

THE EXPLORER

A MINI PROJECT BY
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MES20MCA-2004

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THE EXPLORER

The Explorer is a 3D Third-Person action adventure game developed using Unity Game Engine. An action-adventure game can be defined as a game with a mix of elements from an action game and an adventure game, especially crucial elements like puzzles. I've created a playable 2 level game using this system for the player to explore. Discover the mysterious alien planet where our Captain, Ellen has crash landed. Avoid the hazards and defeat the enemies lurking within the ancient ruins of this unknown civilization.

MODULES

The background is a gradient of deep blue and purple, speckled with white dots resembling a starry sky. Overlaid on this are several faint, white geometric patterns. In the top right, there is a large circular scale with degree markings from 0 to 210 and concentric circles. In the bottom right, there are concentric circles with dashed lines and arrows indicating a clockwise direction. In the bottom left, there are also concentric circles with dashed lines and arrows. A small, partial circular scale is visible in the top left corner.

MODULE 1: PROTOTYPE

A sample scene with templates describing the main theme or story of the game.

The scene will contain:

- Main Character (Hero)
- Main weapon
- Game Environment
- Enemies
- Other game Objects

MODULE 2: DESIGN

- Environment Design
- Character design and customizations
- Weapon design and modifications
- Level design

MODULE 3: GAME MECHANICS

- Player movement and actions
- Game physics
- Key bindings and game controls

MODULE 4: GAME AI

- Enemy behavior
- Combat AI
- Player recognition
- Hunting

MODULE 5: UI

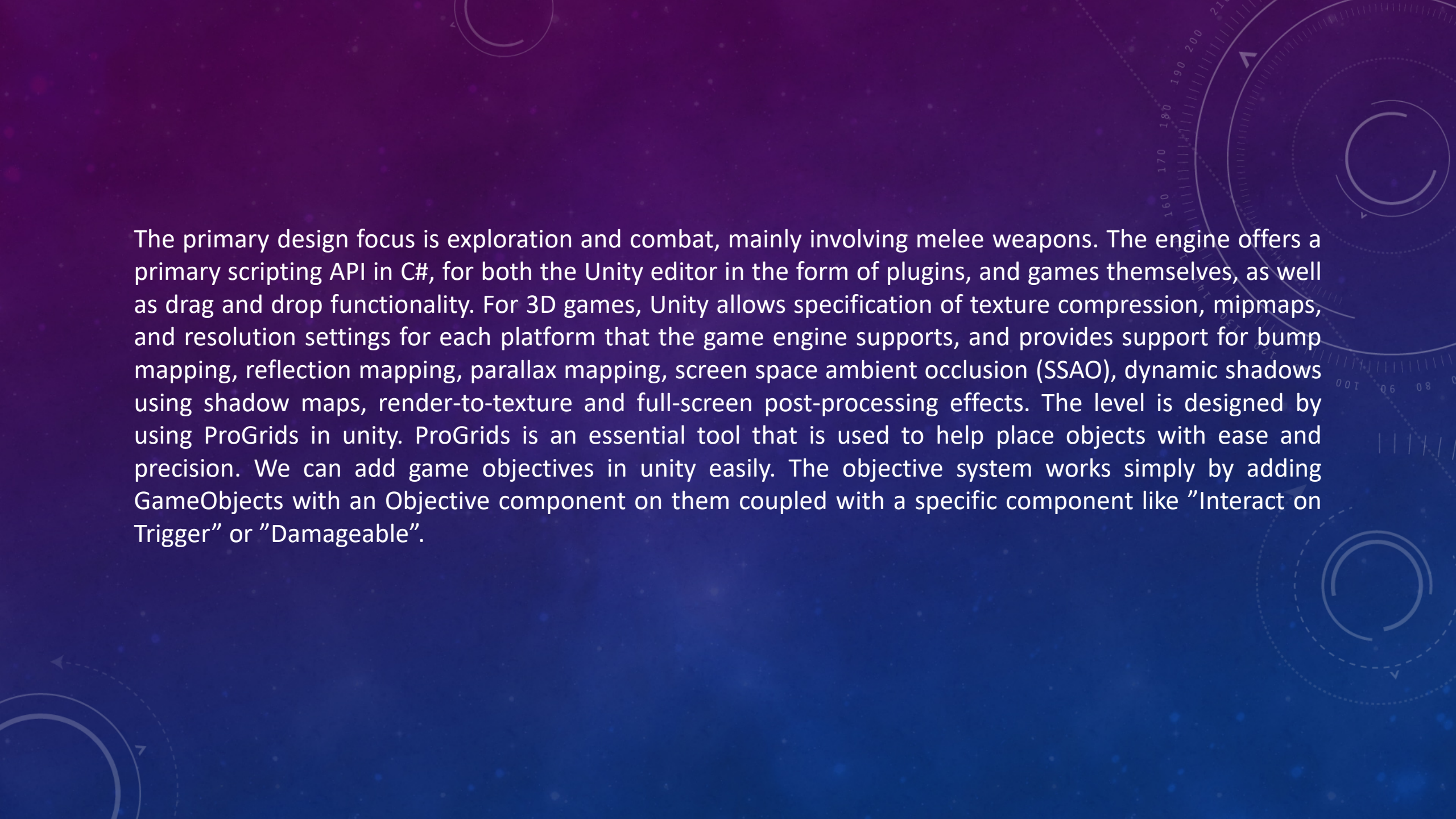
User interfaces for

- Game Launch Screen
- Main Menu
- Pause Menu
- Player Health
- Weapon Selection

METHODOLOGY

Unity Game Engine

This video game is entirely built using Unity game engine. Unity is a cross-platform game engine developed by Unity Technologies. The engine can be used to create three-dimensional (3D) and two-dimensional (2D) games, as well as interactive simulations and other experiences. The engine has been adopted by industries outside video gaming, such as film, automotive, architecture, engineering, construction, and the United States Armed Forces. The explorer is a 3D Third-Person perspective game, in a third-person game, the player can see the character they are controlling (usually from behind, or above). They differ from First-person video games where the players are centered on guns and other weapon-based combat in a first-person perspective, with the player experiencing the action through the eyes of the protagonist and controlling the player character in a three-dimensional space.



The primary design focus is exploration and combat, mainly involving melee weapons. The engine offers a primary scripting API in C#, for both the Unity editor in the form of plugins, and games themselves, as well as drag and drop functionality. For 3D games, Unity allows specification of texture compression, mipmaps, and resolution settings for each platform that the game engine 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. The level is designed by using ProGrids in unity. ProGrids is an essential tool that is used to help place objects with ease and precision. We can add game objectives in unity easily. The objective system works simply by adding GameObjects with an Objective component on them coupled with a specific component like "Interact on Trigger" or "Damageable".

