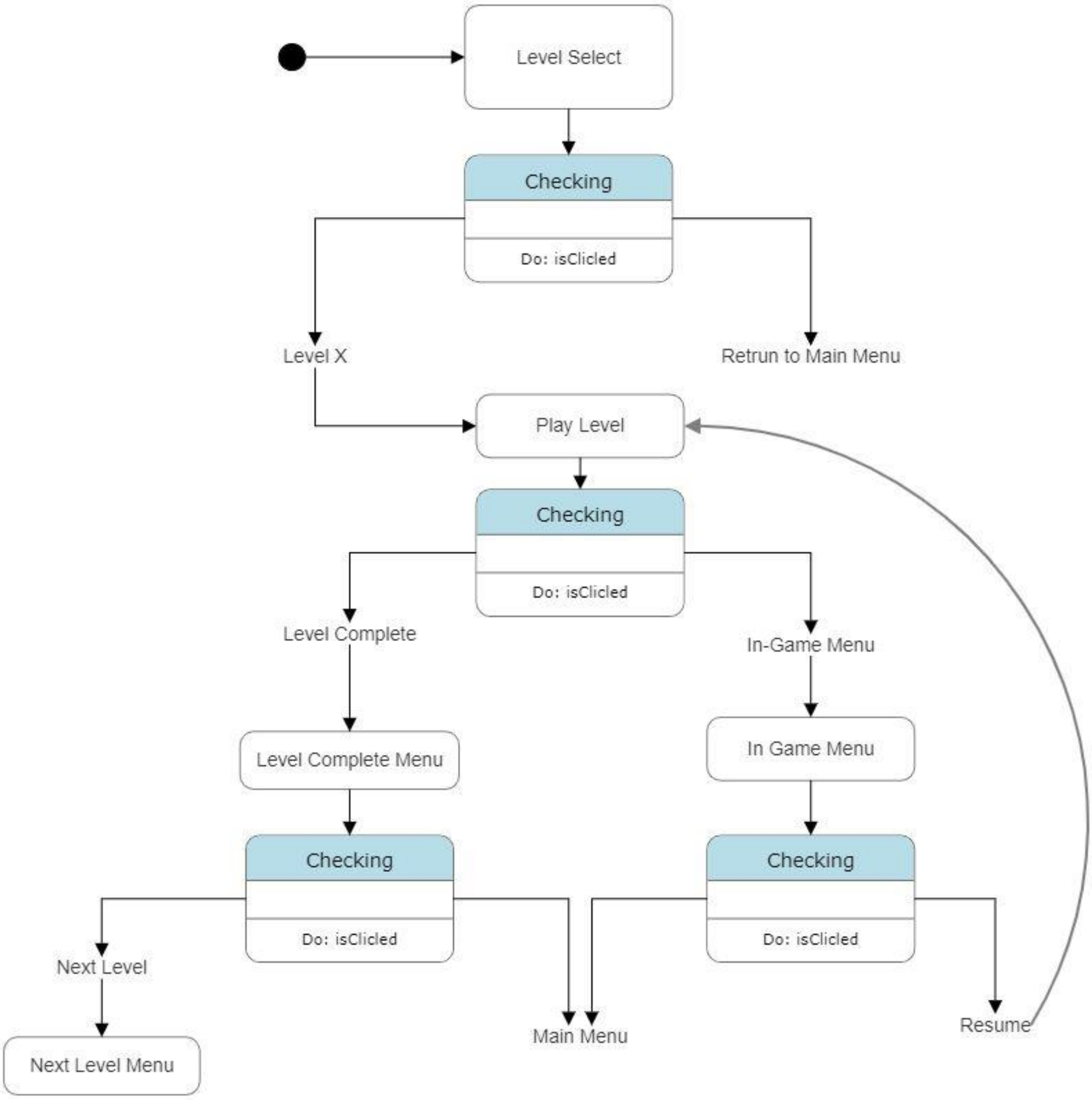


Figure 6.5.2 (Play Level State Diagram)

6.6 Data flow Diagram

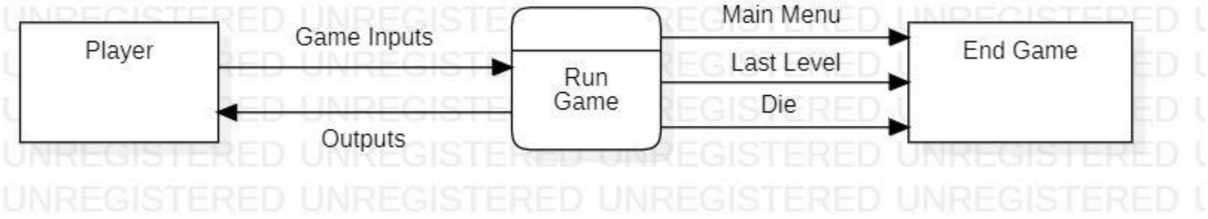


Figure 5.6.1(Level 0 DFD)

