Game Proposal: Lord of the Lakes

CPSC 427 - Video Game Programming

Team Members:

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Story:

Lord of the Lakes features a main character whose dream is to be the best fisher in the world and wants to prove themself by catching the legendary fish rumored to be roaming the waters. In order to do so, they must train by fishing for weaker fish and gradually build their strength. Along the way, they accidentally fish up strange creatures who end up being their companions on their journey and provide ways to help the main character fish for rarer and stronger fish.

The player will control the main character who moves around using their boat on various lakes, which allows 2-dimensional movement. The main activity is using different fishing tools to capture and collect fish and encounter rare events, such as recruiting party members and engaging in a turn-based battle against fierce enemies. After capturing a fish, the player can sell it to the shop to exchange for better fishing gear or gift it to their party members to unlock friendship scenes and upgrade their strength. Different mechanics will feature for different species of fish — some will be a simple button press, some will engage with mouse clicks and holds in minigames, and some will trigger a turn-based battle.

The player will move between multiple lakes by teleport points. Each lake will feature different species of fish and can only be accessed upon defeating the previous lake's boss in a turn-based battle. Players need to have accumulated money from catching fish and upgrading their gear in order to defeat the current stage's boss.

The ending will feature an intense struggle between your party members and the legendary fish.

Technical Elements:

- **Rendering:**
    - Characters and fishes will be represented using 2D sprites.
- **Geometric/sprite/other assets:**
    - World will be square-tile based using 2D art and assets.
- **Animations:**
    - Fishing action involves animations (e.g., throwing fishing line and reeling in fish).
    - Animations for special effects + attacks in turn-based battles.
    - Simple animations for character sprites/portraits in turn-based battles.

- **Turn-based battles:**
  - Triggers when the player’s boat collides with a shadow in the water.
  - Triggers when the player challenges the area boss
  - Involves the main character and his party members fighting against one or more fish.
  - Random encounters - the fish that the player fights is randomly selected from a pool of possible fish in that location.
- **Boat movements and physics:**
  - Move the boat using WASD / arrow keys.
  - 2-D collision elements:
    - The boat must stop if it collides with shore or with any obstacles in the water (e.g., rocks/boulders).
    - Fish shadows appear at random, which the boat can avoid/collide into. Colliding into a fish shadow triggers a turn-based battle.
  - More physics elements involved in throwing and reeling of the fishing actions.
- **Gameplay logic and AI:**
  - Fish shadow movements:
    - Random movements, different species have different movement patterns and speeds. Movement patterns include speed of movement and angles of turns.
  - During turn-based battles, the enemy (fish) will use AI to choose its actions (e.g., choose which attack to use next).
  - Which fish the player will catch when fishing is somewhat random. The probability of getting any type of fish is different per fishing spot/lake. Some rare fish will only be available in one spot.
  - You can sell fish for gold, and use gold to upgrade your fishing rod, or buy fishing lures with temporary fishing probability bonuses.
  - Dialog between friends and player triggered upon reaching max friendship level
    - If friendship is maxed out, friends can give you information about fishing if you click on them.
- **Lakes:**
  - As the player progresses, they will unlock new lakes that they can travel to in order to catch new species of fish and meet new party members.
  - Each lake unlocks new species of fish.
  - Certain common fish can be found in all lakes, but the probabilities for catching these fish will vary from lake to lake.
  - In addition, there will also be some variation in the probabilities of catching fish each day (randomly, perhaps depending on the weather, on the time of day, or on the mood of the fish).
- **Saving:**
  - At certain milestones, the game will autosave.
  - There will be an easily accessible save button so players can save anytime.
  - There will be multiple save files (so multiple people can playtest the game without having to worry about restarting progress).

Advanced Technical Elements:

