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UI 设计基础

# Introduction to UI Design Course

**REPORT ON**

**3D Game Kit Project Using Unity**

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## 1. Introduction

This report outlines the creation of a 3D game object using the Unity game engine, specifically utilizing the Unity 3D Game Kit. The goal of the project was to design a 3D game environment, incorporating various game objects, interactions, and mechanics. Unity's powerful tools were leveraged to create an immersive environment and intuitive gameplay features.

## 2. Project Overview

The project focused on building a 3D game scene using assets from the Unity 3D Game Kit, a collection of pre-built objects, environments, and scripts designed to simplify the development process. The game involved interactive 3D models, realistic environments, and game mechanics that contribute to the overall player experience.

## 3. Tools and Technologies Used

- **Unity 3D Game Engine:** The primary platform used for the game development, providing tools for physics, rendering, and scripting.
- **Unity 3D Game Kit:** A set of pre-built assets and scripts that streamlined the creation of game environments and interactions.
- **C# Programming:** Scripts were written in C# to control the game mechanics, including player movements, object interactions, and other custom features.

## 4. Setting Up the Development Environment

1. **Installing Unity Editor:**  
Download the Unity Editor via Unity Hub and include modules for targeted platforms like Windows or Mac.
2. **Creating a New Project:**  
Choose the 3D (Core) template, assign a project name, and save it in a preferred location.
3. **Importing the 3D Game Kit:**  
Access the Asset Store or Unity Package Manager, download the 3D Game Kit, and import it into your project.

## 5. Game Creation Process

1. **Scene Setup:**
  - Begin with an empty scene and save it in the appropriate folder.
  - Add environmental elements (e.g., ground tiles, cliffs) from the Prefabs folder, and position them as needed.
2. **Adding Gameplay Elements:**
  - **Player Character:** Place the “Ellen” prefab as the main character at a starting point.
  - **Enemies:** Position enemy prefabs such as “Chomper” and define patrol paths with Waypoints.
  - **Interactive Items:** Integrate pickups, triggers, and checkpoints for player interaction.
3. **Building the World:**
  - Customize landscapes with the Terrain Editor, using textures and vegetation.
  - Add challenging obstacles like spikes or breakable objects, and configure their properties.

#### 4. **Polishing the Game:**

- **Lighting & Visual Effects:** Enhance the scene with directional lights and post-processing effects like depth of field.
- **Sound & Music:** Use audio components for background music and attach sound effects to specific actions.
- **UI Elements:** Customize UI prefabs, such as health bars and objective panels, to align with the game theme.

#### 5. **Testing the Game:**

- Enter Play Mode in Unity Editor to identify bugs and refine gameplay based on feedback.

### 6. **Finalizing and Exporting the Game**

1. **Build Settings:** Select the desired platform and export the game.
2. **Playtesting and Deployment:** Verify functionality on the target platform and share the game either as an executable file or through distribution platforms.

### 7. **Conclusion**

The 3D game object project using Unity and the Unity 3D Game Kit successfully demonstrated the process of creating a dynamic and interactive game environment. By leveraging Unity's tools and C# scripting, the project incorporated player interactions, realistic environments, and engaging game mechanics. Despite the challenges, the project was a valuable learning experience, helping refine skills in game development, 3D modeling, and interactive design. Future improvements could include expanding the gameplay features, adding AI-controlled enemies, and enhancing the user interface to further improve the gaming experience.