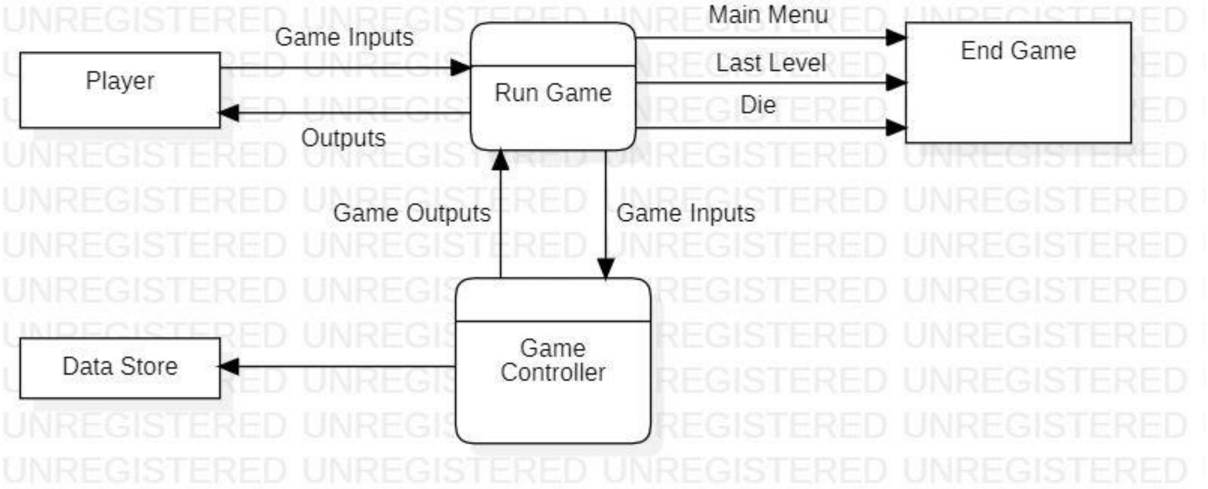


Figure 6.6.2(Level 1 DFD)

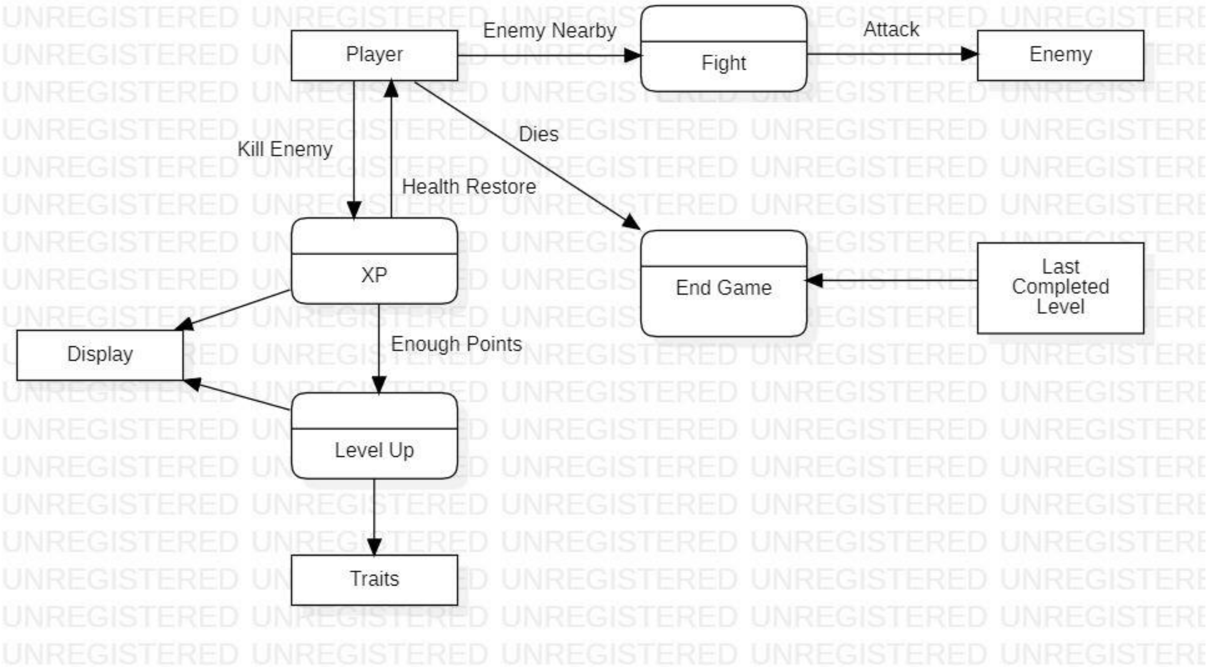


Figure 6.6.3(Level 2 DFD)

