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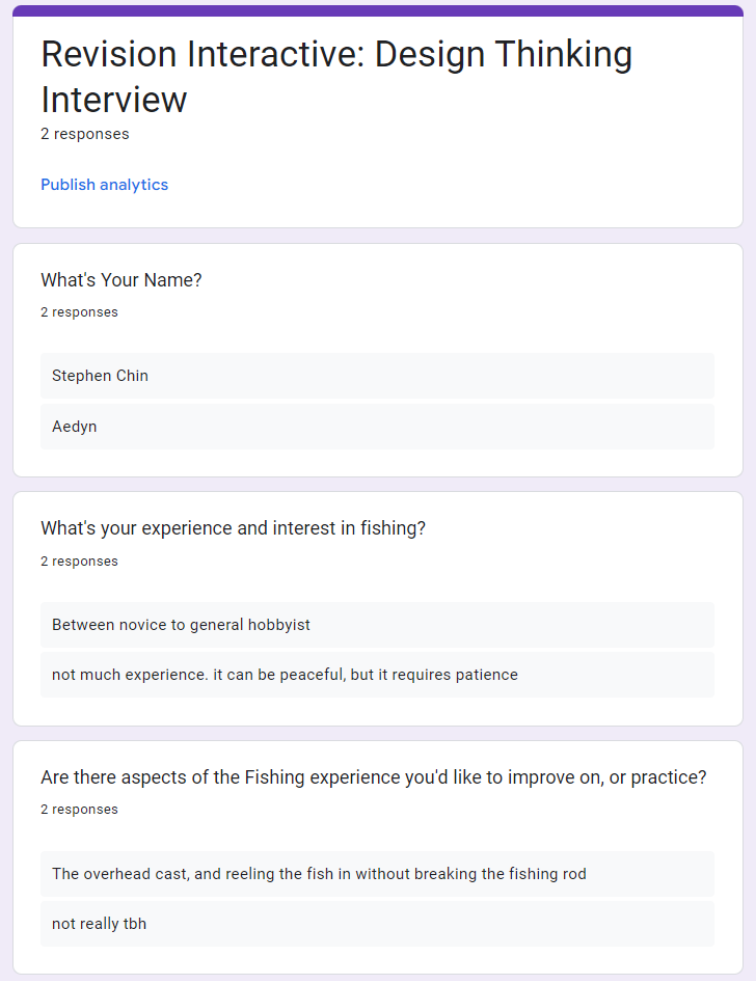
Revision Interactive: Design Thinking Template

Your Mission: Redesign the immersive experience for fishing simulators

Interview & Dig Deeper



Revision Interactive: Design Thinking Interview

2 responses

Publish analytics

What's Your Name?

2 responses

Stephen Chin

Aedyn

What's your experience and interest in fishing?

2 responses

Between novice to general hobbyist

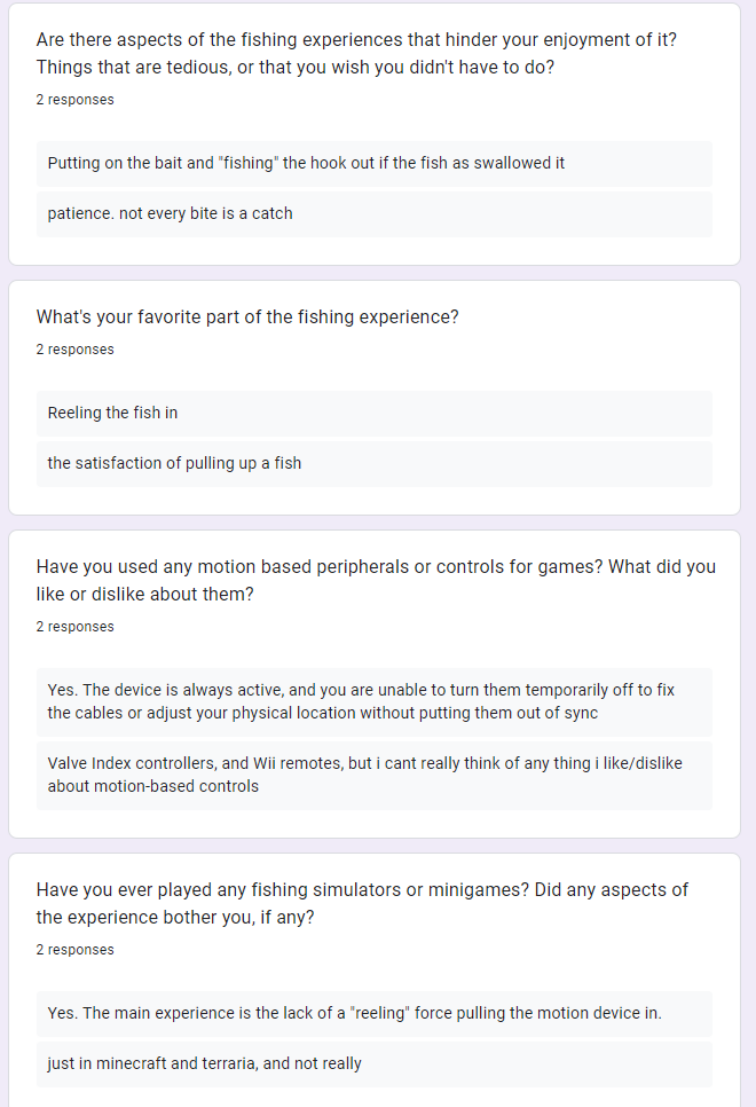
not much experience. it can be peaceful, but it requires patience

