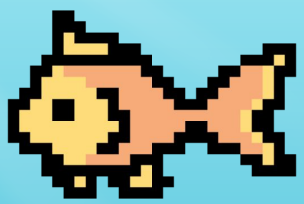
FISHING FRENZY



By: Ren Carrillo, Mason Chen, Anders Choy, Dawson Harris, & Will Zhang

THE SCENE

WHAT IS THE SETTING OF THE GAME?

- It's **2025**, and the player works at a large-scale fishing company – **WARMD**
- The new job puts them in charge of deciding the fishing methods WARMD will use
- WARMD primarily fishes in salt water, catching only a select variety of fish
- As the only fishing company in the area, local consumers only buy whatever WARMD sells
- In the past, WARMD had a bad history of overfishing and throwing away bycatch
- The previous employee in charge of making these decisions has been fired as a result of years of destructive choices

THE MISSION

WHAT IS THE GOAL?

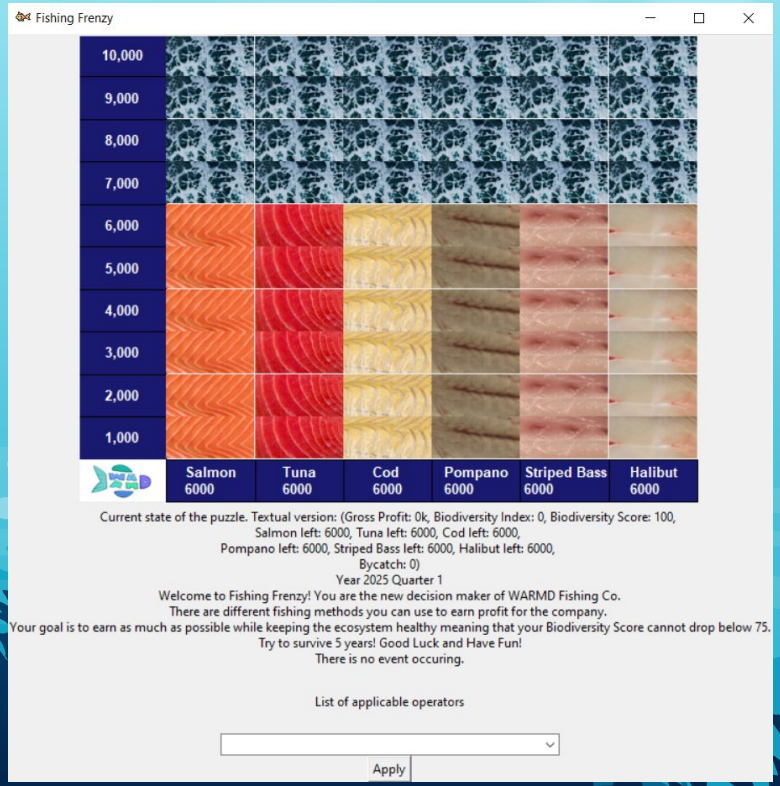
The goal of the game is clear – to choose fishing methods that deal the least amount of damage to the ecosystem (measured by the biodiversity score) while also generating the most profit for the fishing company.

GAME MECHANICS OVERVIEW

- OPERATORS AND HOW THEY WORK
  - Pick between 18 different operators that encompass 5 different types of fishing methods
    - Rod and reel, trawling, long line, purse seines, gill net, and bomb fishing.
      - Some methods of fishing will catch more fish (trawling, gill net) than others (rod and reel, long line), but have worse consequences on the ecosystem
    - Also an option to do “nothing” - However, if done 4 times, the game will end as you have been fired!
    - Each fishing method only works on fish that are caught with said method in the real world
- After 20 cycles (5 in-game years), or you run out of fish, the game ends
- Scored on the biodiversity index, with cumulative profit recorded as well
- Throughout the game, natural and human-caused disasters will occur, decreasing the fish population in a way that is out of the player’s control