6.7 Flow Diagram

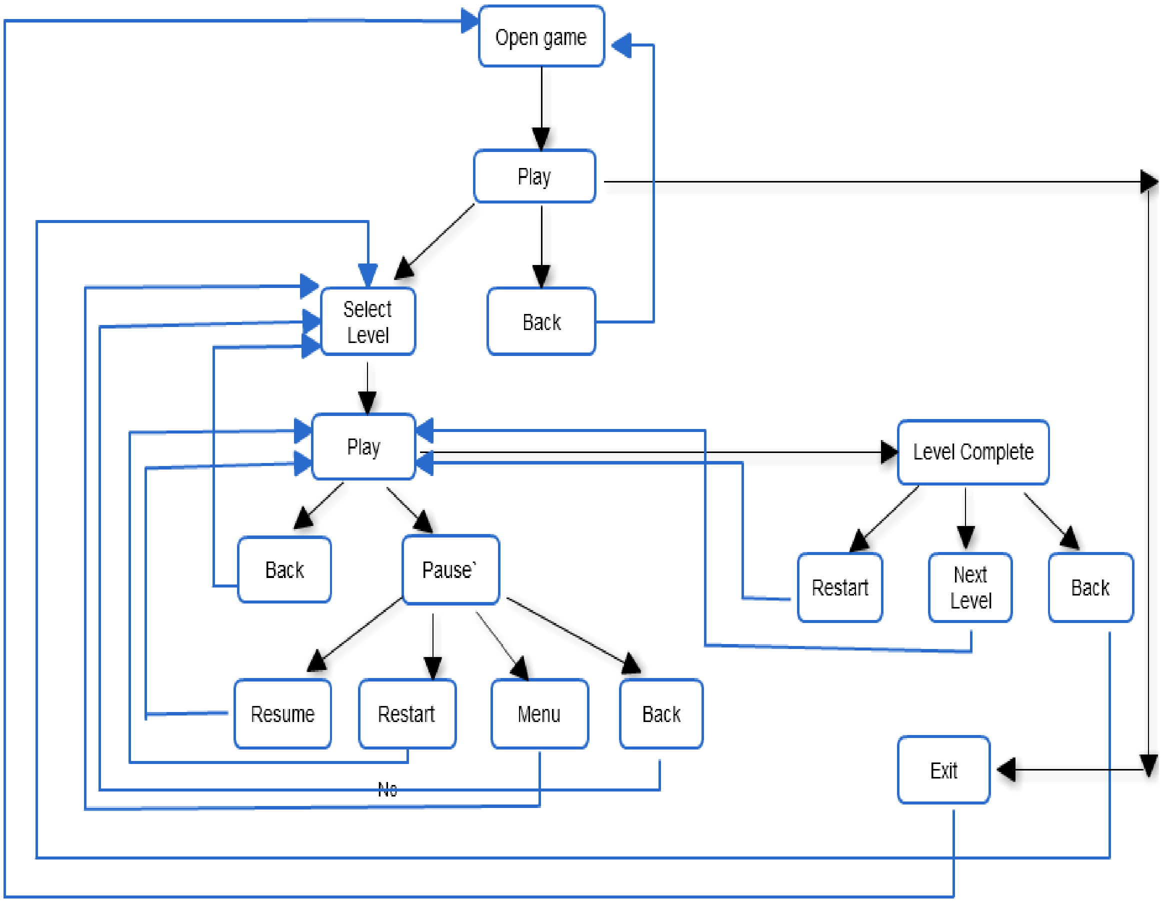


Figure 6.7.1 (“Flow DIagram”)

7. PLANNING THE PROJECT :

7.1 INTRODUCTION :

The Planning Phase is the time when the project team translates the initial vision/scope from the Envisioning Phase into practical plans on how to achieve it. The purpose of the Planning Phase is to define the solution in detail along with theapproved project plan and schedule. This work includes creating a functional specification, developing the solution architecture and design, and preparing cost estimates. Team members draw upon their expertise to create detailed individual plans, such as the development plan, test plan, and deployment plan, as well as schedules for all aspects of the project. Program Management combines these individual plans and schedules and synchronizes them to create the master project plan and schedules. The Planning Phase culminates in the Project Plans Approved Milestone. Passing this milestone indicates that the customer, the project team, and all stakeholders agree on the details of the plans, including what will be built, how it will be built, when it will be delivered, and what it will cost.