Are there aspects of the Fishing experience you'd like to improve on, or practice?

2 responses

The overhead cast, and reeling the fish in without breaking the fishing rod

not really tbh



Reframe The Problem

Capture Findings

Needs:

Things they're trying to do.

- Stephen: Turning off the device during use to make adjustments without disrupting the experience
- Aedyn & Stephen: Making the experience of reeling in a fish satisfying

Insights:

New learnings about interviewee feelings / worldview to leverage in design.

- Stephen finds putting the bait on the rod, and taking the fish off the rod to be the most tedious aspects of fishing. We can use this information to stream-line our peripheral's design and improve ease of use (likely by not replicating these aspects of the experience with our peripheral)

- Even though Aedyn doesn’t have much experience fishing, the main thing he enjoys and remembers about it is the satisfaction of reeling in a fish.
- Stephen also finds this the best part of fishing in real-life, but doesn’t feel that existing fish simulators using motion controls replicate the forces involved very well. This could be an area where we focus our efforts compared to the competition.

Define Problem Statement

Stephen’s Problem Statement:

Stephen needs a way to turn on and off our device while in use.

Unexpectedly, in his world, Stephen has found it annoying to make adjustment to his setup during gameplay, as many motion controller have no off switch and keep affecting the game while he’s not playing.

Aedyn’s Problem Statement:

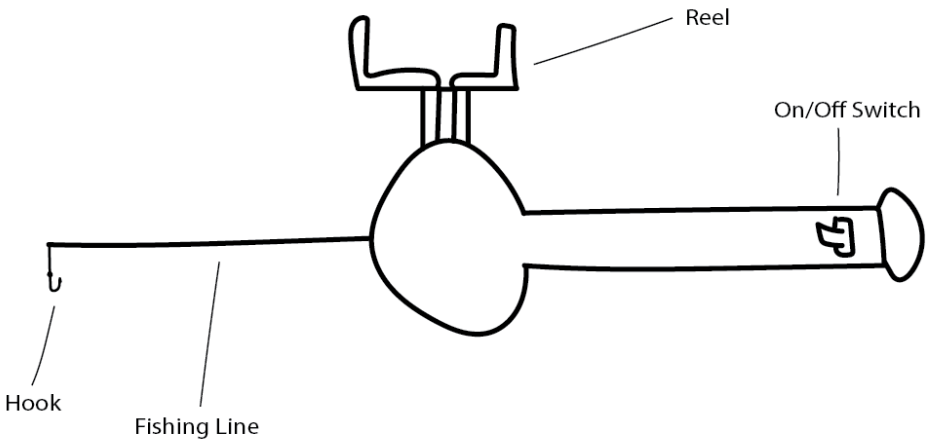
Aedyn needs a way to intuitively, and satisfyingly reel in fish using our device.

Unexpectedly, in his world, he has little experience with fishing, but finds the process of reeling in fish the most satisfying. Making a device that's both easy and satisfying to use for beginners is crucial here.