ProGrids

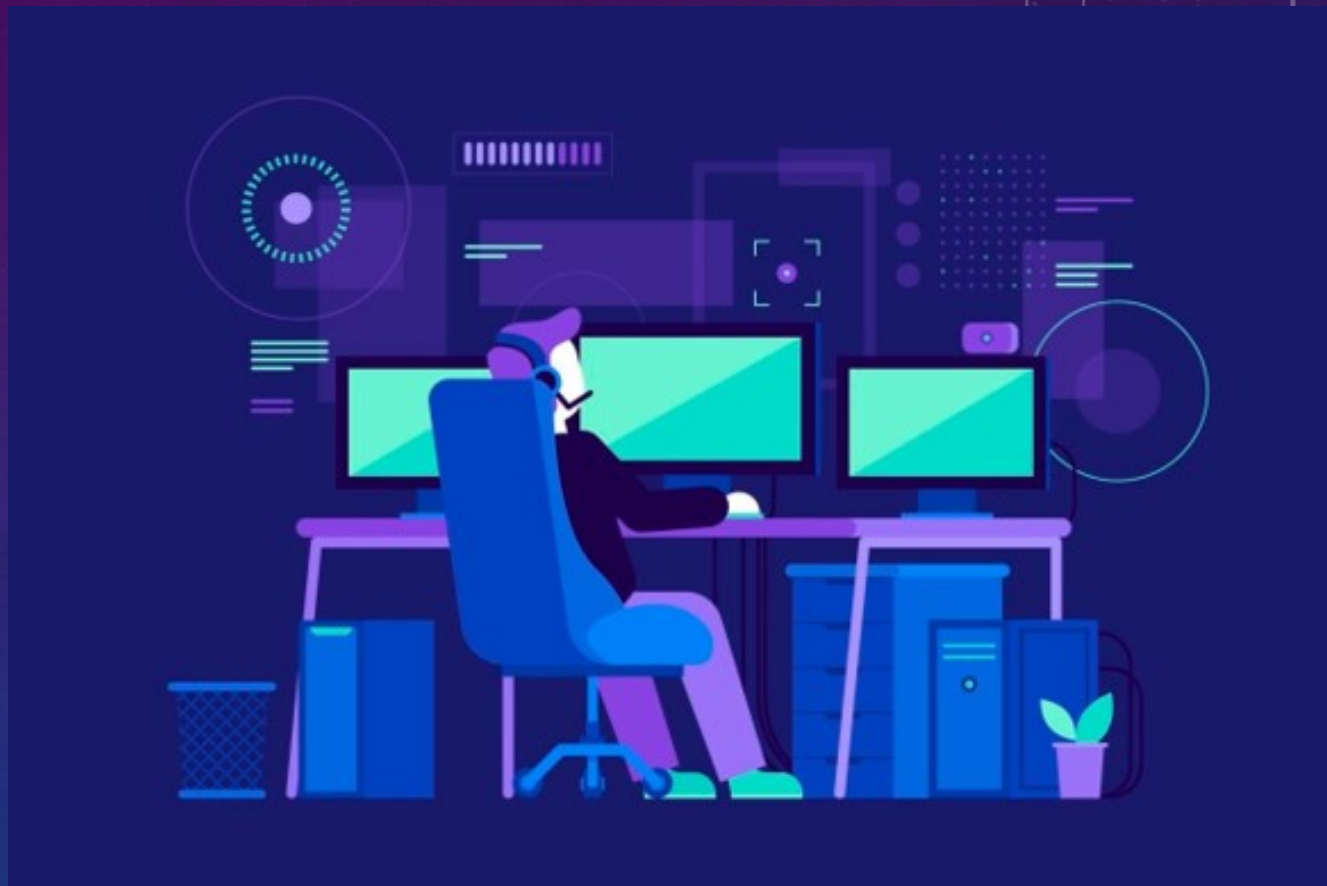
ProGrids is an essential tool that is used to help place objects with ease and precision. Instead of eyeing an object's position in your scene, you can decide by what metric every object moves, and with this uniformity, your objects can seamlessly be placed next to each other. The ProGrids tool offers you a menu both when viewing your object in Perspective and Orthographic view. The main difference between the two is that Orthographic View allows you to view a grid created by a set angle for further precision.

Whenever you're building your level, be it during the Prototype or Production phase of your game's development, ProGrids is an essential tool to making sure your level's metrics are consistent with one another and a handy way of making sure your object's positions aren't slightly off.

FUTURE ENHANCEMENTS

- Improved graphics
- Smoother movement and more responsive game controls
- Improved frame per second
- An entertaining story mode
- Multiplayer mode
- Improved and solid level design and world design
- More balanced challenge and reward
- Cross Platform multiplayer