Planning Phase Tasks :

1. **Developing the solution design and architecture :** The development team begins the design process with the solution designand architecture and culminates it with a design document that becomes part of the functional specification.
2. **Validating the technology :** The development team also validates technologies to ensure that they meet the business needs for the specific solution.
3. **Creating the functional specification :** The project team and Program Management Role create a functional specification that describes the solution requirements, the architecture, and the detailed design for all the features. This represents the contract between the project team and customer.
4. **Developing the project plans :** The Program Management Role and the various teams that make up the project team develop a collection of plans to define the tasks for all six MSF team roles, and Program Management consolidates them into a master project plan.
5. **Creating the project schedules :** The Program Management Role and the various teams create milestone- driven schedules for each individual team role, and Program Management consolidates them into the master project schedule
6. **Setting up the development and test environment :** The development and test teams create development and testing environments that are independent of the production environment todevelop and test the solution.
7. **Close the planning phase :** The project team completes the Planning Phase with the approval processfor the Project Plans Approved Milestone.

8. PROJECT STRUCTURE :

8.1 TEAM STRUCTURE :

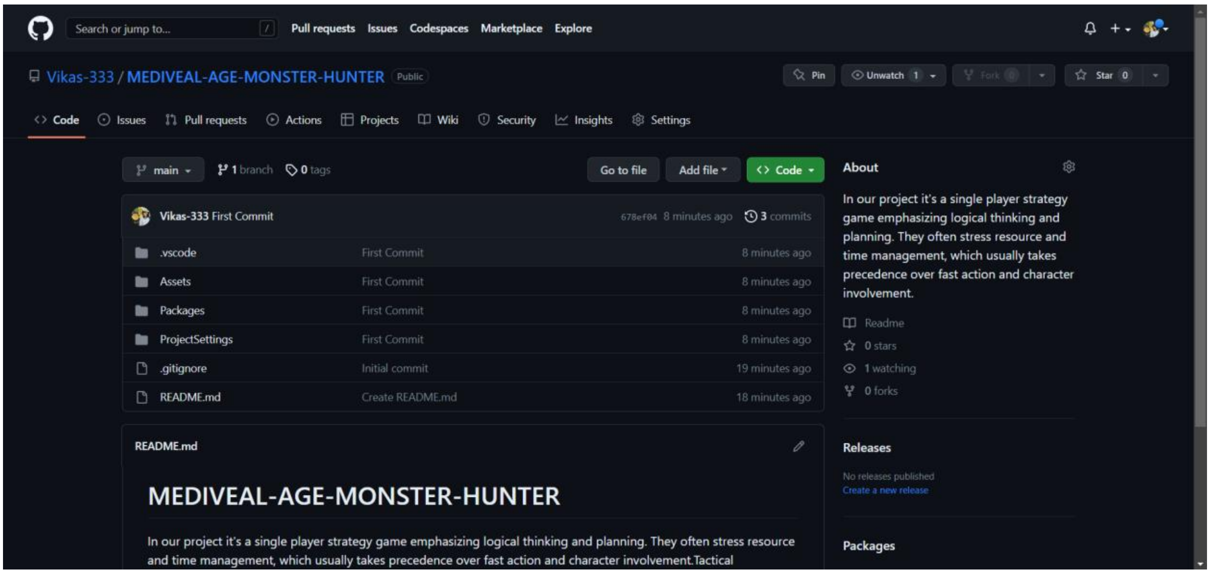
Member Name & Enrollment No.	**Designation**	**Responsibilities**	**Expertise/ Experience**
RUSHABH BHATIYA 20012011184	Team Leader	- Logical operations Testing - Backend Scripting	- C# Coding - Logical Designing
VIKAS CHUDASMA 20012011180	Team Member	- Documenta tionTesting - Design and analysis - Graphical Designs Testing	- Implementation of Design - Understanding of analysis - Diagrammatic implementations ofprocesses
NIHAR PATEL 20012011071	Team Member	- Graphical Designs Testing	- Understanding of analysis - Design pattern study - Diagrammatic implementations of processes
DARSHIL SWAMI 20012011166	Team Member	- Development Design and analysis Documentation Testing	- Understanding of analysis - Quality Assurance

9. DEPLOYMENT :

For deployment of project we just uploaded all the files on github using git, so to access this project we all just need to go to this link :

https://github.com/Vikas-333/MEDIVEAL-AGE-MONSTER-HUNTER.git

By just clicking on this link you can be directed to github page containing all the files required for the project



Vikas-333 First Commit 678ef04 8 minutes ago 3 commits

.vscode	First Commit	8 minutes ago
Assets	First Commit	8 minutes ago
Packages	First Commit	8 minutes ago
ProjectSettings	First Commit	8 minutes ago
.gitignore	Initial commit	19 minutes ago
README.md	Create README.md	18 minutes ago

README.md

MEDIVEAL-AGE-MONSTER-HUNTER

In our project it's a single player strategy game emphasizing logical thinking and planning. They often stress resource and time management, which usually takes precedence over fast action and character involvement.Tactical

About

In our project it's a single player strategy game emphasizing logical thinking and planning. They often stress resource and time management, which usually takes precedence over fast action and character involvement.