INITIAL STATE, VISUALIZATION, & OPERATORS

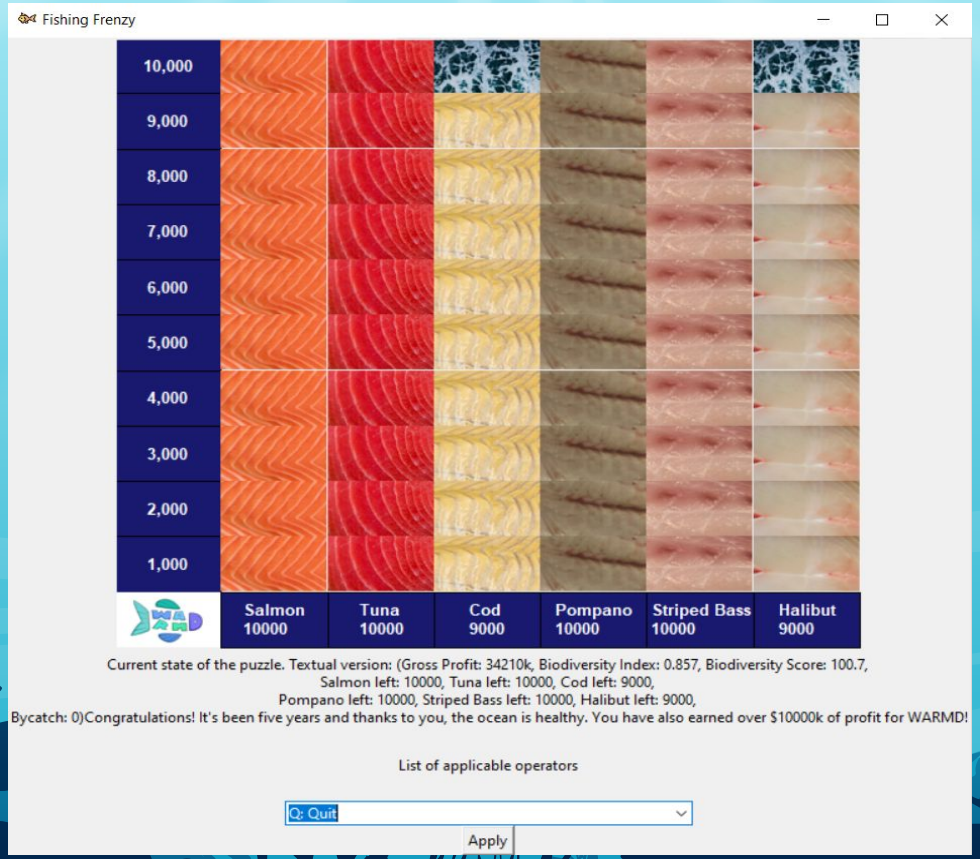
INITIAL STATE AND VISUALIZATION



LIST OF OPERATORS

```
0: Do nothing
1: Use longlines to fish Salmon
2: Use longlines to fish Tuna
3: Use longlines to fish Cod
4: Use longlines to fish Striped Bass
5: Use gill nets to fish Salmon
6: Use gill nets to fish Cod
7: Use gill nets to fish Pompano
8: Use purse seines to fish Salmon
9: Use purse seines to fish Tuna
10: Use trawling to fish Cod and Halibut
11: Use rod and reel for Cod and Striped Bass
12: Use rod and reel to fish for Salmon
13: Use rod and reel to fish for Tuna
14: Use rod and reel to fish for Cod
15: Use rod and reel to fish for Pompano
16: Use rod and reel to fish for Striped Bass
17: Use rod and reel to fish for Halibut
18: Go Bomb fishing
Enter command: 0, 1, 2, etc. for operator; B-back; H-help; Q-quit. >>
```

GOAL STATE


Fishing Frenzy
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
Salmon 10000
Tuna 10000
Cod 9000
Pompano 10000
Striped Bass 10000
Halibut 9000
Current state of the puzzle. Textual version: (Gross Profit: 34210k, Biodiversity Index: 0.857, Biodiversity Score: 100.7,
Salmon left: 10000, Tuna left: 10000, Cod left: 9000,
Pompano left: 10000, Striped Bass left: 10000, Halibut left: 9000,
Bycatch: 0)Congratulations! It's been five years and thanks to you, the ocean is healthy. You have also earned over $10000k of profit for WARMD!
List of applicable operators
Q: Quit
Apply

STATE FROM HALFWAY THROUGH THE GAME

SCRUM BACKLOG - PAST HISTORY, AND WHAT WE CAN DO IN THE FUTURE

IN THE PAST

- Added a flat reproduction rate for fish
- Calculation of company profit
- Incorporated other fishing methods
- Added additional operators for other fishing methods/fishing for specific types of fish
- Implemented a Fish class for attributes of each type of fish species
- Discussed how our Visualization will look
- Brainstormed and decided some algorithms being implemented in our game, like other methods of fish population growth, etc.
- Special events (such as potential natural disasters, etc.)
- Fish bycatch algorithm
- Potential changes to fish prices
- Potential changes to fish populations
- Implementation of additional game states that are not yet reachable
- Possible addition of one more surprise fishing method