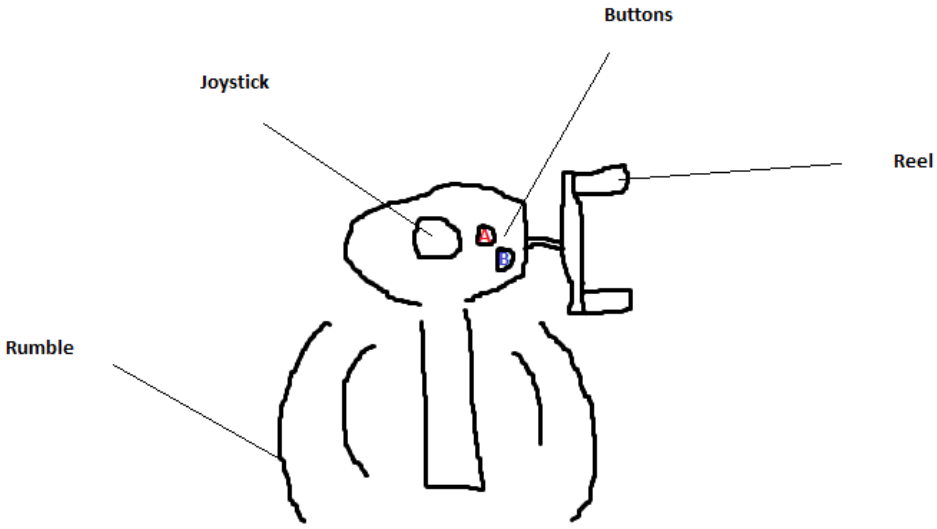
Ideate: Generate Alternatives To Test

Sketch 3-5 radical ways to meet your user’s needs

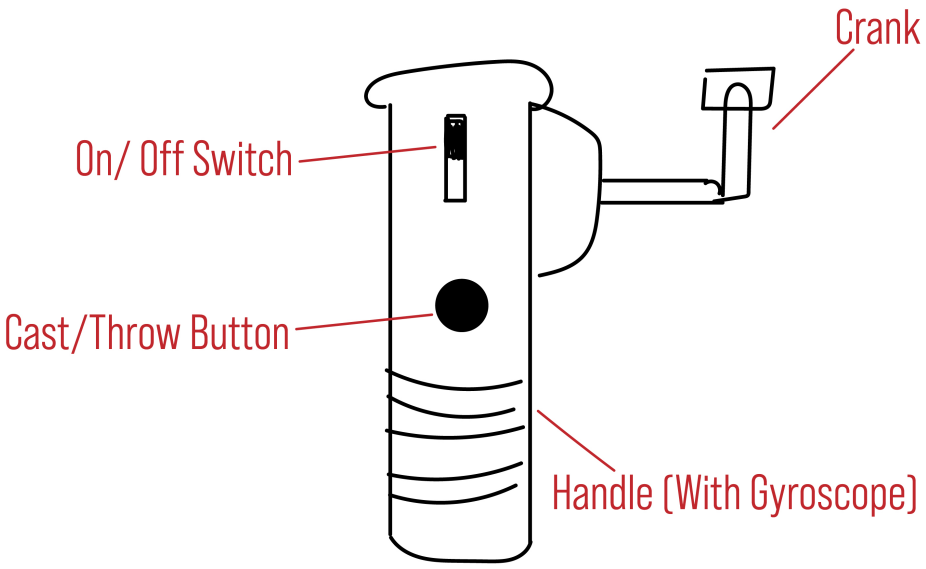
1. Fishing rod with full rod and hook



2. Fishing rod with traditional controls (similar to mainstream controllers), no gyroscope, Vibration



3. Fishing Rod Handle, Off/On Switch, Crank, Gyroscope, Cast Button.



Share your solutions & capture feedback

Stephen's Feedback:

- First one is basic
- Fishing rod reels are on left side usually
- Second one looks best, simple and functional, very easy to understand

- Dislikes the cast/throw button on third one and says its useless with gyroscope controls
- Would want to hold handle with right and crank with left

Aedyn’s Feedback:

- First one doesn't need fishing line and hook
- Could maybe use a different way to simulate weight from the front
- Trigger to cast line
- Would want to hold handle with right and crank with left
- Wants a way to swap crank to either side for left handed or right handed people
- Maybe detachable handle that can be placed in either side
- Third one, gyroscope is useful
- Likes the cast/throw button
- Second one would be better
- You could use as more than just a fishing rod

Shahana’s Feedback:

Design 1:

- Not sure how the hook is necessary
- No idea how you’d control a game with this, other than the crank

Design 2:

- The red and blue buttons feel like they’d be out of reach of my left hand
- If the rumble is too strong it might make it hard to control the joystick
- Crank looks kinda flimsy

Design 3:

- like how simple it is, kinda reminds me of a wii remote
- would be nice if it has the vibration from design 2

Amit’s Feedback:

Design 1:

- The reel and length of the rod is unnecessary. It would block the screen and make it hard to see.
- The on / off switch is in a weird position, I could see myself accidentally flipping it with the bottom of my hand.

