



SH-SH's ADVENTURE

Designed by

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In November 2021, a green sea turtle named Shi Shi washed onto the shores of Washington's coastline.



She was rescued and taken in but unfortunately didn't make it.



100 million marine animals die each year from plastic waste alone.

Wanting to raise awareness about the impact of single-use plastics and importance of ocean preservation, we created "Shi Shi's Adventure", a multiplayer co-op game where two players navigate the polluted waters as an endangered green sea turtle.

02. Gameplay Mechanism



+ 5 Seconds



- 10 Seconds



Players must help Shi Shi thrive by consuming seagrass for energy while avoiding ocean trash. The longer Shi Shi survives, the more players experience the challenges marine life faces.

03. Game Controllers



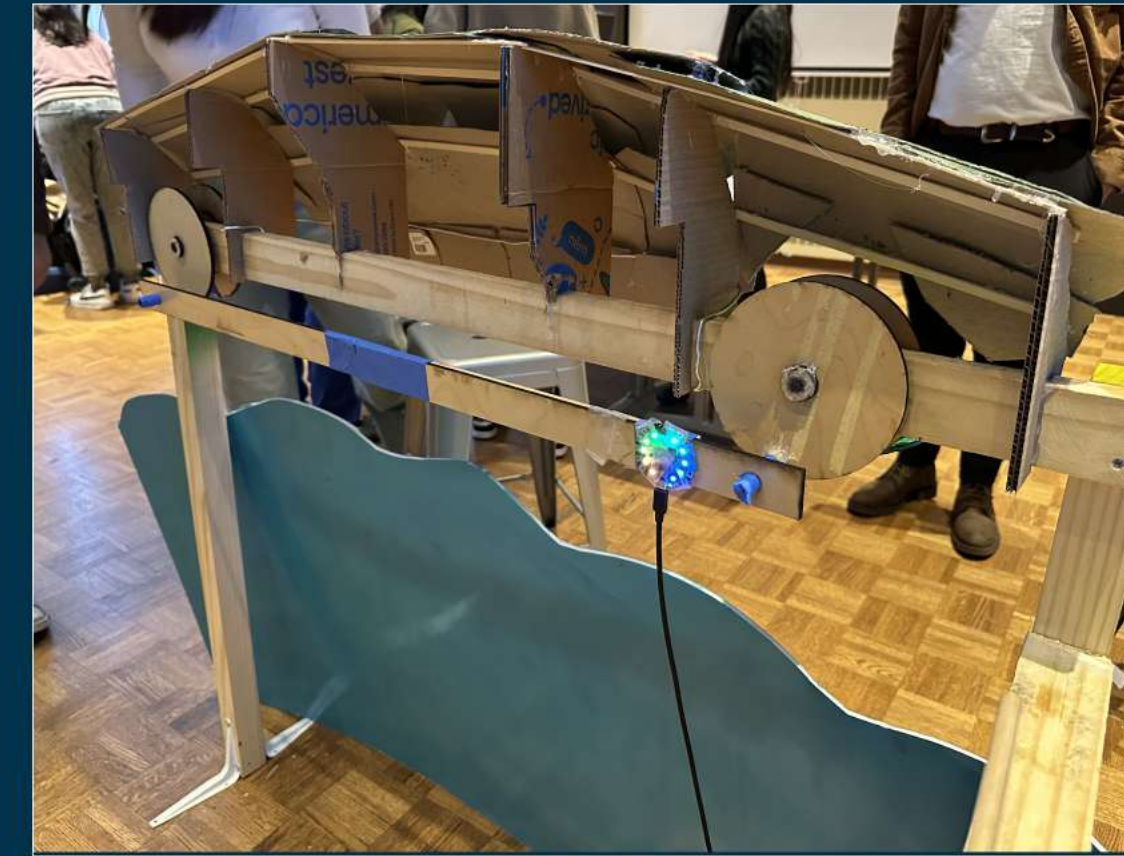
potentiometer



Player #1 controls Shi-Shi's
left-right direction

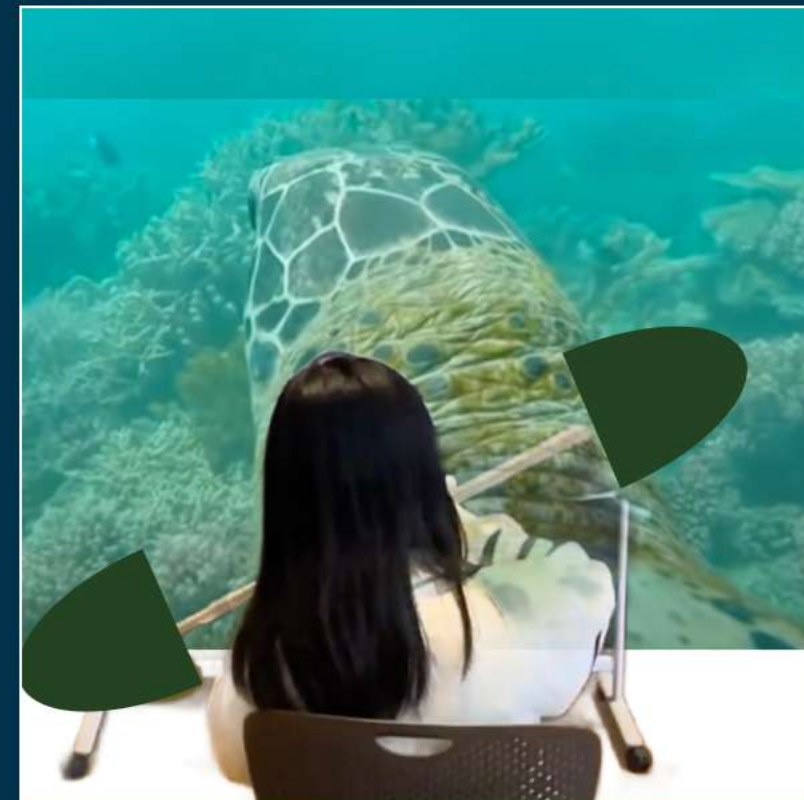
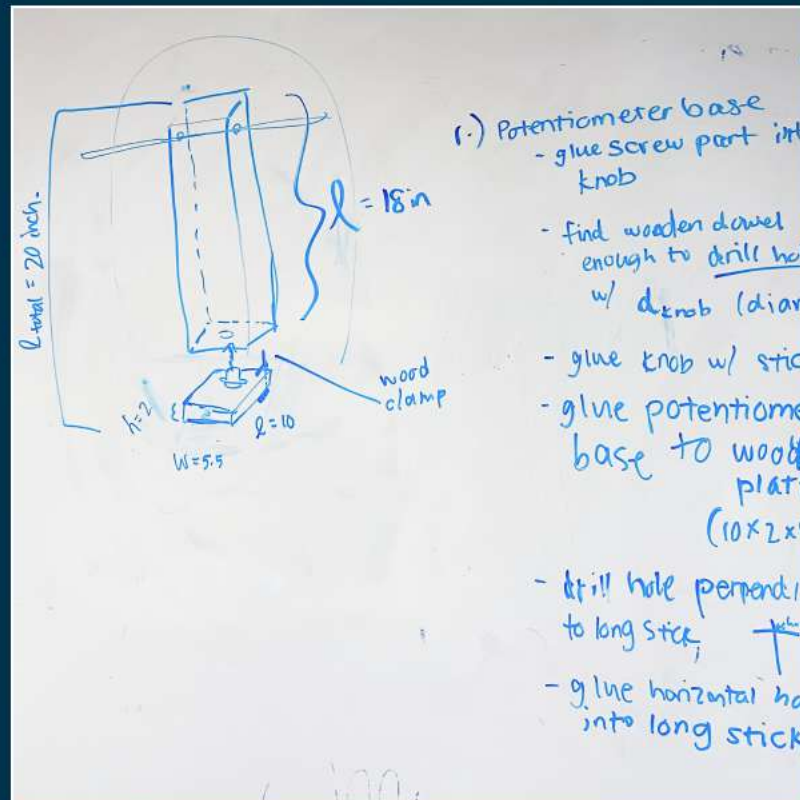
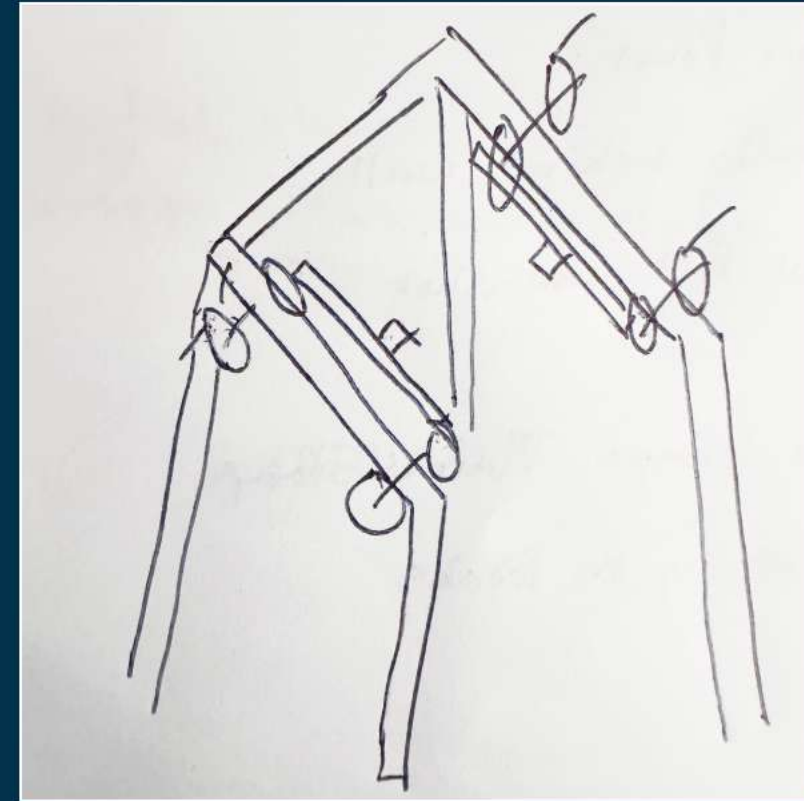
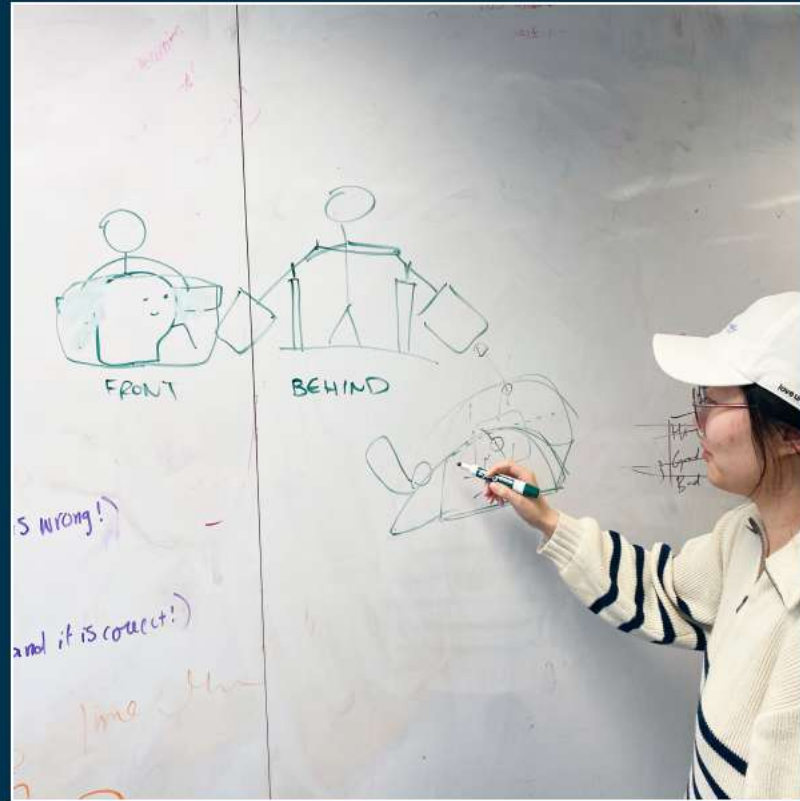
The handlebar is connected to a
potentiometer, translating movement
into directional control.