DEVELOPING ENVIRONMENT



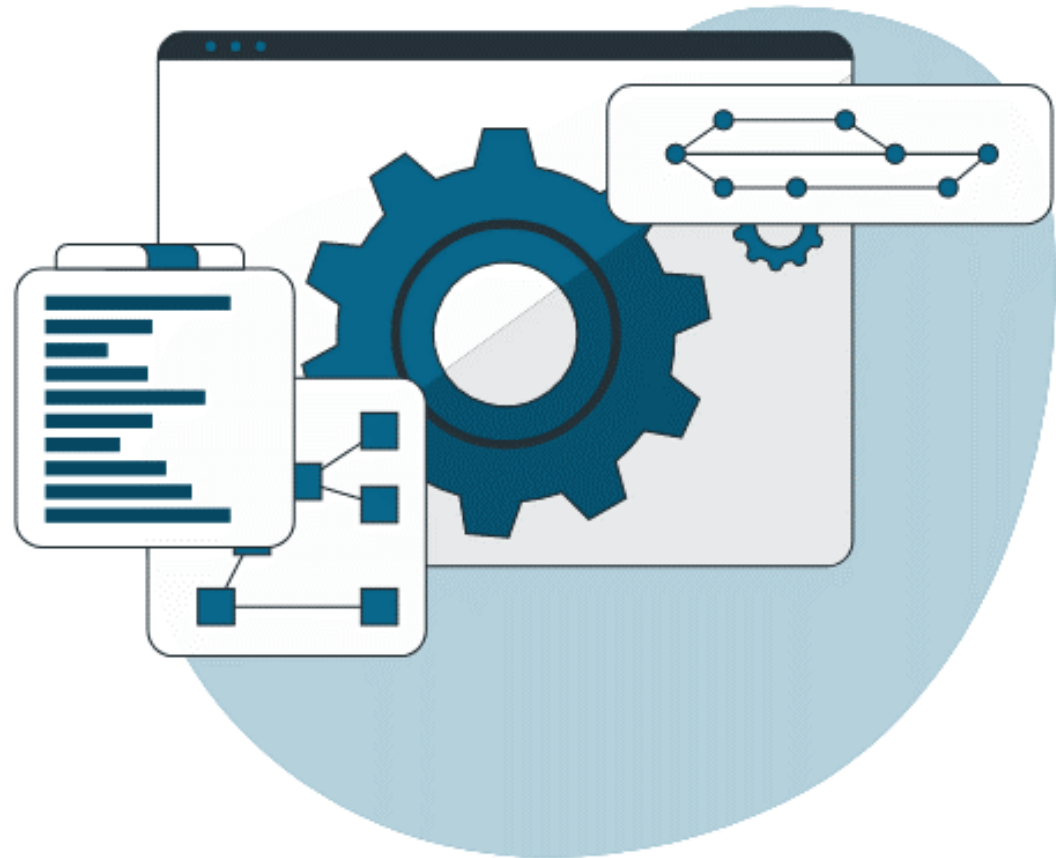
➤ Hardware Requirements

- Processor - Intel Core i5 (min)
- Speed - 1.5 GHz (min)
- RAM - 8 GB (min)
- Hard Disk - 100 GB or (min)
- GPU - 1 GB (min)

➤ Software Requirements