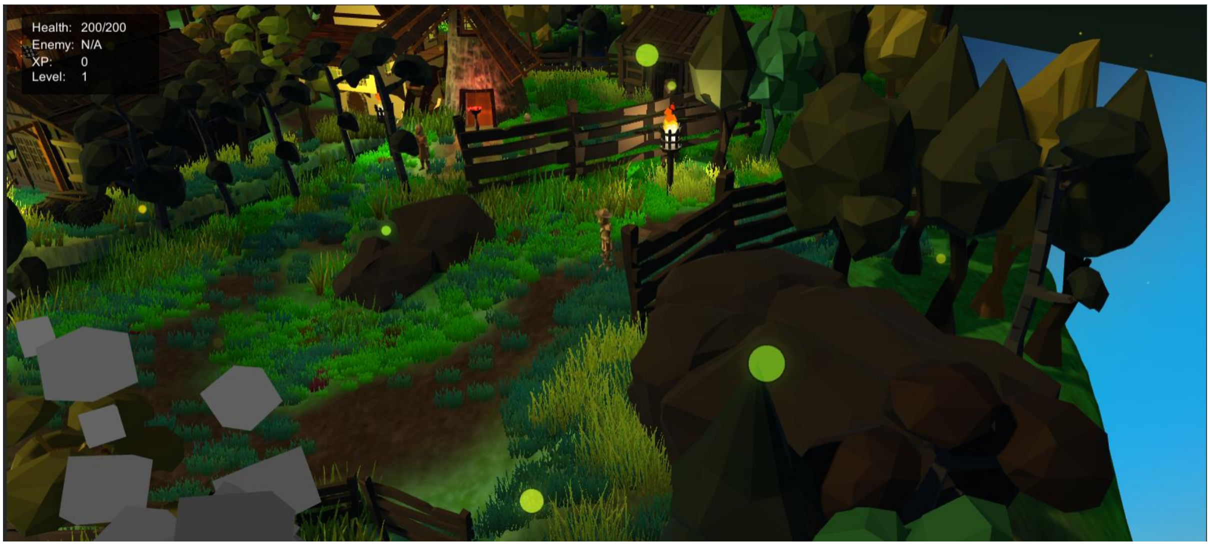
Readme
0 stars
1 watching
0 forks

Releases

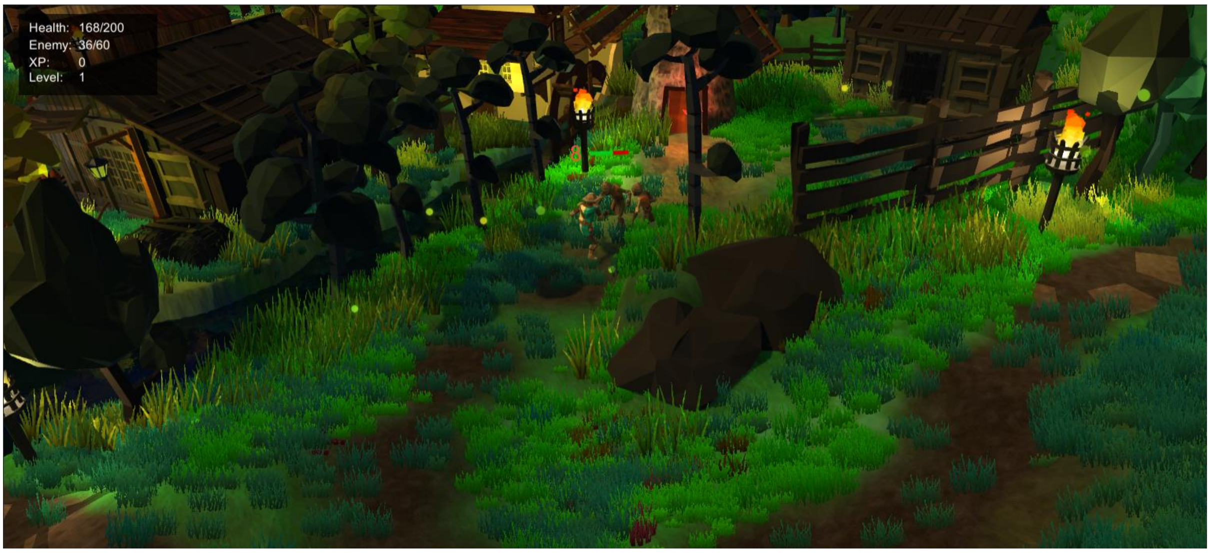
No releases published
Create a new release