03. Game Controllers



Player #2 Rows the flippers to propel Shi-Shi forward

Inspired by locomotive wheel mechanisms, the design links the front and back flippers through a rowing bar connected to CPX.



To evoke compassion among **Seattle residents**, we decided to localize our game's subject matter

Ideation

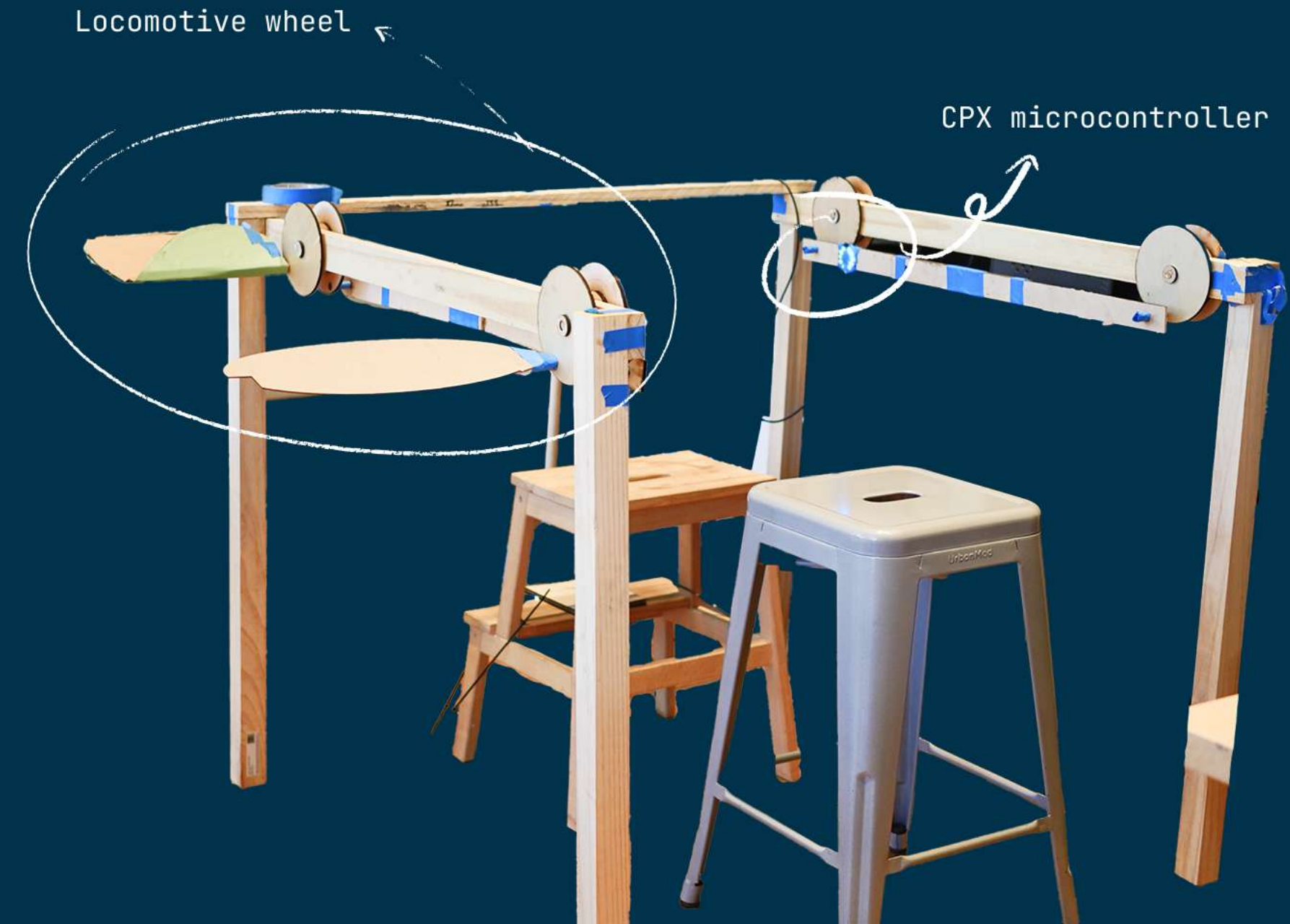
We were challenged to design a large-scale game with a meaningful social impact. During our brainstorming process, we explored various concepts, considering player movement, diverse physical input controllers, and overall playability and enjoyment.