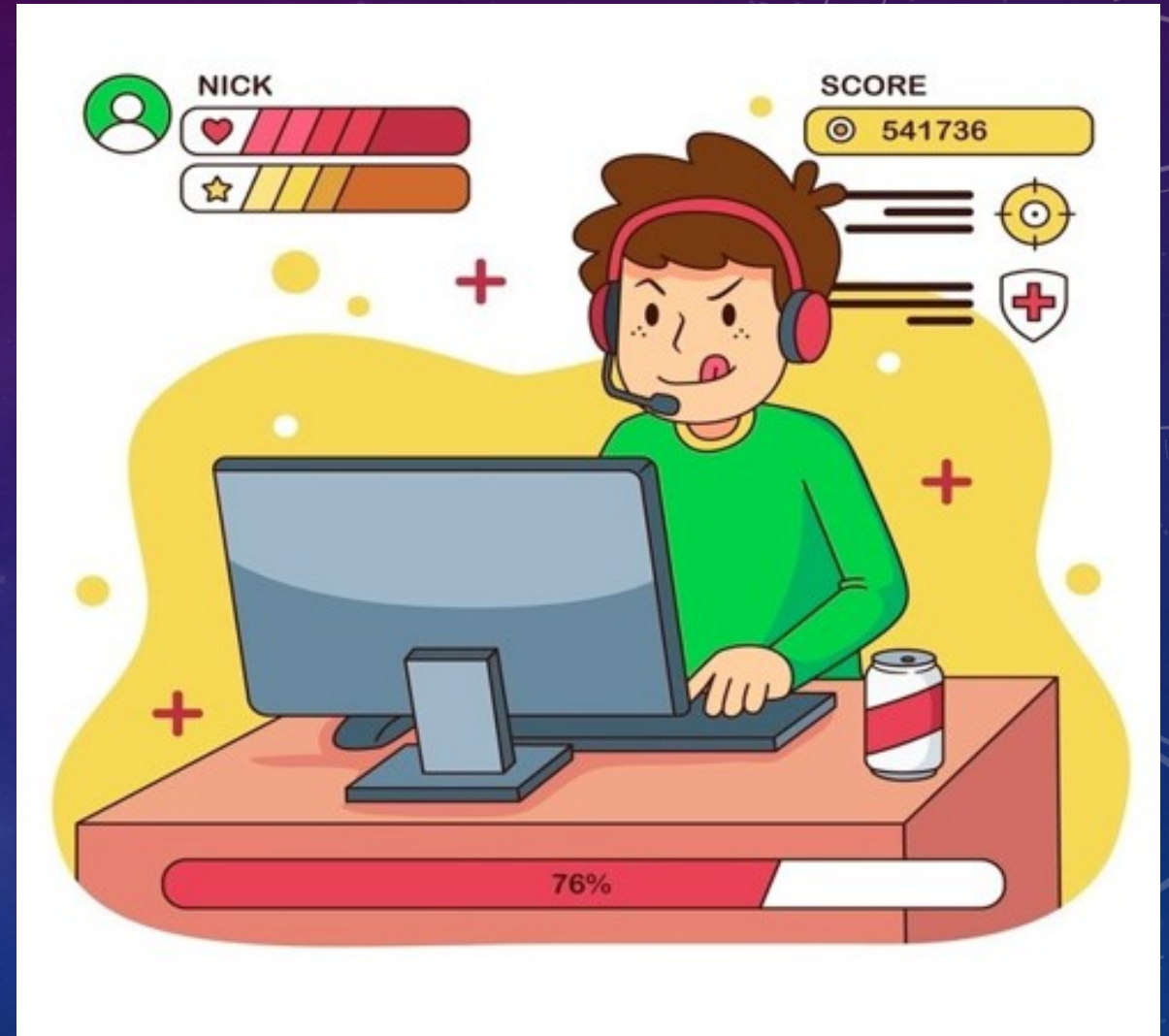
- Operating System - Windows 10 or above
- Game Engine - Unity
- Programming Language - C#
- IDE – Visual Studio 2019
- SFX - Audacity
- Modeling - Blender (if necessary)
- Texturing - Photoshop (if necessary)

