

SE 320 - INTRODUCTION TO COMPUTER GAMES

SE 320 Term Project

Report : Repair In The Woods

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1.0.Introduction

The Repair In The Woods is a walking simulator, first person environmental, interactable puzzle game that was designed as an immersive puzzle solving experience. The objective is to create a world where players could explore various environments, solve puzzles and play mini games that reveal and open parts of the world or items that are needed to fix a broken car. The game aims to find and collect the specific items to repair a broken car with atmosphere, interactive puzzle-solving and mini games to engage players.

The primary goal of this project was to combine environmental, challenging puzzles with mini games to allow players to think and find solutions to challenges they are facing . Through design of puzzles and world-building elements, I aimed to create a sense of discovery and puzzle solving. The development process also provided an opportunity to experiment with Unity's tools and frameworks, enhancing my technical skills in game development.

2.0.List of Contributions

2.1.Development Team Contributions

- Player Movement and Camera Controls (Yunus Erdem Gökdağ)
- Interactable Objects (Yunus Erdem Gökdağ)
- Inventory System (Yunus Erdem Gökdağ)
- Key and Door Unlocking System (Yunus Erdem Gökdağ)
- Minimap System (Yunus Erdem Gökdağ)
- Moveable Crates (Yunus Erdem Gökdağ)
- Main Menu and Pause Menu (Yunus Erdem Gökdağ)
- Object Outliner (Yunus Erdem Gökdağ)
- HUD and UI (Yunus Erdem Gökdağ)

2.2.External Help

- Unity's asset store for environmental props.(Referenced at 6.0)
- Quick Outline asset for object highlighting.(Referenced at 6.0)

3.0. Improvements Since the Presentation

3.1. Feedback Received

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3.2. Implemented Changes

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4.0. Project Story

The development process began with brainstorming ideas inspired by narrative-heavy puzzle games. I decided to focus on creating engaging puzzles, mini games and item collecting. Eventually i created my main puzzles and mini games after i researched what kind of puzzles and mini games i played in games I liked the most. Then I set my environment and inventory system accordingly to my created puzzles. One of the significant challenges was optimizing the puzzles with environment for player to getting overwhelmed by challenges like not being able to find where the puzzle and item is or how to solve it. This was addressed by using using minimap that outlines where the important puzzles or items are and text pop up if the player is stuck in one puzzle to give him/her hint. Additionally, the design of the maze puzzle using industrial containers was a creative breakthrough, requiring iterative testing to ensure balance between difficulty and playability.

5.0. Instruction Manual

5.1. Playing the Game

- Use WASD keys to move and the mouse to look around.
- Jump using the Space key.
- Interact with objects using the F and E key.
- Esc key to open pause menu and return to main menu.
- At main menu press Play button to play and Quit button to quit game.

5.2. Solving Puzzles

- For the screen puzzle, press buttons in the sequence at the right time by the correct image shown.
- For the card puzzle, match the cards to sockets that are near the panel accordingly by the combination of the colors of the cards to color on the panel.
- In the maze puzzle, pull the levers to open your way to find the exit.

6.0. External Factors

6.1.External Assets

- 3D Tire: <https://assetstore.unity.com/packages/3d/props/3d-tire-102580>
- Billboard:
<https://assetstore.unity.com/packages/3d/environments/urban/billboard-9700>
- Book Of The Dead: Environment | HDRP:
<https://assetstore.unity.com/packages/essentials/tutorial-projects/book-of-the-dead-environment-hdrp-121175>
- Bridges 3D Basic Pack:
<https://assetstore.unity.com/packages/3d/environments/scifi/bridges-3d-basic-pack-21302>
- Bulk Container:
<https://assetstore.unity.com/packages/3d/props/industrial/bulk-container-110387>
- City Props Pack!:
<https://assetstore.unity.com/packages/3d/props/city-props-pack-153581>
- Control Panels Pack:
<https://assetstore.unity.com/packages/3d/props/electronics/control-panels-pack-122253>
- Door Texture Pack:
<https://assetstore.unity.com/packages/2d/textures-materials/door-texture-pack-223425>
- Fire Extinguisher Realistic:
- <https://assetstore.unity.com/packages/3d/props/fire-extinguisher-realistic-230711>
- Gas cylinder PBR pack (FREE):
<https://assetstore.unity.com/packages/3d/props/industrial/gas-cylinder-pbr-pack-free-194471>