Packages

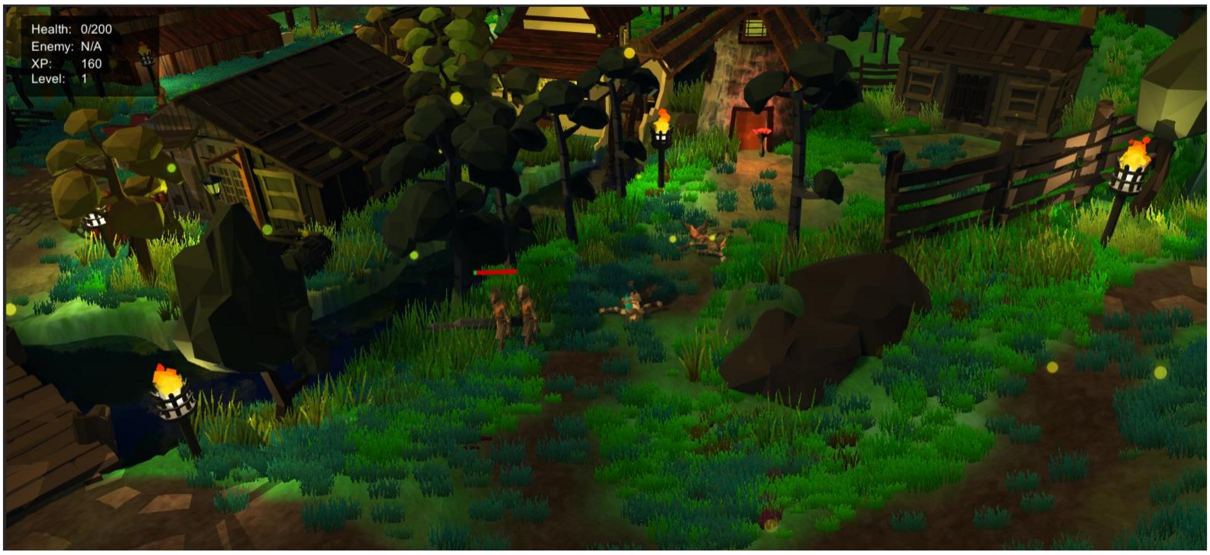
Here are some images of the game inside unity



Health: 200/200
Enemy: N/A
XP: 0
Level: 1



Health: 168/200
Enemy: 36/60
XP: 0
Level: 1



Health: 0/200
Enemy: N/A
XP: 160
Level: 1

10.ANNEXURE :

10.1 Glossary of terms and abbreviations

Terms :

All the terms and abbreviations in this project are specified clearly. For further development of the project, evolved definitions will be specified.

ACRONYMS :

AI:	Artificial Intelligence
ML:	Machine Learning
OCR:	Optical Character Recognition
QR-code:	Quick Response Code
SDK:	Software Development Kit
UI:	User Interface
UX:	User Experience