Design 2:

- The buttons and joystick aren’t intuitive. I’m not a gamer, so I’m not familiar with those types of controls.
- I think the rumble is cool and feels immersive

Design 3:

- The single button on this one isn’t as intimidating as the controls for design 2. Feels easier to use.
- The shape of the crank looks hard to hold
- Like the position of the On/Off switch compared to the first design.

Luke’s Feedback:

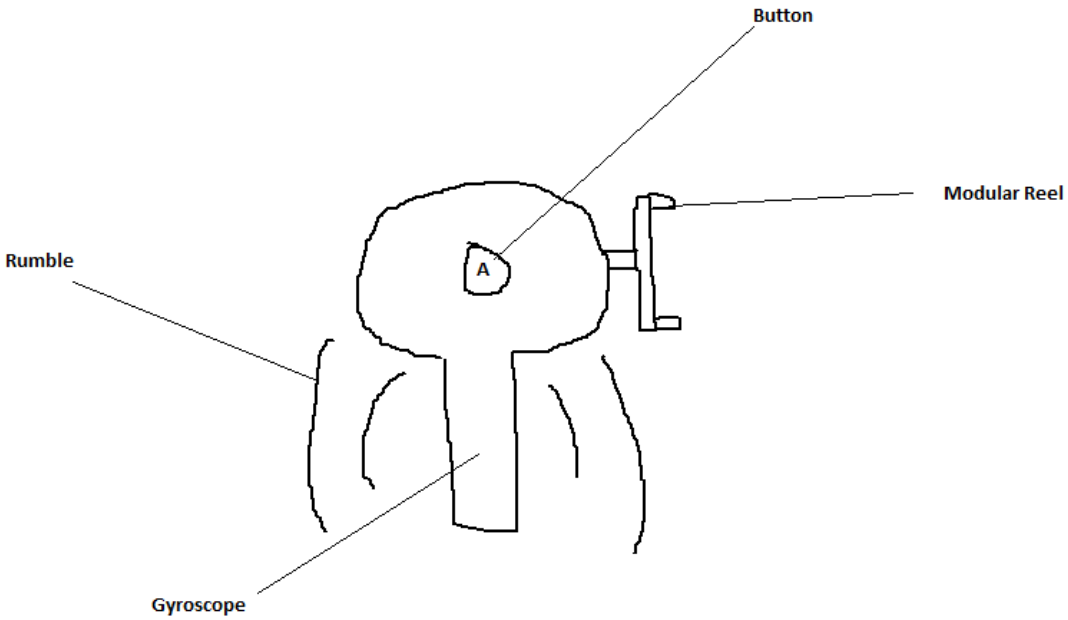
- Hook & line isn’t needed
- Reel is great
- On/off switch is unnecessary since it connects via usb
- adaptive rumble is nice
- being able to swing the controller instead of using buttons is nice and immersive
- maybe combine the joystick and buttons together (3 degrees of freedom)
- having the shape the same as a regular fishing rod is nice
- have the reel have two handles instead of only one
- allow modularity with the reel so you can swap sides incase you are left/right handed

Jackson’s Feedback:

- Get rid of hook and line
- remove on/off switch
- use gyroscope to mimic casting instead of button
- rumble is nice
- 2 buttons and joystick is nice amount of buttons to use in a menu
- make sure the reel has bearings so the part you hold spins as well so it doesn’t rub your hand