Taking inspiration from **the driving wheel mechanisms of locomotive trains...**



CPX microcontroller
with potentiometer

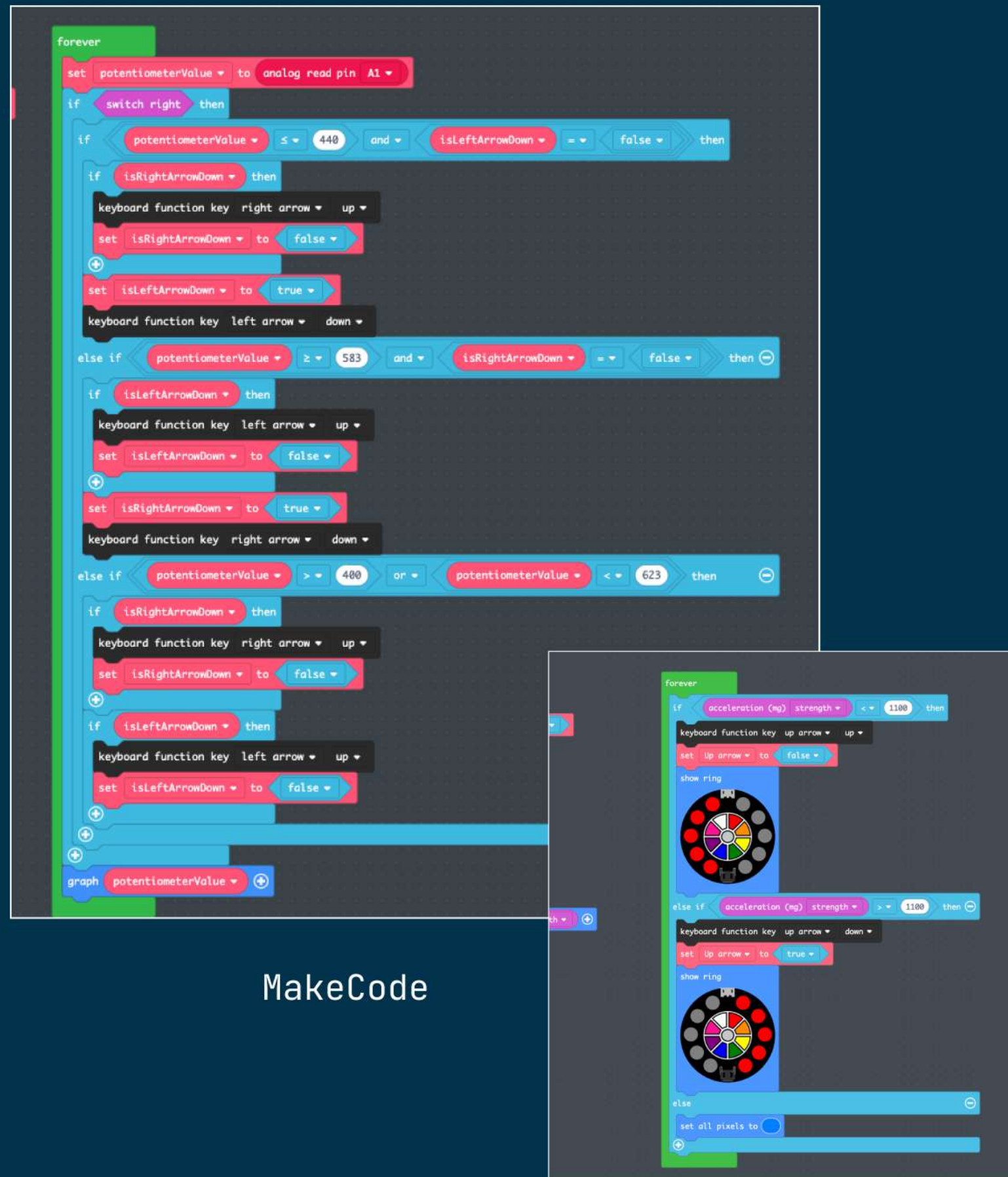
Turtle head made of wires and sticks



Turtle body made of wooden frame

In our initial iterations, we used cardboard and foam board to map out player movement and actions, allowing us to visualize the gameplay experience. Our goal was to test early and frequently, gathering valuable user feedback to refine our design.

