

Implementation

Team 21: 21Direction

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New significant features:

- Difficulty modifier
- Save game
- Load game
- Obstacles
- Bad Weather and storms
- Shop
- Shop powerups
- Blessing powerup
- College boats
- Longboi world events
- Game map size increase

Systematic report of significant changes:

Difficulty modifier:

Justification: We added a difficulty changer which upon starting a game modifies the player boats stats depending on which difficulty it is set to. If the difficulty method is not called then it defaults to normal.

Class: Difficulty

Requirement: UR_LEVELS, FR INCREASE DIFFICULTY

Save game:

Justification: We added auxiliary classes, to facilitate serialising the game state into a format which can be saved and read from, which store the key values for each object in the game.

Class: All classes under Saves

Requirement: UR_SAVE_GAME, FR_SAVE

Load game:

Justification: We added a load game feature in which when the game is loaded it will check if a saved game already exists and if it does then it will load that save state and if it doesn't then it will create a new game.

Class: eng1game

Requirement: UR_LOAD_GAME, FR_LOAD, FR_NO_SAVE_FILE

Obstacles:

Justification: We added obstacles into the game which spawn randomly when the game starts which will block the player from moving through them if they collide with it.

Class: Obstacle

Requirement: UR_OBSTACLES, FR_OBSTACLES

Bad Weather and storms:

Justification: We added bad weather and storms which spawn randomly on startup that if encountered they will do damage and/or slow down your boat depending on which you come across.

Class: Weather, Storms, ChoppyWaves

Requirement: UR_WEATHER, FR_WEATHER

Shop:

Justification: We added a shop to sell various beneficial items / effects (such as an on-the-go heal, booster rockets, and extra cannons) to provide a use for the player's accrued plunder.

Class: HUD

Requirement: UR_SHOP, FR_SHOP

Shop powerups:

Justification: We added more power-ups to the game (such as booster rockets and extra cannons) which can only be acquired via an in-game shop, to provide a use for the player's plunder.

Class: HUD

Requirement: UR_SHOP_POWERUPS, FR_SHOP_POWERUPS

Blessing power up:

Justification: We added a blessing power up on the map which grants Charlie Jeffery's blessing on collision. It makes the player immune to damage for 15 seconds. We did this by implementing a new class Blessing which has a set size and has a randomly generated location on the map.

Class: Blessing

Requirement: UR_MAGICAL_POWERUPS, FR_MAGICAL_POWERUPS

College boats:

Justification: We added AI boats which belong to specific colleges. The boats will be enemies to the player until the college they belong to has been destroyed. Once destroyed it will fight other college boats for the player. These boats are randomly spawned with set stats and will attack the player within 500 units.

Class: CollegeBoat

Requirement: UR_SHIP_COMBAT

LongBoi world event:

Justification: We added a world event in which the player can defeat the neutral long boi in exchange for a damage upgrade and the ability to fire ducks rather than cannonballs. The event is spawned randomly from the start of the game and has set stats.

Class: LongBoi

Requirement: UR_OBSTACLES

Game map size increase:

Justification: We made the game map size bigger as originally it was only big enough to fit the old requirements but as we added more and more functionality the map became too small to fit everything in so we increased the size to improve playability greatly.

Class: GameMap

Requirement: N/A