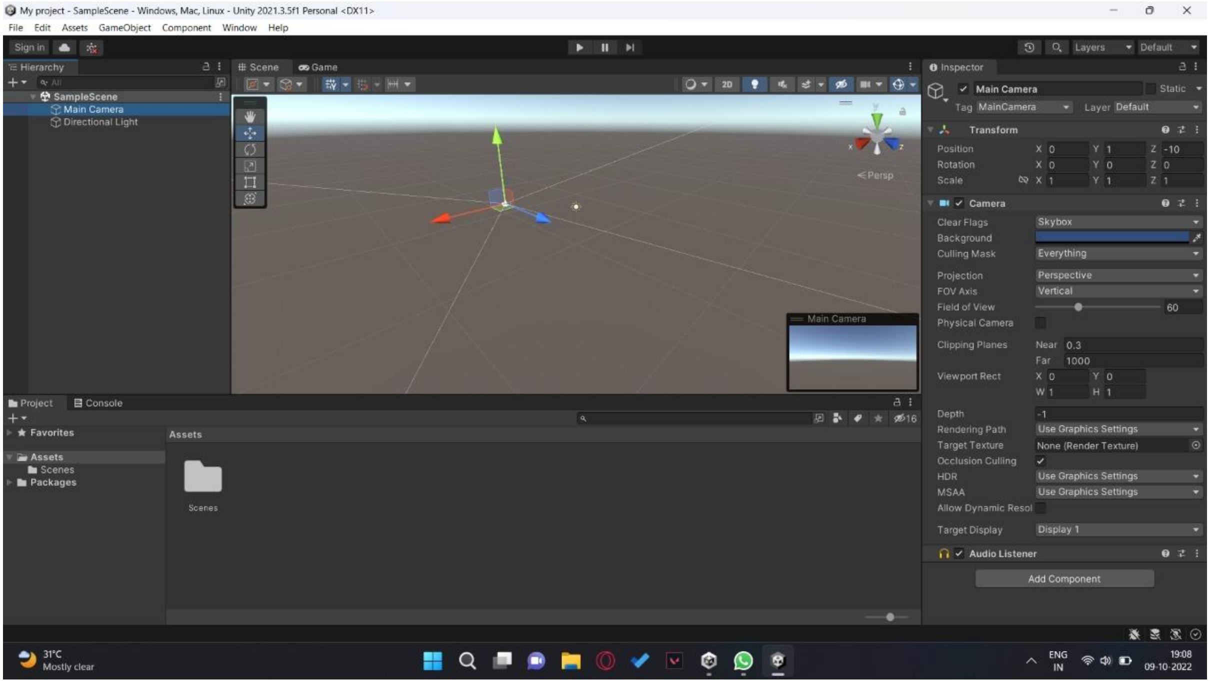
11.ABOUT TOOLS AND TECHNOLOGY :

1. Unity:

Unity is a cross-platform game engine developed by Unity Technologies. And used to develop video games for PC, consoles, mobile and websites. First announced only for Mac OS, at Apple's Worldwide Developers Conference in 2005, it has since been extended to target more than fifteen platforms. It is now the default software development kit (SDK) for the Wii U.With an emphasis on portability, the engine targets the following APIs: Direct3D on Windows and Xbox 360; OpenGL on Mac, Windows, and Linux; OpenGL ES on Android and iOS; and proprietary APIs on video game consoles. Unity allows specification of texture compression and resolution settings for each platform the game supports, and provides support for bump mapping, reflection mapping, parallax mapping, screen space ambient occlusion (SSAO), dynamic shadows using shadow maps, render-to-texture and full-screen post-processing effects. Unity's graphics engine's platform diversity can provide a shade with multiple variants and a declarative fall-back specification, allowing Unity to detect the best variant for the current video hardware; and if none are compatible, fall back to an alternative shade that may sacrifice features for performance.The game engine's scripting is built on Mono, the open-source implementation of the .NET Framework. Programmers can use Unity Script (a custom language with ECMA Script-inspired syntax, referred to as JavaScript by the software. C#, or Boo (which has a Python-inspired syntax).

Unity is notable for its ability to target games to multiple platforms. Within a project, developers have control over delivery to mobile devices, web browsers, desktops, and consoles. Supported platforms include BlackBerry 10, Windows Phone 8, Windows, OS X, Linux (mainly Ubuntu),Android, iOS, Unity Web Player (including Facebook),Adobe Flash, PlayStation 3, PlayStation 4, PlayStation Vita, Xbox 360, Xbox One, Wii U, and Wii. It includes an asset server and NVidia's PhysX physics engine. Unity Web Player is a browser plugin that is supported in Windows and OS X only. Unity is the default software development kit (SDK) for Nintendo's Wii U video game console platform, with a free copy included by Nintendo with each Wii U developer license. Unity Technologies calls this bundling of a third-party SDK an "industry first".

Workspace layout for Unity interface :



Main Camera Static
Tag MainCamera Layer Default

Transform
Position X 0 Y 1 Z -10
Rotation X 0 Y 0 Z 0
Scale X 1 Y 1 Z 1

Camera
Clear Flags Skybox
Background
Culling Mask Everything
Projection Perspective
FOV Axis Vertical
Field of View 60
Physical Camera
Clipping Planes Near 0.3
Far 1000
Viewport Rect X 0 Y 0
W 1 H 1
Depth -1
Rendering Path Use Graphics Settings
Target Texture None (Render Texture)
Occlusion Culling ✓
HDR Use Graphics Settings
MSAA Use Graphics Settings
Allow Dynamic Resol
Target Display Display 1

Audio Listener

Add Component

2. Visual Studio:

Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs including websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a code profiler, designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that expand the functionality at almost every level—including adding support for source control systems (like Subversion and Git) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Azure DevOps client: Team Explorer).

Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C,[5] C++, C++/CLI, Visual Basic .NET, C#, F#,[6] JavaScript, TypeScript, XML, XSLT, HTML, and CSS. Support for other languages such as Python,[7] Ruby, Node.js, and M among others is available via plug-ins. Java (and J#) were supported in the past.