Iterate based on Feedback

Reflect & generate a new solution

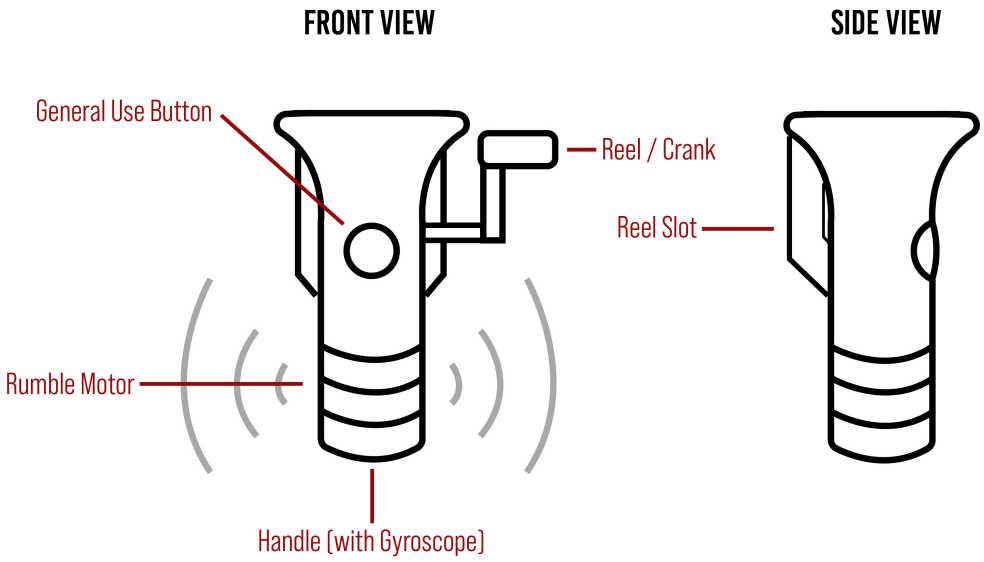


Notes:

- Opted to go for control mostly through a gyroscope and crank. These felt the most intuitive to most people; don't need to be a gamer to understand the design.
- Decided not to include a joystick, since most though it was unnecessary when you have motion controls
- Added a single, general purpose button. Can be used for anything, but we'll probably use it to pause the game and select options in a menu (would use crank / reel to scroll through options, and the button to select. This button helps the controller be more accessible, and make it so you don't always have to use motion controls for every type of interaction.
- Kept the rumble from design 2 to increase immersion. Can use an aggressive rumble in the game to indicate that you've got a fish. or use a soft rumble to indicate there's a fish nearby.
- Removed the On / Off switch. When Stephen discussed his annoyances when there isn't one on a motion control device, that was likely in the situation of a wireless motion controller. In our case, our controller is wired using USB, so if you want to turn it off you can simply unplug it.

Build and Test

Build your solution



Share your solution & get feedback

What Worked

- General consensus was that the addition of slots for the detachable crank to go was really nice. Allows both left handed and right handed users to use the device comfortably.
- Physical feedback from the rumble is nice

- Actually swinging the controller instead of using a button to throw the line is nice for immersion

What Could Be Improved

- The handle could be more ergonomic. Is currently just shaped like a cylinder.
- Adding some more ways to get physical feedback
- Maybe an additional button