POSSIBILITIES FOR THE FUTURE

- Make it so that the fish are seasonal – in the real world, there are seasons in which you can catch more of specific species
- Incorporate more elements of population dynamics by adding the fish's prey and predators
- Create an information panel for biodiversity index to educate the player more on how the game is scored
- Implement costs for each fishing method (some would take more resources and time than others)
- Include descriptors for information on bycatch, how biodiversity index is used in the real world.
- Make the economics around the game more harsh and realistic (harsher boss, profit margin that needs to be hit by the end of the game).

SINCE MILESTONE D

MAIN FEEDBACK ITEMS

Ones we used:

- Create more complex graphics.
- Include a description of the goal state.
- Making the time frame clearer to the user.
- Adding background information on the character's situation.

Ones that made us think

- Some species of fish are hunted more/less, depending on the season.
- Adding descriptions for each fishing method.
- Wanting a way for the player to increase reproduction of fish.
- Implementing a way to see real-world events happen in-game.

CHANGES SINCE MILESTONE D

General:

- Tk3 client is now used with drop down menu of operators
- Company logo in the bottom left
- Fish icon for the game window
- Sound effect when bomb fishing is chosen

Due to Feedback:

- Images of fish patterns
- Background image of the ocean
- Added description in initial state of how many rounds/years till goal state

TEAM FEEDBACK

MOST IMPORTANT LESSON

Ren: Time management and finding a specific block of time to set aside to work on things altogether is important to make sure everyone in the group knows what is going on

Mason: When working with the team, finish your assigned work responsibly. If you nothing to work on, you could ask your teammates what you can help with

Anders: Communication and adaptability is very important when collaborating in a team. Understanding the problem before working on it has helped a lot too

Dawson: Setting group goals and accomplishing them on time was extremely important when making this game. It let everyone know what the state of our game should be at certain times

Will: Play to your strengths - while it is important for everyone to know what is going on, contributing what you are best at doing is optimal for a collaborative project

UNIQUE LEARNING

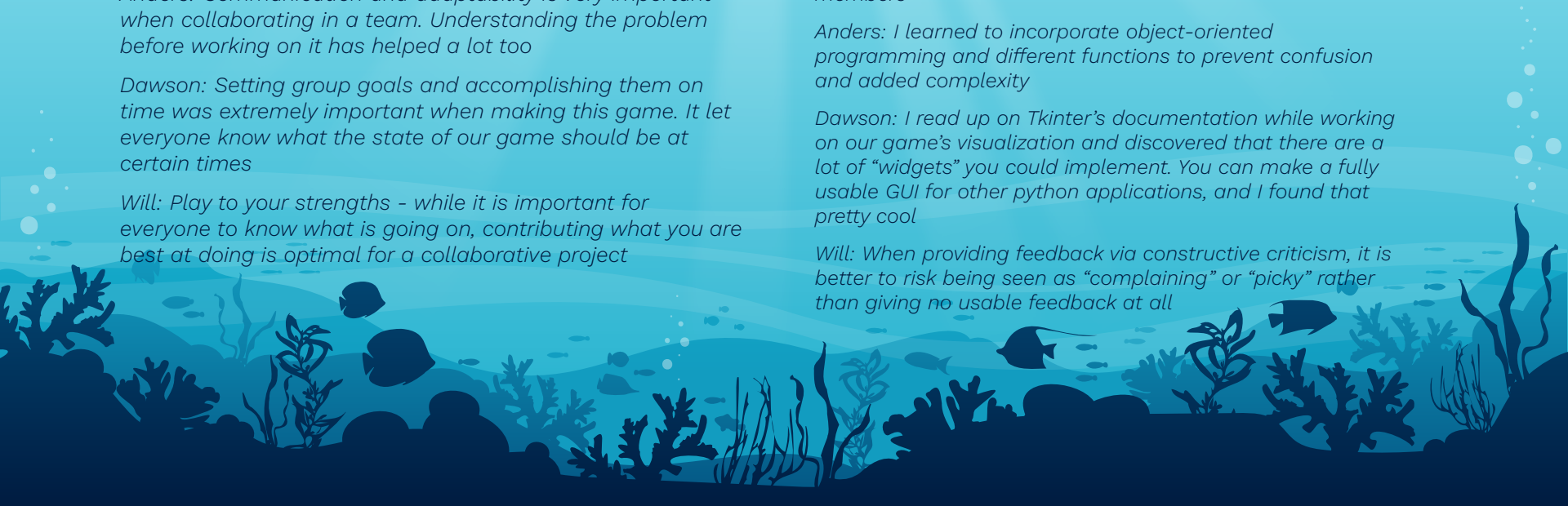
Ren: It is important to assign a specific person to submit your team's work in, because if everyone assumes someone else will do it, no one will do it and it will be late even though it was finished the night before