PRODUCT BACKLOG



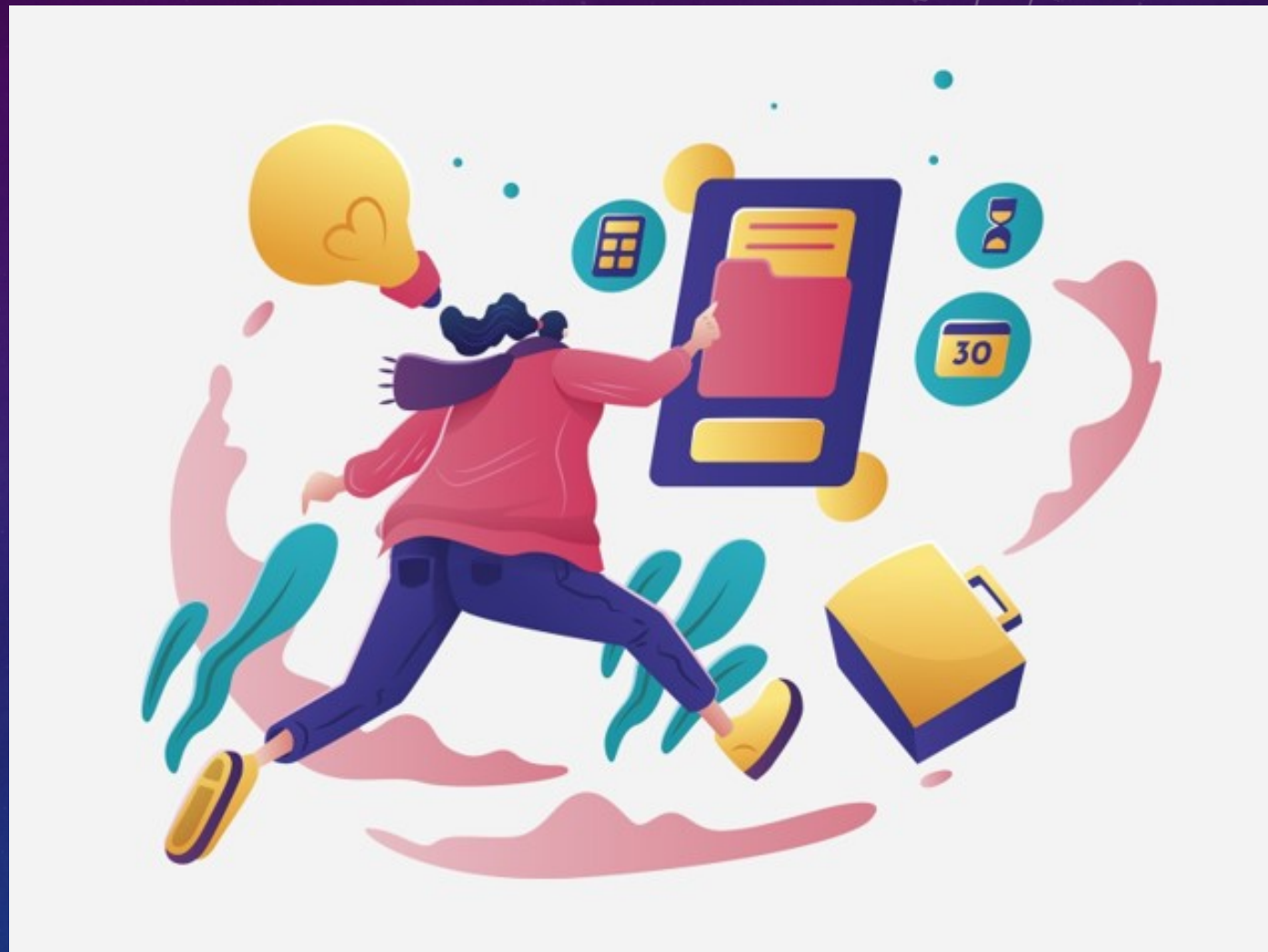
Sl.No	Priority <High / Medium / Low>	Size (Hours)	Sprint #	Status <Planned / In progress / Completed>	Release Date	Release Goal
1	High	6	1	Completed	23/04/2022	Character Design
2	High	6		Completed	01/05/2022	Creation of enemy characters
3	High	4		Completed	07/05/2022	Environment Design
4	High	6	2	Completed	07/05/2022	Puzzles
5	High	2		Completed	14/05/2022	Level 1 (Scripting, UI)
6	Low	2		Completed	14/05/2022	Level 2 (Scripting, UI)
7	High	10	3	Completed	28/05/2022	AI (Coding)
8	Low	2	4	Completed	28/05/2022	Key Binding
9	High	10		Completed	30/05/2022	Final UI

