

# CS4530 Final Project: Fishing Game Area

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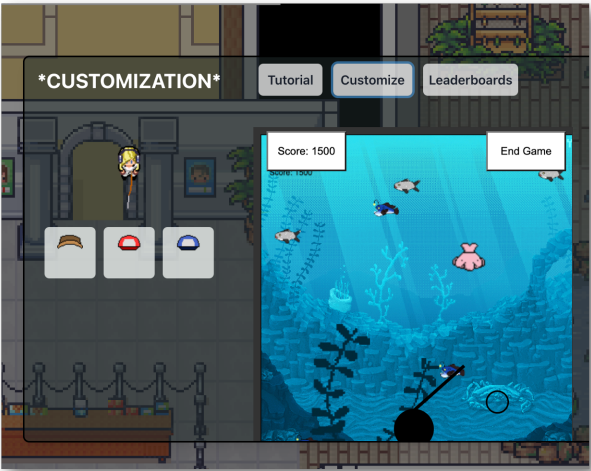
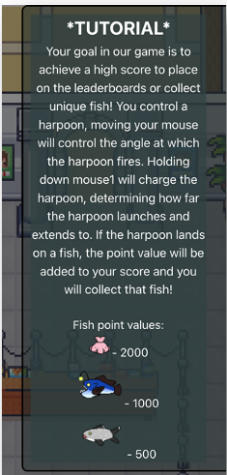
## Our Feature: A Fishing Game Area



Get ready for an immersive and exciting experience in Covey.Town! Our team has been hard at work to make your virtual exploration even more thrilling. Wandering around the town map can be a bit dull without any interactive games to play. That's why we're thrilled to introduce our latest feature: Fishing Game Area!

Prepare to embark on an adventure like no other. Come over to the pond and you'll be able to enter the Fishing Game Area, where you can catch rare fish and aim for high scores. But that's not all! While you're fishing, other users will see your avatar holding a fishing rod or wearing special customizations like hats, as shown in the figure on the left. You'll also be able to see the scores of other players on the global leaderboard, adding a bit of healthy competition to your game.

With this new addition, Covey.Town is more than just a virtual world, it's a place where you can truly immerse yourself in a fun and engaging experience. So what are you waiting for? Grab your fishing rod, put on your lucky hat, and try our fishing game area yourself.



At the top of the screen, we have three main figures. The middle one is the game modal, which provides easy access to the fishing game itself, as well as buttons to reveal that allow players to access the tutorial, customization options, and leaderboard, without interrupting their gameplay experience. On the left of the fishing game we have clicked on the Customization option which provides players with various options to customize their game sprite. It consists of a series of buttons that allow players to add different elements to their sprite, such as hats, sunglasses, and fishing gear.

On the far left figure we have clicked on the tutorial tab, which provides a brief overview of the game's objective, scoring system, and how to control the hook. The tutorial is designed to help new players get started quickly and easily.

The far right figure displays the global leaderboard, which shows the top 10 players from around the world along with their usernames and scores. This leaderboard is updated in real-time, allowing players to see how they stack up against the competition.

## Our Technology Stack & Design

Our team accomplished a seamless integration of a fishing game areas feature into the existing Convey.town codebase. We primarily used Typescript for the development, and we created sprites using Photoshop and paint.net. To optimize sprite implementation, we leveraged TexturePacker to generate json files and sprite sheets. We utilized the Tiled map editor to repurpose an existing pond object and convert it into an interactable area. When a player enters a fishing game area, they receive a red message prompting them to press the spacebar to open up the game page through a React/Chakra modal. Our front-end implementation included a modal and a user interface (UI), including the fishing game, tutorial sidebar, customization options, and leaderboard tabs. After a player finishes the fishing game, their score, username, and unique ID are compared to the current top 10 players and sent to MongoDB through the back end, which updates the leaderboard in real-time. We automated testing using a continuous integration pipeline, which runs automated tests on both the front-end and back-end components before deploying the site using Netlify.

## Future Work

We faced unforeseen challenges during the implementation of the fishing game, which made it difficult to achieve our goals. One major obstacle was the complete implementation of the game, as well as overlaying sprites for the customization feature while ensuring that the game functionality remained intact. To improve the gaming experience for our players, we plan to take several steps in the future. Firstly, we will work on enhancing the fishing game to make it more appealing to users. Secondly, we will focus on the integration of sprite work to ensure that it seamlessly overlays on the player as intended. In addition, we aim to expand the customization options available to players by incorporating seasonal and weather-based variations and allowing for changes in the look and feel of the hook and pond. Despite the challenges we faced, we are committed to providing our players with a seamless and enjoyable experience while playing the fishing game in Convey.town.

## Deployment and Source Code

Our demo site is available at <https://spring-23-team-703.netlify.app/>, and our code at <https://github.com/neu-cs4530/spring-23-team-703>.

PS: the cool fishes and hats you are seeing are all the sprites we created that we overlay the game with as well as our character with.