Project Templates for all Elements languages and platforms.

Smart **Code Editor** with IntelliSense and advanced productivity features.

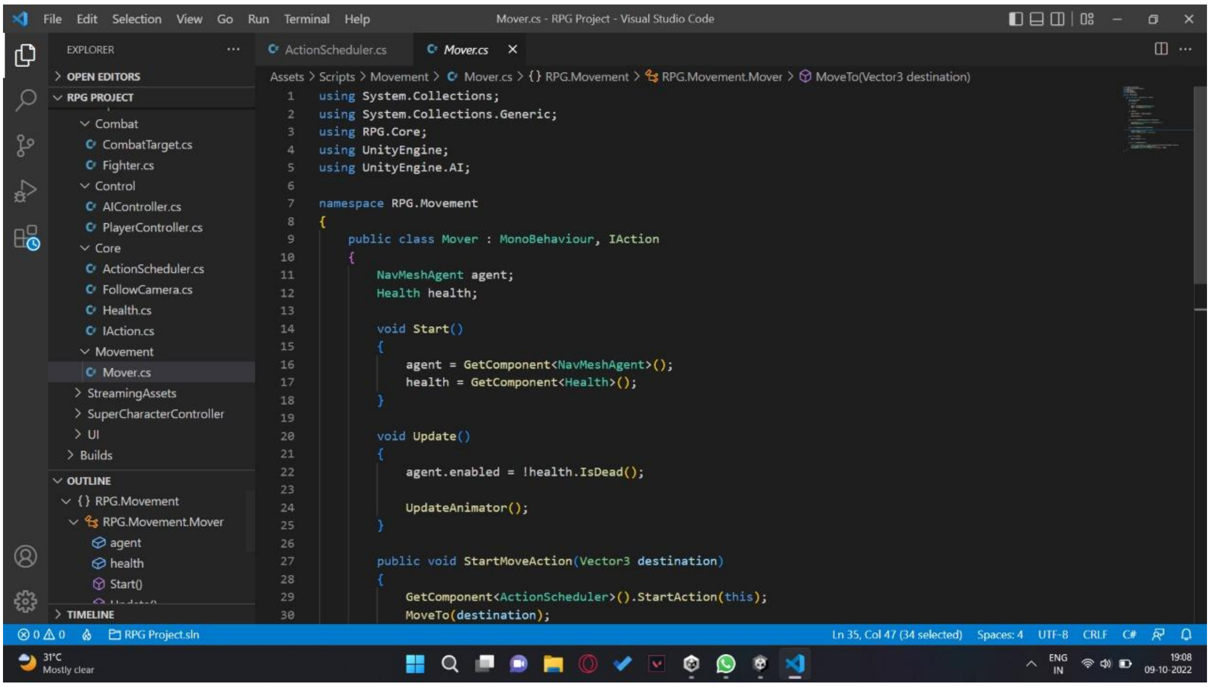
Full-fledged **Debugging** experience for *all* platforms, including cross-network debugging for Mac, Linux and iOS.

Seamless inter-op with Elements .NET projects and Microsoft Visual C# and Visual Basic projects.

Full support for **Visual Designers** including WinForms, WPF, ASP.NET and more.

Deep integration of **EBuild**, our custom build chain, with Visual Studio build infrastructure.

Workspace layout for Visual Studio Code interface :



```
using System.Collections;
using System.Collections.Generic;
using RPG.Core;
using UnityEngine;
using UnityEngine.AI;

namespace RPG.Movement
{
    public class Mover : MonoBehaviour, IAction
    {
        NavMeshAgent agent;
        Health health;

        void Start()
        {
            agent = GetComponent<NavMeshAgent>();
            health = GetComponent<Health>();
        }

        void Update()
        {
            agent.enabled = !health.IsDead();

            UpdateAnimator();
        }

        public void StartMoveAction(Vector3 destination)
        {
            GetComponent<ActionScheduler>().StartAction(this);
            MoveTo(destination);
```

12.**CONCLUSION & FUTURE WORKS:**

What does the future hold for simple 3D game? Given enough entrepreneurial designers and sufficient research and development money, a simple 3D game can become a powerful tool for enjoyment in highest quality possible which can replace the need of playing other games in the upcoming future. However due to limited space in this industry, we'll try out best to create a final product by giving our best But, given proper impetus and encouragement, a lot of benefits can be provided by a 3D game. They are:

- Multiplayer can be initiated in a simple game.
- Different after effects can be added.
- New characters can be introduced.
- Bugs & Fixes
- Privacy issues can be improved.
- Graphics can be improved.