USER STORIES



User Story ID	As a <type of User>	I want to <perform some task>	So that I can < Achieve Some Goal>
1	Player	Control the main character	Move and interact in the game world
2		See the enemies	Destroy the enemies
3		See the world and terrain	Explore the world
4		See the UI for main mode	Start playing the game
5		See type of enemies and see different weapons	Use different weapons and tactics on different enemies
6		View key bindings	Know the gaming controls
7		See the Main Menu	Navigate the Main Menu

PROJECT PLAN



User Story ID	Task Name	Start Date	End Date	Days	Status
SPRINT 1					
1	Player Character	20/04/2022	23/04/2022	4	Completed
2	Creation of enemy characters	24/04/2022	01/05/2022	8	Completed
3	World / Terrain design	02/05/2022	07/05/2022	6	Completed

User Story ID	Task Name	Start Date	End Date	Days	Status
SPRINT 2					
4	Game Levels (Designing, Scripting)	11/05/2022	14/05/2022 (Level 1 and 2)	4	Completed
5	AI (Coding)	21/05/2022	28/05/2022	8	Completed
6	Key Binding	28/05/2022	30/05/2022	3	Completed
7	Final UI	30/05/2022	31/05/2022	2	Completed

SPRINT BACKLOG

The background is a gradient from dark purple at the top to deep blue at the bottom, speckled with small white dots resembling stars. Several faint, white circular and semi-circular lines are scattered across the image. In the top right, there is a large circular scale with degree markings from 0 to 210 and a dashed arrow pointing clockwise. In the bottom right, there are concentric circles with a dashed arrow pointing clockwise. In the bottom left, there is a semi-circular dashed arrow pointing left. In the top left, there is a small circular dashed arrow pointing clockwise.

Backlog Item	Status & completion date	Original estimate in hours	Day 1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #1		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Modelling (Player)	Completed	4	1	1	0	1	1	0	0	0	0	0	0	0	0	0
Script	Completed	2	0	0	0	0	0	1	0	1			0	0	0	0
Testing		Continuous														
User story #2	Completed															
Modelling (Enemies)	Completed	4	0		0	0	2	0	0	0	0	0	1	1	0	0
Script	Completed	2	0	0	0	0	0	1	0	0	0	0	1	0	0	0

Backlog Item	Status & completion date	Original estimate in hours	Day 1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #5		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrsE
Enemy (Design &Script-AI)	Completed	2	0	0	0	0	0	1	0	1			0	0	0	0
Testing	Completed	Continuous	Yes													
User story #6																
Scripting	Completed	10	2	0	2	0	1	1	1	0	2	0	0	0	1	

SPRINT 1 ACTUAL

[illegible]

SPRINT 2 ACTUAL

SPRINT 3 ACTUAL

Backlog Item	Status & completion date	Original estimate in hours	Day1	Day2	Day3	Day4	Day5	Day6	Day7	Day8	Day9	Day10	Day11	Day12	Day13	Day14
User story #7		hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs	hrs
Final UI	2		1	1	1	2	0									
Final Testing	Completed	Continuous														



THANK YOU!