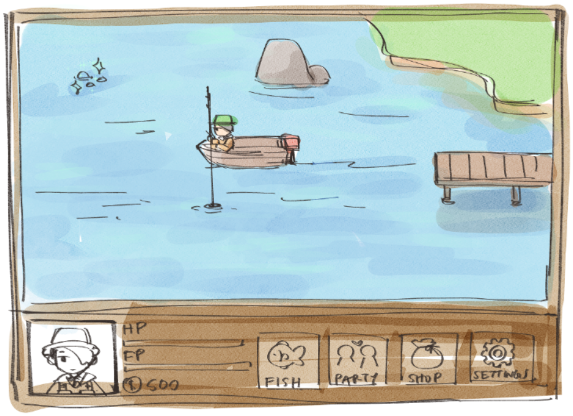
- **Shop**: The player can sell the fish they catch in the shop for money that they can use to upgrade their gear and buy temporary upgrades in the form of lures and baits.
  - Impact: Rewards players for fishing, and allows them to "grow stronger" to help progress further in the game and storyline.
  - Alternative: Instead of a money determining progression, a passive EXP system to earn upgrades may be easier to implement compared to implementing a shop and price system. Or, have upgrades be random finds in each level and remove the upgrade and money system. Can also downscale the shop to only handle exchange of money and permanent upgrades.
- **Friendship system**: Players will have a friendship level for each party member, which can be increased by interacting with them (Clicking can prompt chats, gifting them fish).
  - Impact: Incentivizes players to interact with the party members. This is important because friendship is an important part of the storyline, and will ideally help the player become more invested in the game overall.
  - Alternative: Players won't be able to interact with party members outside of turn-based battles.
- **Party member fishing buffs**: Recruited party members can give the player passive fishing buffs (outside of battles), with relation to friendship level.
  - Impact: This would reward players for increasing friendship levels with the party members, and give party members a more important role in the game.
  - Alternative: Party members do not give any buffs.
- **Conversations with party members**: Include dialogue for short conversations between the player and their party members.
  - Impact: Ideally causes players to develop an emotional connection to the game and to their party members.
  - Alternative: Players cannot talk to their party members.
- **Adding randomness to fishing rates**: Vary the fishing rates (probabilities of fishing up each species) by random amounts each day.
  - Impact: Adds more randomness to the game. Prevents players from figuring out the exact probabilities for each lake, making the game more chance-based. Can potentially allow for more dialog between party members and users, where party members can give information/hints about the probabilities per day. (e.g., "Hey Player, it looks like Species X will be easier to catch today!")
- **Fishing items besides fish**: Allow for fishing up things other than fish, such as possible gifts (e.g., shells, human trinkets) for party members to raise friendship.
  - Impact: Fishing up random items adds more randomness and surprise to the game. Creates another way of interacting with party members.
  - Alternative: Players can only obtain fish when fishing.
- **Rewards from turn-based battles**: Turn-based battles could reward the player with loot/money that they can use at the shop.

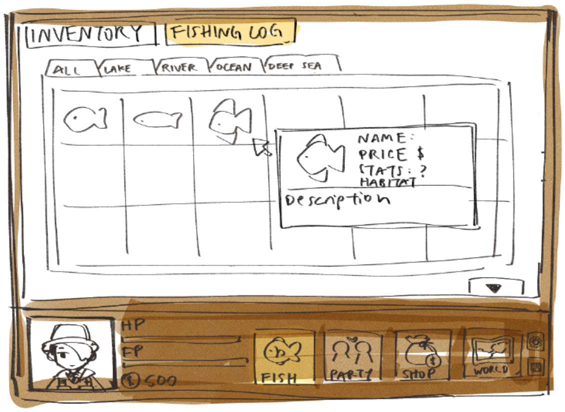
    - Impact: Increases the rewards obtained from winning turn-based battles; adds randomness from the random loot being dropped.
    - Alternative: Winning turn-based battles only gets the player the fish that they were fighting.
- **Achievement system**: Achieving certain milestones/progress in the fishing codex could yield the player some sort of reward (e.g., a “Congratulations” screen, or an extra-fancy fishing rod).
    - Impact: Rewards players for completing the fishing codex, potentially incentivizing them to explore more areas to try and find all the fish.
    - Alternative: Players aren’t rewarded for their progress completing the fishing codex.
- **Night/Day system**: Have both night and day in the game. Fishing rates could vary depending on whether it is night or day. In addition, certain species may only be able to be caught at a certain time of day.
    - Impact: Makes the game more variable and interesting, since it isn’t always just one time of day. Will give the option to create special fish that can only be caught at a certain time of day, which increases the feeling of randomness in terms of fishing rates, but also a feeling of choice since players can gather information on when to fish.
    - Alternative: It will always be day time in the game; fishing rates won’t be impacted by the time of day.
- **Weather system**: Create a weather system in which the weather changes randomly each day. Can vary probabilities for fishing by weather - for example, some species of fish will show up more often when it’s raining. In addition, certain fish species may only be caught during certain weather conditions.
    - Impact: Makes the game feel more holistic, and adds variability. Also adds randomness to the game since the weather will change randomly every day.
    - Alternative: It will always be sunny in the game.