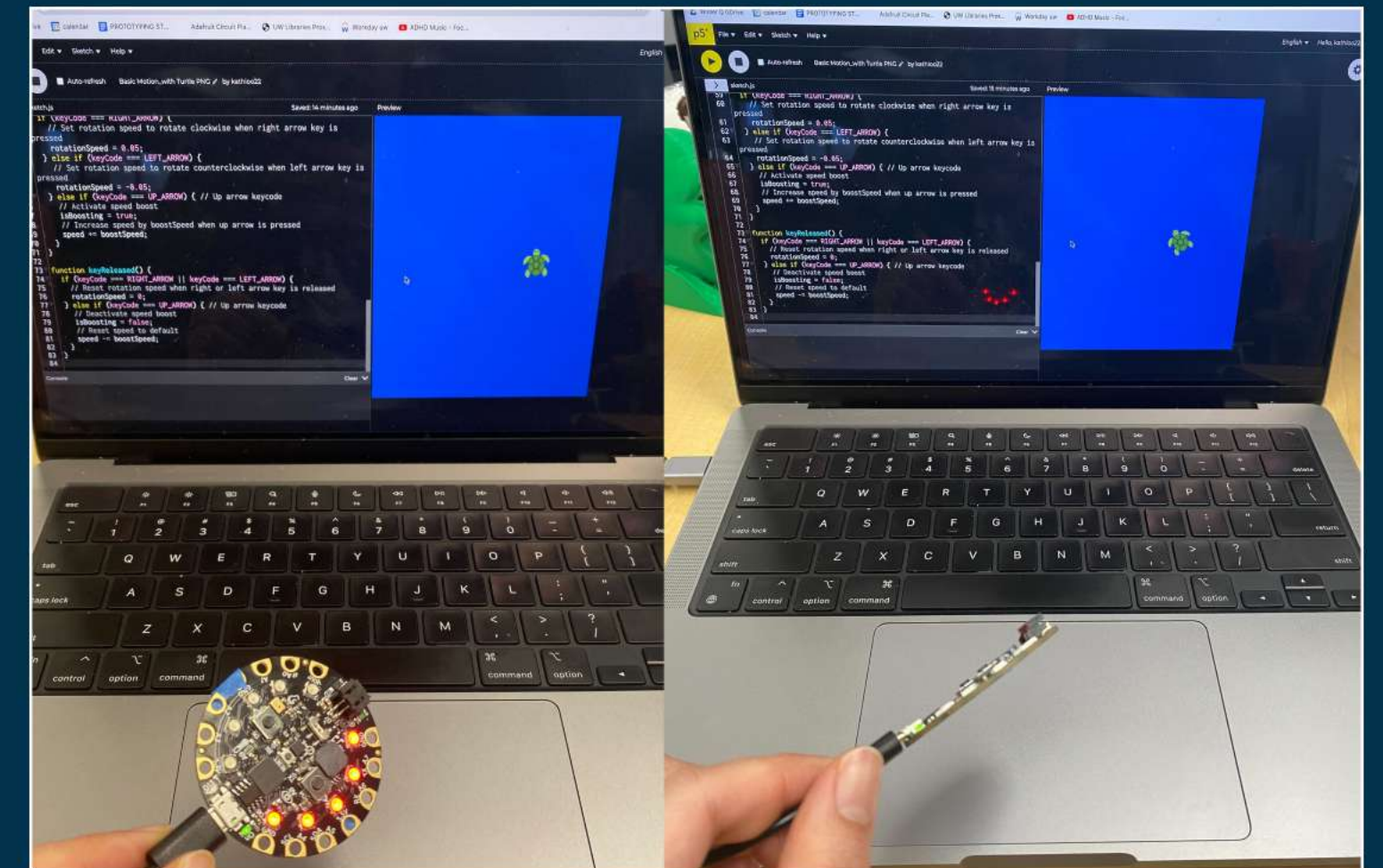
04. Design Process : Coding



MakeCode

Coding

To connect the physical controllers, we explored mapping keyboard controls to the CPX, utilizing its potentiometer function to control the direction of the handlebar/turtle head and its accelerometer function to boost the forward motion.



p5.js & JavaScript



2

rounds of testing

7

participants

Concept Testing

During these sessions, we evaluated the game's playability, ergonomics, and the effectiveness of its final takeaway, ensuring a meaningful and engaging player experience.

We devised a wheel mechanism for each side of the turtle, linking the front and back flippers with a bar connected to CPX

Final Iteration

After refining our game design based on user feedback, we moved on to constructing the final version. We laser-cut cardboard for the outer shell, built a sturdy wooden frame, and added paint to bring the design to life.



05. Game showcase





Shi Shi's Adventure
highlights the devastating
impact of plastic
pollution on marine life.

At the end of the game, players are encouraged to
take a pledge against single-use plastics—turning
awareness into action.



Welcome to "Shi-shi's Adventure"!

Get ready to dive into the vibrant nearshore waters of Puerto Rico as Shi-shi, our green sea turtle hero.

Your mission: feast on algae to save up energy for epic underwater escapades!



Shi-shi

Instructions (1/2)

Objective: Guide Shi-shi to survive as long as possible.

Controls:

- Use the front steer turtle head to direct Shi-shi.
- Use circular motions to activate flippers and boost forward.

Instructions (2/2)



Eating seagrass will **increase** your energy level.



Eating trash, such as cigarettes and plastic bottles, will **decrease** your energy level.

GAME OVER

Shi-Shi was an endangered green sea turtle who washed ashore on a remote stretch of the Washington coastline in mid-November in 2021.



Normally found in the tropical waters of Mexico, sea turtles often follow warm water currents up the Pacific coast.



After months of recovery care, Shi Shi was euthanized in Jan 2022. Despite his initial recovery and critical care provided by sealifer3 and Seattle aquarium, his health declined.

Based on the severity of his illness, the team decided to peacefully euthanize him so his suffering would not be prolonged.

YOU CAN HELP



Save Turtle

Nearly **all** species of sea turtles are endangered, and every year thousands perish on their dangerous migrations.

Now's the time for **urgent action**. Stand with us and use your voice to save sea turtles and many more threatened species. Add your name to our call for action on biodiversity loss now.