- Industrial Cabinets and Shelves Lite:
<https://assetstore.unity.com/packages/3d/props/industrial/industrial-cabinets-and-shelves-lite-56126>
- Industrial Models:
<https://assetstore.unity.com/packages/3d/props/industrial/industrial-models-171071>
- Interactive Physical Door Pack:
<https://assetstore.unity.com/packages/tools/physics/interactive-physical-door-pack-163249>
- Iron Rod:
<https://assetstore.unity.com/packages/3d/props/industrial/iron-rod-649>
- Measuring Meter:
<https://assetstore.unity.com/packages/3d/props/industrial/measuring-meter-843>
- Metal Plates:
<https://assetstore.unity.com/packages/3d/props/exterior/metal-plates-64240>
- Oil Tank:
<https://assetstore.unity.com/packages/3d/props/industrial/oil-tank-676>
- Pickup model:
<https://assetstore.unity.com/packages/3d/vehicles/land/pickup-model-135387>
- Pipers:
<https://assetstore.unity.com/packages/3d/environments/industrial/pipers-63800>
- Pipes FREE Collection:
<https://assetstore.unity.com/packages/3d/props/industrial/pipes-free-collection-215079>
- Procedural Terrain Painter:
<https://assetstore.unity.com/packages/tools/terrain/procedural-terrain-painter-188357>

- Quick Outline:
<https://assetstore.unity.com/packages/tools/particles-effects/quick-outline-115488>
- Realistic Fences Pack:
<https://assetstore.unity.com/packages/3d/environments/realistic-fences-pack-211850>
- Retro PSX Horror Puzzle Item Pack (Icon+LowPoly):
<https://assetstore.unity.com/packages/3d/props/retro-psx-horror-puzzle-item-pack-icon-lowpoly-250188>
- Rope Bridge 3D:
<https://assetstore.unity.com/packages/3d/environments/rope-bridge-3d-222563>
- StampIT! Collection - FREE Examples:
<https://assetstore.unity.com/packages/tools/terrain/stampit-collection-free-examples-218286>
- Starter Assets - FirstPerson | Updates in new CharacterController package:
<https://assetstore.unity.com/packages/essentials/starter-assets-firstperson-updates-in-new-charactercontroller-pa-196525>
- Steel Window:
<https://assetstore.unity.com/packages/3d/props/industrial/steel-window-650>
- Street Assets:
<https://assetstore.unity.com/packages/3d/props/exterior/street-assets-4565>
- Stylized Wooden Bench PBR:
<https://assetstore.unity.com/packages/3d/props/stylized-wooden-bench-pbr-267777>
- Terrain Sample Asset Pack:
<https://assetstore.unity.com/packages/3d/environments/landscapes/terrain-sample-asset-pack-145808>

- Training table:
<https://assetstore.unity.com/packages/3d/environments/training-table-136070>
- Transformer box:
<https://assetstore.unity.com/packages/3d/environments/industrial/transformer-box-194940>
- Underground Industrial Models:
<https://assetstore.unity.com/packages/3d/underground-industrial-models-69927>
- Vehicle Parking Lot Garage Gate PBR:
<https://assetstore.unity.com/packages/3d/environments/roadways/vehicle-parking-lot-garage-gate-pbr-111423>
- Wooden Boxes:
<https://assetstore.unity.com/packages/3d/props/wooden-boxes-257121>
- Workplace Tools:
<https://assetstore.unity.com/packages/3d/props/industrial/workplace-tools-86242>

NOTE: I have only used meshes and materials from these packages. Only I have taken Quick Outline script but it is heavily modified. Also I have mixed and modified most of the elements in these packages.

6.2.Assistance

This project was solely developed by me.

6.3. Class Overlap

This project was solely developed for the SE 320 - Introduction to Computer Games class and does not overlap with other class assignments.

7.0. Conclusion

This project was an enriching experience that enhanced both technical and creative skills. Developing the game provided valuable insights into balancing gameplay mechanics and environment. In the future, additional puzzles and expanded elements could be added to deepen player engagement.