



# Assignment-1

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## Introduction

Welcome to the Unity Couch Co-op Platformer Challenge, an engaging and creative assignment that will test your game development skills in a collaborative, fun, and competitive environment. Throughout this term, we've explored the fundamentals of game design and development using Unity, focusing on creating engaging single-player and multiplayer experiences. This assignment aims to build upon that knowledge by challenging you to design a local multiplayer couch co-op game that brings players together in a shared physical space, promoting teamwork and competition.

## The Assignment

Your task is to develop a platform game that supports multiple local players, enabling them to play simultaneously on the same screen using different game controllers. This game should capture the essence of classic platformers, incorporating modern game design principles and aesthetics to create an enjoyable and memorable experience for players.

## Game Concept:

- Genre: Platformer
- Mode: Local Multiplayer (Couch Co-op)
- Players: 2 to 4 players

## Objectives:

1. Engaging Gameplay: Design levels that are challenging yet fair, encouraging players to work together or compete within the game's environment.
2. Creative Collaboration: Utilize Unity's robust development tools to implement mechanics that promote cooperation among players, such as puzzles that require teamwork to solve.
3. Innovative Design: Incorporate unique elements that distinguish your game from typical platformers, such as innovative use of game physics, environmental interactions, or character abilities.

See more assignment details below **+**

## Constraints and Requirements

To ensure diversity and creativity, and to foster a learning environment where experimentation and exploration are encouraged, the following constraints and requirements have been established:

1. **Asset Diversity:** You must use different assets from those demonstrated in our lectures. Explore the Unity Asset Store and other reputable sources to find unique assets that fit your game's theme and design. This includes characters, environments, obstacles, and any other visual elements.
2. **Controller Support:** Your game must be playable with various game controllers. Ensure compatibility with at least two types of controllers, providing players with options and accessibility.
3. **Unity Platform:** The game must be developed in Unity, leveraging the skills and techniques covered throughout the course. This includes but is not limited to scripting, animation, physics, and UI design.
4. **Originality:** While you may draw inspiration from existing games, your final product must be original in design and execution. This encourages creative thinking and innovation.
5. **Documentation:** Submit a design document alongside your game, detailing your creative process, the assets used (with credits), and how you've implemented the assignment's requirements.
6. **Peer Review:** Be prepared to showcase your game to the class. You'll receive feedback from your peers, and you'll also have the opportunity to play and critique their creations.

## Additional Guidelines and Submission Details

To further enhance the learning experience and showcase your work, your final game project must be uploaded to itch.io, a platform for independent game developers to share their games. This will not only allow you to publish your game but also to receive feedback from a broader audience, including gamers and developers outside our class.

### (100 points) Additional Game Features and Requirements:

Your game should include the following features, which are essential components of a well-rounded platformer:

**Checkpoints and Respawn Mechanics:** Design your levels with checkpoints that allow for fair progress saving. Implement respawn mechanics for players to continue after failing, ensuring a balance between challenge and playability.

**Cinemachine Camera:** Utilize Unity's Cinemachine to create dynamic and responsive camera movements. A state-driven camera setup is recommended to enhance the gaming experience, providing smooth transitions and focus adjustments based on gameplay.

**Health System:** Incorporate a health system for players, adding an extra layer of strategy and challenge. Design this system to be intuitive and visually represented within the game interface.

**Well-Designed Levels:** Craft levels that are engaging, visually appealing, and well thought out, using tilemaps and rule tiles. Your levels should have enough variety and complexity, utilizing rule tiles with sufficient rules to build diverse and interesting environments.

**Enemies and Pickups:** Populate your game with enemies that challenge players and pickups that offer rewards or benefits. These elements should be integrated into the game in a way that enhances the overall gameplay and encourages exploration.

**Audio:** Implement audio effects and background music to enrich the game's atmosphere. Audio should be used to complement the gameplay, providing feedback and enhancing the player's immersion.

## **Documentation and Final Report:**

In addition to your game, you are required to submit a comprehensive final report that includes:

Detailed discussions of the features mentioned above, explaining your design and implementation choices.

Good quality screenshots showcasing these features within your game.

Explanations related to how these elements contribute to the game's overall design and player experience.

Your final report should be submitted alongside your Game Design Document, which outlines your initial concept, design process, and asset credits. The report should also include a section detailing group member responsibilities, clearly stating who was responsible for each part of the project.

## **Submission Deadlines:**

Game Design Document (See the given template) Deadline: **29/03/2024**

Final Submission Deadline (Report, Itch.io Link, Unity Project Folder):  
**06/04/2024**

**Format:** Submit your Unity project folder, including all assets and the final build of the game. Ensure that your game is properly packaged and can be easily run on a Windows PC.

**Documentation:** Include a PDF of your design document in your submission.

This assignment is an opportunity to showcase your creativity, technical skills, and ability to work as part of a team. Take advantage of this chance to create something unique and engaging, and remember to support your teammates throughout the development process. Good luck, and I look forward to playing your games!



The maximum member size is six for the groups!