Mason: Everything about programming is new to me. If there is few things you can help with the code, work on other tasks included in the project. You can make a Quizlet for your group members

Anders: I learned to incorporate object-oriented programming and different functions to prevent confusion and added complexity

Dawson: I read up on Tkinter's documentation while working on our game's visualization and discovered that there are a lot of "widgets" you could implement. You can make a fully usable GUI for other python applications, and I found that pretty cool

Will: When providing feedback via constructive criticism, it is better to risk being seen as "complaining" or "picky" rather than giving no usable feedback at all



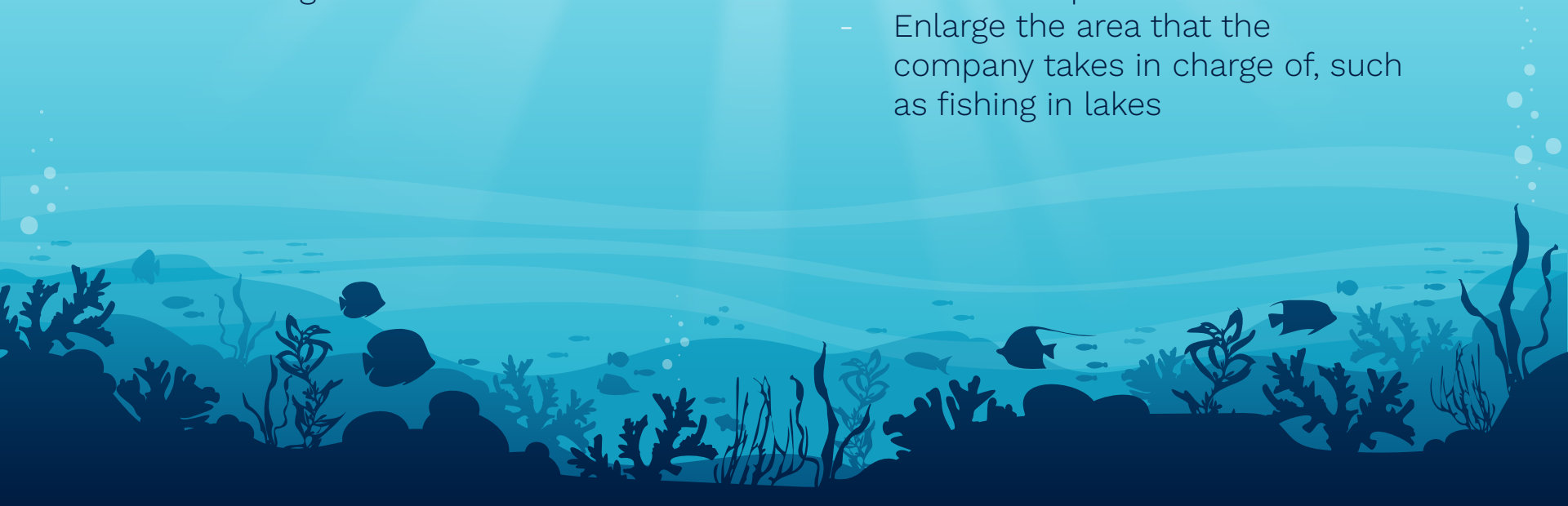
SELF ASSESSMENT

COOLEST THING ABOUT FISHING FRENZY

- Blast fishing is bad, but our implementation is cool. That sound effect is very unique to our game.

WHAT WE WOULD ADD NEXT

- Add more fish species and fishing methods
- Add marine creatures other than fish, such as crabs and shrimps
- Add more special events
- Enlarge the area that the company takes in charge of, such as fishing in lakes



RESOURCES USED FOR THIS GAME

- Pillow
- Tkinter
- cod.jpg
- halibut.jpg
- pompano.jpg
- salmon.jpg
- stripedBass.jpg
- tuna.jpg
- ocean2.jpg
- WARMD_Logo.jpg
- fishfrenzyLogo.ico
- explosin.wav