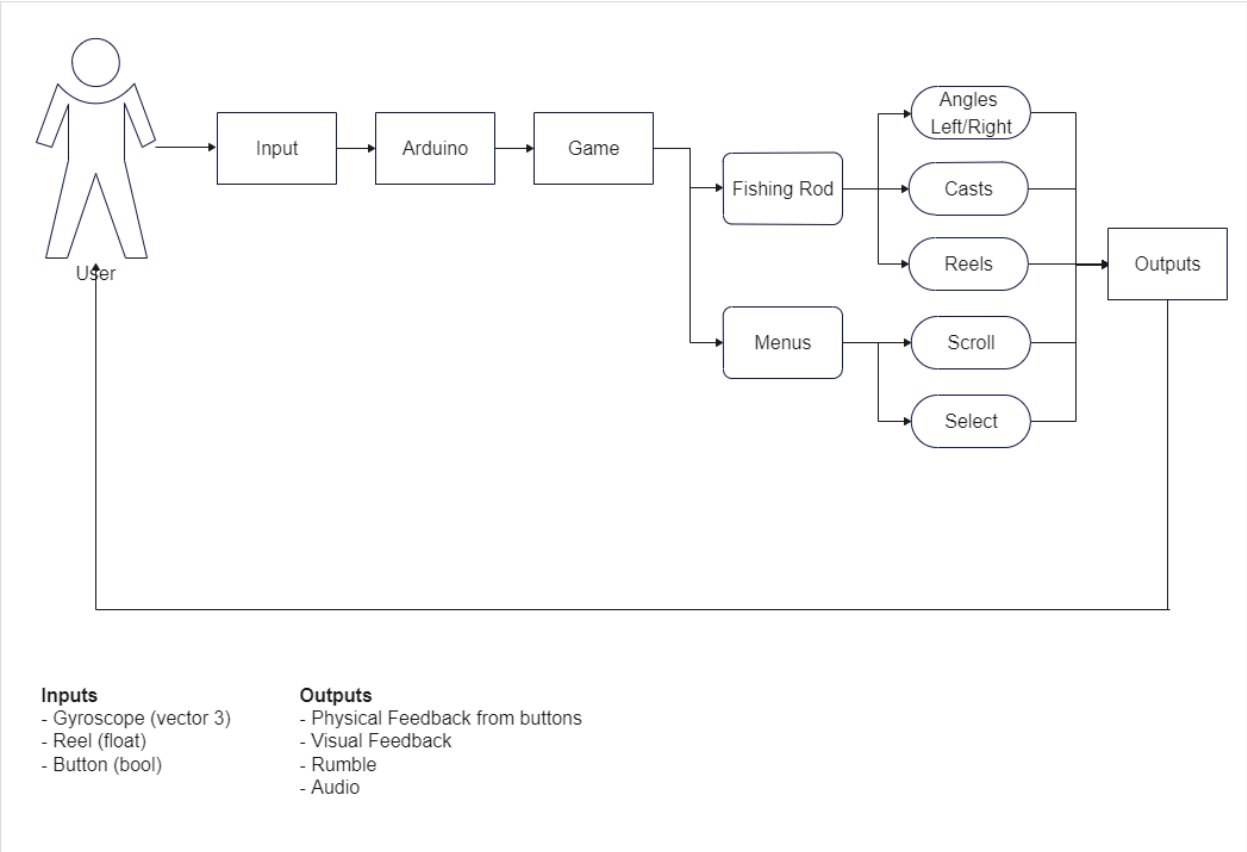
Questions

- How does tugging work when reeling in (how will it feel)

Ideas

- The ability to make it wireless
- Maybe have it so there is a string attached to the top of the controller with a motor and the other end of the string can be attached to the table or something to help add a force when reeling in to make it more immersive

System Architecture:



Internal Processes:

- Map gyroscope output to Vector3. Checks for a high change in angular velocity to trigger cast of fishing rod. Gyroscope then controls the left and right directions and velocity of the bob.
- Map Reel / Crank to float value, representing the speed of the crank. Controls the forward and back direction / velocity of the bob.
- Map General Purpose Button to Bool. Will be primarily used to pause game, and select menu options.

Product Comparison:

The evolution of the “Fishing Rod” controller industry hasn’t changed much. Since the first release of one of these controllers they have had a reel, buttons, and a joystick. The only differences being the location of these inputs and the shape of the controller.

Fishing Rod Controller Products

Name	Assign	Date	Status
N64 Rumble Rod		@1997/10/01	
Xbox 360 Bass Pro Fishing Controller		@2009/01/01	
Dreamcast Fishing Controller (Tsuri Controller)		@1999/01/01	
PS1/PS2 Fishing Controller		@1999/01/01	
Nintendo Switch Fishing Controller		@2018/09/01	

Project Management:

Fishing Peripheral Progress

Name	Date	Person	Tags
🆕 Go Through Design Thinking Process; Come Up With The Controller’s Design	@September 21, 2022 → September 28, 2022	Shesh M Nathan Tyborski Christian Moncada	Complete
🛍️ Buy Necessary Components	@October 1, 2022 → October 8, 2022	Nathan Tyborski	In Progress
🧊 Model Device Using CAD	@October 1, 2022 → October 8, 2022	Shesh M	
🖨️ 3D Print Base of the Device	@October 8, 2022 → October 15, 2022	Christian Moncada	
👷 Assemble Device	@October 15, 2022 → October 22, 2022	Nathan Tyborski Shesh M Christian Moncada	

Name	Date	Person	Tags
🕹️ Develop Prototype Game In Unity To Demo Device	@October 15, 2022 → October 22, 2022	Shesh M Nathan Tyborski Christian Moncada	