Ideas Board

{assessment 2}

New requirements for Assessment 2

1. Implement five special power ups that the player's boat can obtain on the journey (e.g. granting temporary immunity, repairing damages)

2. Implement support for different levels of difficulty in the game (e.g. easy, normal, hard)

3. Implement facilities that allow players to save the state of the game at any point and resume a saved game later

1   5 special power-ups

Power-ups would be **temporary** upgrades to the player obtained by picking them up (colliding with) in the game world. They could be spawned randomly or occasionally dropped by the enemy entities.

Possible power-ups:

- Defense:
    - **Fixed hp shield.** *Blocks certain amount of damage then breaks or expires after some amount of time.*
    - **Increased player speed.** *Makes it easier to dodge enemy attacks.*
    - **Heal player by x hp.** *Heals player, any excess healing could be converted into shield? << Depends on difficulty?*

- Offense:
    - **Increased fire rate.** *More cannonballs equals more damage.*
    - **Increased shot damage.** *Each cannonball deals more damage.*
    - **Increased number of cannonballs fire per shot** ===== *instead of* ------

5 special power-ups

The strength of each power-up could vary depending on difficulty. Easier difficulties would drop the player power-ups more often and they would have stronger effects:

Difficulty	Heal amount (hp)	Chance of power-up dropping (%)
Easy	50	20
Medium	25	15
Hard	10	10
Expert	5	5

*numbers are made up, would be more balanced in the final game.

2   Adjustable difficulty

There are different ways of increasing difficulty:

1. The easy way:
   > Make the enemies **tougher**. Easy because you can just bump up their stats so they are harder to beat.

2. The harder way:
   > Make the enemy more **intelligent**. Harder because AI.

Could have 4 difficulty settings: **easy/medium/hard/challenging.** Easy should be trivial, just used to learn game. Medium balanced for fun. Hard is still very possible if you focus. With challenging, expect to fail multiple times before a win.

Difficulties would be renamed to fit theme, off the top of my head something like this:

- **Unknown.** *Who?*
- **Prosperous.** *The name rings a bell.*
- **Notorious.** *The name strikes fear.*
- **Legendary.** *People dare not speak the name.*

3   Game saves

There are two (maybe more) relatively easy way of saving the game:

1. Each java game object can be written and stored into a JSON file which can later be loaded
2. Use the built in libgdx Preferences interface - https://libgdx.com/wiki/preferences

There should be some kind of menu system to choose which game save is wanted to be loaded and have save game slots which the user can save the game state into at any point

Could look something like:

- Slot 1: 12:20 18/02/2022
- Slot 2: 12:49 22/02/2022
- Slot 3: Empty

Need to make sure only the necessity objects are stored in a save file as to not have too large of a file.

4   Combat with other ships

There are a couple of things which must be added first:

- Other ships
- Ship AI
- Ships ability to shoot

Once these are implemented, combat logic can be added to the ships to make the difficulty harder/easier such as:

- Rate of fire
- Cannonball damage
- Where the ship fires at you, take into account both boats current speed, accuracy

Need to take into consideration how many boats there are and how far they can go from their allocated collage

5   Obstacles and bad weather

Obstacles can include:

- **Lake monsters**
  - damages ship, could move a little bit to target player
- **Rocks in the water**
  - damages ship, static, needs a warning so the location should have small rocks in the water
- **Forts/Small buildings**
  - the player has to go round them, could force tem
- Can add more later

Bad weather can be implemented with dark clouds or dark water to signify to the player to not go there. Some implementations of this could be:

- If the player enters somewhere with dark clouds it could move them in the direction of the wind/water with limited user control
- It could do damage to the player
- It could server a gameplay mechanic by forcing the player to get closer to the enemy boats, could also be used by the player to quickly get away from them.

6   Ways to spend plunder

The plunder can be used to purchase permanent power-ups and ship upgrades

Ship upgrades can be made at anytime,other than during combat, using a menu system similar to FTL.

Power Ups can be made at specific locations in the map, placed in between the collages. Again similar to FTL
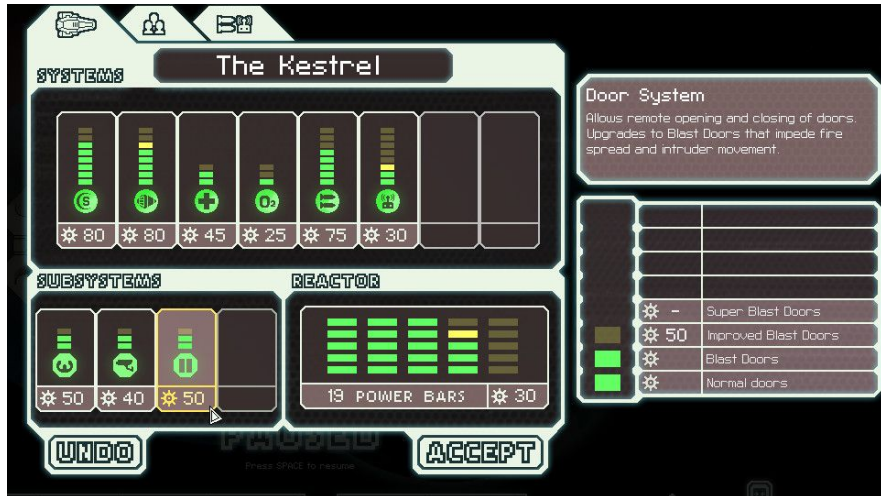
Add lake to game

Use abstract shape.