Ocean Inc. Complete Project Report Summary

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Overview

Ocean Inc. is a 3D-isometric industrial building and management game that takes place on an ocean. In the game, players must expand their factories, build oil rigs, dispose of waste, and generate wealth to grow their industrial empire. Meanwhile, the sea level rises due to accelerated global warming from carbon emissions. The Ocean will begin to become more polluted over time as well which could affect resource deposits. At this point, the objective of the game changes once the player has caused enough damage to the Earth's oceans. The player must mitigate or remediate the damage, otherwise the environmental effects will destroy their factories and practically render the game unplayable. This would be considered the "losing" state of the game.

Constraints

Ocean Inc. will be a product that can be accessed from two digital video game distributors, Steam and Epic Games. The game will be available to play on Windows and Apple machines and does not require high power.

Functional Requirements

The important functional requirements include game initialization, calculating production rate, and calculating pollution rate. The rate calculations are essential for giving the player the correct amount of resources and triggering environmental effects.

Design

- The game's goal is to serve as an environmental simulator that raises awareness of ocean pollution and climate change from industrial buildings by focusing on the following areas:
    - Track real-time industrial impact based on all in-game actions taken by the players.
    - Process the in-game data to generate environmental alerts to help players understand the consequences of their actions.
    - Environmental accuracy must properly show the user a realistic representation of ocean pollution.

- The proposed new system, Ocean Inc., is not supposed to replace any current system that is currently on the market. Instead, it should be a new and similar product being a fun game but with new functionality of learning and new gameplay overall.

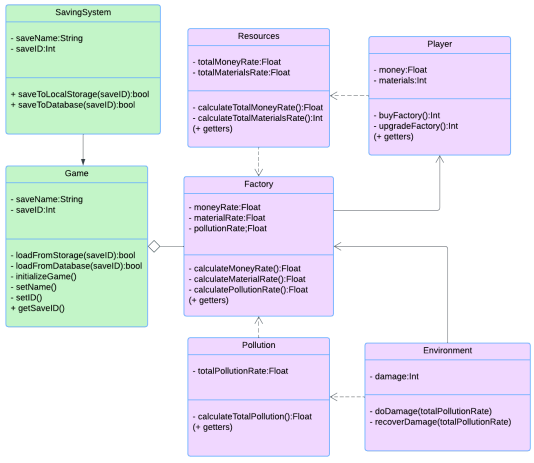
Project Issues

- **Open Issues -** Large consumption of real-time data and gameplay mechanics all represent issues in game development.
- **Risks -** Some of the risks associated with making this game will be competition, no backing from oceanic organizations, and lower performance than expected.
- **Costs -** This project costs will be high when creating the actual game especially when first starting to develop the game requires investors to fund the game.
- **Waiting Room -** If the game is a success future developments to the game can include collaborations, multiplayer systems, and club systems.
- **Ideas for solution -** Some solutions can include being able to make the game available for mobile devices. If there is a large amount of daily users there can be more game content for everyone/games won't be discontinued.
- **Project Retrospective -** Lots of things went well in the project like communication, deadline management, and agreeing on core ideas for the game. However, some flaws in the project include figuring out other parts of the project like legal, costs, and risks. There was a bit of confusion/disagreement in this area.

Design diagrams

Below are some diagrams that will be useful when developing Ocean Inc.

Class Diagram



Sequence Diagram