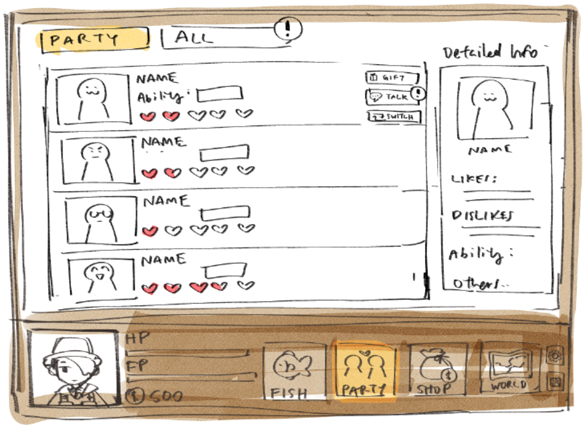
Devices:

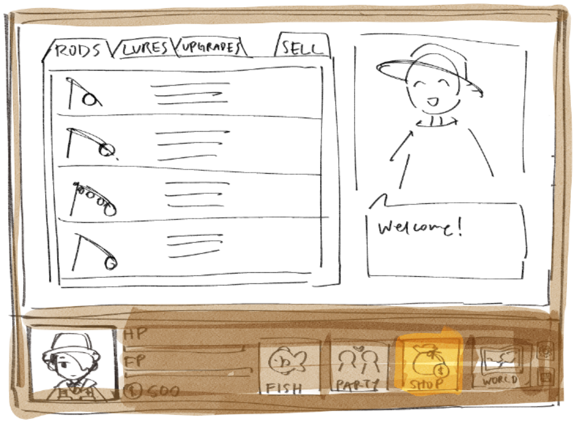
- We will be supporting keyboard and mouse inputs.
- WASD keys or the arrow keys will be used to move the boat
- Mouse clicks and holds will be used for various fishing mechanics (e.g. click and hold to cast the fishing rod).
- Mouse clicks will also be used to navigate the UI, such as accessing the shop menu or examining the party.
- [Nice to have] Keyboard shortcuts can also be used so that the game can be played with the keyboard only. Mouse inputs for fishing can be substituted by the “Z” key. Different menus can have keyboard shortcuts, such as “M” for map, “I” for inventory, “P” for party, etc. Within the menus, “Z” is to confirm and “X” is to cancel.

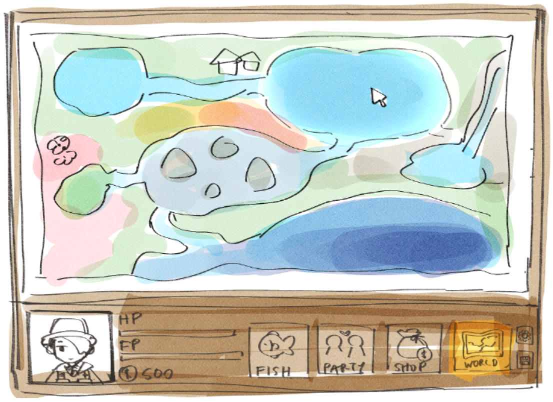
Concepts:

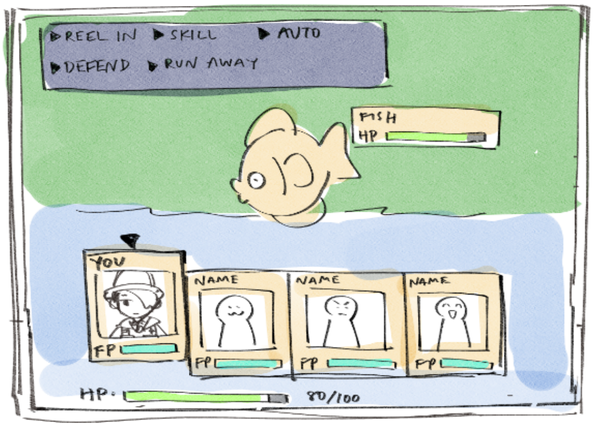

HP
FP
500
FISH
PARTY
SHOP
SETTINGS

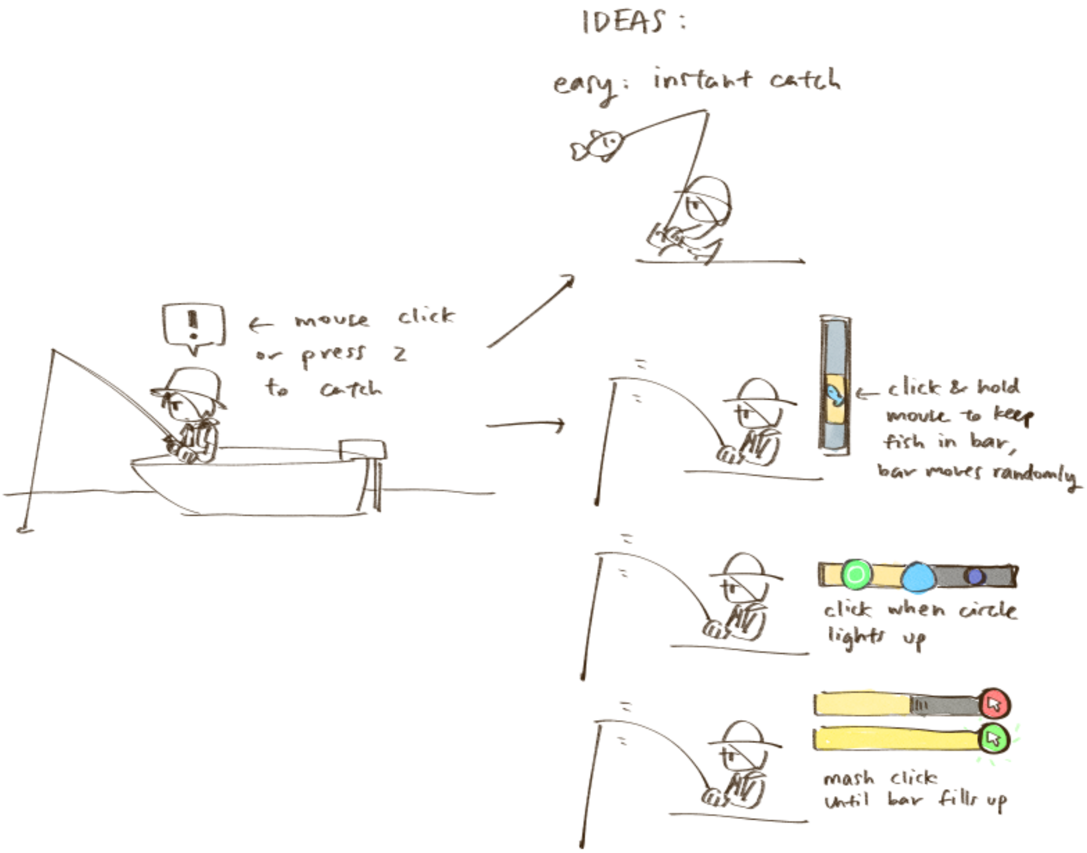

INVENTORY
FISHING LOG
ALL
LAKE
RIVER
OCEAN
DEEP SEA
NAME:
PRICE $
STATS: ?
HABITAT
Description
HP
FP
500
FISH
PARTY
SHOP
WORLD


PARTY
ALL
Detailed Info
NAME
Ability:
GIFT
TALK
SWITCH
NAME
NAME
NAME
NAME
LIKES:
DISLIKES
Ability:
Others..
HP
FP
500
FISH
PARTY
SHOP
WORLD


RODS
LURES
UPGRADES
SELL
Welcome!
HP
FP
500
FISH
PARTY
SHOP
WORLD


HP
FP
500
FISH
PARTY
SHOP
WORLD


REEL IN
SKILL
AUTO
DEFEND
RUN AWAY
FISH
HP
YOU
FP
NAME
FP
NAME
FP
NAME
FP
HP:
80/100


IDEAS :
easy: instant catch
!
← mouse click or press z to catch
← click & hold mouse to keep fish in bar, bar moves randomly
click when circle lights up
mash click until bar fills up

Tools:

No additional libraries identified at the moment other than OpenGL. We will consider additional libraries as development progresses and we reassess our needs/requirements.

Team management:

We will be using the GitHub issues tracker to create and assign tickets for everyone in our team to use, so that it is clear who is working on what and when an issue is done or resolved. We are also using Discord to communicate our plans and if we need help on anything from each other. Each team member can assign themselves to issues of interest and take note of their progress by using commit messages. Local work will be completed on separate branches and making a pull request, and will only be merged to main once peer reviewed.

Development Plan:

Skeletal Game

Week 1

- Set structure and foundation to our code.
- Basic UI to be able to visualize the player without the sprite (for example a red square) on a basic background.
- Define the game-space boundaries.

