

Game Hardware: Fishing Rod - Assignment 1

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Abstract—Controllers for fishing simulators have existed for many years but have never truly evolved. There is constantly a lack of immersion between the player and the fishing simulator, thus leading to boring and loathsome feelings toward the game. Fixing this problem can quickly become beneficial towards the simulation genre.

Index Terms—Fishing-Rod, Game-Controller, Game-Hardware, Immersion

I. PROBLEM DEFINITION

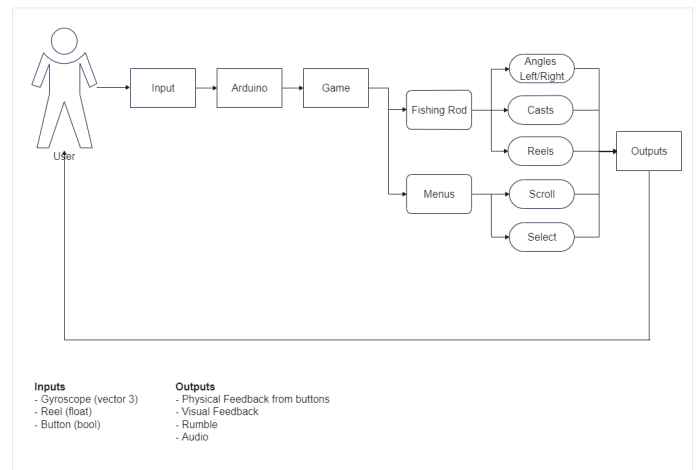
When players play fishing games there is a constant disconnect between the player and their actions being portrayed on their screen. Accessibility is also a problem for people that want to play fishing games but are not experienced gamers with modern complex input systems such as a keyboard and mouse or an xbox controller. There have been various attempts to solve this issue in the past, with the most notable being Activision's PS3 fishing rod reel wireless, which uses a rotating handle as a reel, a joystick to move the rod in game, and buttons that match the Dualshock 3's standard buttons. [2] We're unable to find sales data for this niche product, but I'm led to believe this controller must've been somewhat successful due to the amount of very similar small brand name products trying to ride off the success of Activision's PS3 fishing rod reel wireless. [2] There are a few issues with considering this a "solution" to the problem of fully immersing players in a fishing simulator with a realistic controller. First, Activision's PS3 fishing rod reel wireless only works on the PS3 and doesn't work on modern consoles or PC. [2] Also, the controller replicates the Dualshock 3's buttons too much, and this results in an inauthentic experience because fishing rods do not have buttons or a joystick.

II. JUSTIFICATION

If this problem is not solved, there will always be plenty of space for improvement in the immersiveness of fishing simulators. Leaving the problem unsolved could also result in the gradual size decrease of the fishing game market, as other genres improve and leave fishing games in the past. The group of people that will feel the consequences of this problem being unsolved are fishing gamers, sports gamers, and fishers that would get into fishing games if there were more immersive and accessible to non gamers. This amount of fishing gamers

diminishing, causes developers of fishing games to branch out within their company, or some may even need to find a new job. The issue of genres not being as immersive as possible, can also be found in many other sports games, due to the disconnect of the player pressing a button and their in-game character performing a precise physical action. For example, hockey games could be similarly improved upon in immersiveness by implementing a hockey stick as a controller, built into hockey games. There was a hockey stick remote for the wii game, NHL Slapshot, however as the game came and went, so did the innovative remote. We believe that if the NHL Slapshot remote was modernized and improved upon, it could be a very enjoyable addition to modern hockey games. Lastly, to prove that fishing games are worth increasing the immersiveness for with data, we've found a reliable source that states the game "Fishing Planet" has earned 4 million dollars over 7 years which proves that the fishing market is still big enough to be tapped into with a niche new product to compel fishing gamers and improve their experience with these games. [1]

III. SYSTEM ARCHITECTURE



Our system's architecture takes in several inputs from our Fishing Rod Controller. These include the Gyroscope (Vector3), Reel (Float), and General Purpose Button (Bool). Once these inputs make their way through the Arduino and into the game, our game-play code handles the rest of the logic. Gyroscope output is mapped to a Vector3. We use this to check for a high change in angular velocity, to trigger the

cast of the fishing rod. The Gyroscope then controls the left and right directions and velocity of the bob. We map our Reel / Crank to a float value, representing the speed of the crank. This controls the forward and back direction / velocity of the bob. We also map the General Purpose Button to a Bool. This will be primarily used to pause our game, and select menu options. After all this, we then provide feedback to the player. This includes visual feedback, audio, rumble to our fishing rod controller's internal motor, and the tactile feedback from the buttons themselves.

REFERENCES

- [1] Fishing Planet Information s. RocketReach. (n.d.). Retrieved September 28, 2022, from https://rocketreach.co/fishing-planet-profile_b4522aa0fc896e1d
- [2] Sony PS3 fishing rod reel wireless activision 76410800 reel fishing game. eBay. (n.d.). Retrieved September 28, 2022, from <https://www.ebay.ca/itm/284981297047?hash=item425a357f97>
- [3] Google. (n.d.). WO1998005204A1 - fishing rod and Reel Electronic Game Controller. Google Patents. Retrieved September 28, 2022, from <https://patents.google.com/patent/WO1998005204A1/en>
- [4] Brown, M., Kehoe, A., Kirakowski, J., amp; Pitt, I. (1970, January 1). Beyond the Gamepad: HCI and Game Controller Design and evaluation. SpringerLink. Retrieved September 28, 2022, from https://link.springer.com/chapter/10.1007/978-1-84882-963-3_12
- [5] Sam-ha Choi Graduate School of Hoseo University, Choi, S.-ha, University, G. S. of H., University, hee-D. C. H., Chang, hee-D., University, H., University, K.-S. K. H., Kim, K.-S., amp; Metrics, O. M. V. A. (2004, September 1). Development of force-feedback device for PC-game using vibration Proceedings of the 2004 ACM SIGCHI International Conference on Advances in Computer Entertainment Technology. ACM Other conferences. Retrieved September 28, 2022, from <https://dl.acm.org/doi/abs/10.1145/1067343.1067391>