Design Document for:

King of Boxes

designed by

Marah Bahoty-206528994 & Nameer Egbaria - 211405477

Game Overview

Introduction

"King of Boxes" video game that falls under the genre of puzzle-solving or logic puzzle games. The objective of "King of Boxes" is to move boxes around a maze-like environment and place them onto designated storage locations. The challenge lies in planning and strategizing your moves to avoid getting the boxes stuck in corners or against walls, as the player character can only push the boxes and not pull them. The game requires logical thinking and problem-solving skills to solve each level.

Inspiration

"King of Boxes" is a game inspired by the popular puzzle game "Sokoban", with some additions.

The core machine of a Sokoban game typically refers to the underlying game engine or algorithm responsible for the game's mechanics and logic. In Sokoban, the core machine revolves around the rules and algorithms that govern the movement of the player character and the crates within the game.

At its core, the Sokoban game relies on a grid-based system where the player character can move in four directions (up, down, left, and right) on a two-dimensional grid. The crates or boxes can also be pushed in these directions, but they cannot be pulled or pushed into obstacles or other crates.

The game engine of Sokoban implements algorithms to handle player input, check for valid moves, detect collisions, and determine the win condition. It also includes algorithms for pathfinding and level generation, as the game typically offers multiple levels of increasing difficulty.

The twist

We changed the game to a 3D format and made it a multiplayer gameplay experience involving two players. In this version, one player is responsible for moving boxes around a maze-like environment and placing them onto designated storage locations. The second player acts as an assistant, viewing the map from a top perspective and giving oral instructions to guide the first player in the right direction. The first player experiences the game in a 3D Sokoban format.

Common Questions

What is the goal of the game?

The goal of the "King of Boxes" is to solve puzzles and successfully place all the boxes onto their designated storage locations within the maze-like environment.

Why create this game?

Puzzle-solving games have always been popular among players who enjoy mentally stimulating challenges. "King of Boxes" offers a challenging gameplay experience that tests logical thinking, problem-solving skills, and spatial awareness.

What is the camera viewpoint?

1. Player Character's View: The player character, who is responsible for moving the boxes, experiences the game in a 3D format. This suggests that the camera viewpoint for the player character would be a third-person perspective, typically positioned behind or slightly above the character. This viewpoint allows the player to see the maze-like environment, navigate through it, and interact with the boxes.
2. Assistant's View: The assistant, who provides oral instructions and views the map from a top perspective, likely has an overhead or top-down camera viewpoint. This viewpoint provides a bird's-eye view of the maze, allowing the assistant to observe the overall layout, identify obstacles, and provide guidance to the player character.

Where does the game take place?

The game takes place in a maze-like environment

What are the controls?

1. Player Character Movement:
   Arrow keys or WASD keys: These keys are used to move the player character in different directions within the maze-like environment.

2. Box Pushing:
   - Interact/Action button: This button allows the player character to interact with and push the boxes in the game.

3. Switching between Players :
   Player Switch button: the game allows players to switch roles between the player character and the assistant.

Can the assistant player interact with the environment or only provide instructions?

 The assistant player's role is primarily to provide oral instructions and guidance to the player character. They may not directly interact with the environment or move the boxes themselves.

How are the levels in "King of Boxes" structured? Is there a set order, or can players choose which level to tackle?

The level progression in "King of Boxes" can follow a structured order, where players advance through levels of increasing difficulty.

Is there a time limit or any constraints for completing each level in "King of Boxes"?

No. The game focus on encouraging strategic thinking rather than time pressure

What happens if the player pushes the box into the designated storage location?

The color of the box changes from gray to green.

How do I win the game?

To win the game "King of Boxes," you need to successfully placing all the boxes onto their designated storage locations within the maze-like environment.

What happened If the boxes become stuck in a way that makes it impossible to proceed or complete the level?

The player has an option to reset the level, allowing you to start from the beginning of the current level. This allows you to try again with a fresh start and attempt to solve the puzzle without getting the boxes stuck.

How do I switch between two players?

You can switch between players by pressing a specific key on the keyboard.

Is there a limit to how many boxes I can push at once?

Yes, you can only push one box at a time.