Week 2

- Be able to move around in the boat (using WASD keys), collide at shore (edges of world/boundary).
- Be able to "fish" (have a text box display you caught something) on a button press or mouse click.
- Have a simple menu for a history record of the fish you've caught.
  - draw on screen
  - external ui library (counts for whatever bonus point thing)
    - M1 - Integrated ui library but did not implement usage for text boxes or inventory menu - will be expanded on in M2
- Move camera based on player position. (10 points)

Week 3

- Implement input to trigger "fishing" state, wait a few seconds, and trigger an event to press the button again in order to catch fish.
- Add "fish" shadows that move around and can bump into the boat, foundation for mini boss fish in the future, to fulfill more collision requirements. In this version, bumping into a shadow doesn't do anything except hinder movement.

Minimal Playability

Week 1

- Improve on boat movement.
- Solidify fishing mechanics: For very easy fish, click to catch instantly. For regular fish, have various fish movement AI with fishing bar gameplay. For hard fish, turn based combat.
- Implement a tutorial for movement and fishing.
- Animation to throw fishing line.
- Create turn based combat UI which triggers on collision with on-screen fish.
- Create a shop UI where you can sell fish and buy new fishing rods.
- Create item and fish inventory UI.

- Be able to recruit 1 or 2 party members, and have story dialogue for encountering new party members.
- Update - Use the Dear ImGUI integrated in M1 to create UI and also create textures combined with collision programming to create UI

Week 2

- Implement the friendship system with party members, such as having a friendship gauge and gifting system to increase the gauge.
- Have a menu for party members to view their current friendship level and available skills and buffs.
- Be able to fight in turn-based battles (start having UI and combat system thought out), be able to use skills, attacks, and run.
- Be able to include party members in battles.
- Have working enemy AI for both turn-based enemies and fishing gauges.
- Implement tutorials on menu navigation and turn-based combat.
- Begin adding other locations to fish.
- Fix bugs and improve playability.
- M2 CHANGES - Certain features have not yet been implemented or are partially implemented. A focus on creating the UI, the battle system, and a basic fishing game was determined during the course of working on this milestone

Playability

- Planned features that need to be implemented in M3:
    - More robust party system + assets
    - More fishing minigames
    - Additional locations + world map
    - Dialogue system

Week 1

- Have a title screen where players can load their saved game and exit the game.
- Add the ability to save the game at any point during the game. (Potentially implement an autosave feature as well.) (10% creativity)
- Add more party members and fish
- Improve on fishing mechanics - have more different ways to catch fish (e.g. mash click to fill gauge, click prompts in time).
    - MOVED TO M4
- Implement the ability to have multiple save files.
    - Probably scrapping this
- Add more other locations to fish and have a completed world map (outline of all the possible areas the player can travel to).

    - MOVED TO M4
- Start adding BGM and sound effects.
    - Audio ended up being implemented in M2. Additional audio assets can continue to be put in the game for M3
- [Nice to have] - Add day/night system and/or weather system.
- Animate the fishing line based on physics (our key state interpolation and additional physics based animation?)
    - This is still WIP
- Change fish shadows to be linearly interpolated movement, let them respawn in certain areas of each lake.

Week 2

- Improve visuals and animation; add animations for characters during turn-based battles.
- Physics based animation for water effects; make the water graphics look really good.
    - I think we are deciding to just use a texture for our world for now
- Develop on details for turn-based combat (more skills and party balancing).
- Add more dialogue/story conversations for different party members.
- Add a fishing codex/library to view which fish species have been caught.
- Be mostly bug free when playing from beginning to end.

Final Game

M3 CHANGES that need to be addressed in M4

- Add two new locations
- Add two more party members
- Make more fishing minigames - also ideally, we would also have a casting mechanic before even the actual fishing part

Week 1

- Implement the final boss and finale gameplay - two possible endings to the story.
- The final boss, being a legendary fish, will have more advanced AI and animations/geometry than regular fish.
    - Sadly did not get to the ultimate final boss, but we did implement the boss of the first lake. This also means we do not have an ending to the game yet.
- Have all fish species be designed and finalized.
- Implement 2.5d lighting.
    - Probably scrapped
- Fine-tune RNG and power balancing.

Week 2

- Try to make the game look better visually: Add lighting effects, more illustrations, particle effects etc.

- Add more audio (e.g., background music) and sound effects.
- Add more text and dialogue to make transitions between levels smoother and increase character interactions.
- Always test for any bugs to be fixed.