CS4530 Final Project: Hangman

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Our Feature: Hangman

In the original release of Covey.town, users were only able to play Tic-Tac-Toe and Connect Four, which are both games that can only hold a maximum of two players, limiting user interaction and social engagement to a smaller scale. To address this, our team decided to implement a classic game in which users will be able to compete against each other in a much more enjoyable and interactive way: Hangman. The game will not only serve as an enjoyable activity, but also as a valuable educational tool for expanding vocabulary by teaching users new words. By implementing this feature, we hope to enhance engagement and foster a more vibrant and engaged community within Covey.town.

Future Work

For future work, our team was interested in pursuing the idea of adding different modes of Hangman. For example, having a timed mode could add a sense of urgency or having an educational mode from specific categories could provide an educational twist to the traditional Hangman game. Another feature we were thinking of implementing was to have one of the players pick the word for the other players to guess, but we decided having to check if the word was valid in the English dictionary would be too expensive and players could possibly choose impossible to guess words.

Demo & Source

Demo: https://spring24-project-group-108.onrender.com/
Source: https://github.com/neu-cs4530/spring24-project-group-108

Our Technology Stack & Design

We implemented our feature using the existing Covey.town codebase. The game is represented as HangmanGame, which extends the abstract base class Game declared with HangmanGameState and HangmanMove as its type parameters. For the frontend, HangmanAreaController sends commands to the server to update the state of the game and notifies the UI by emitting events. Players interact with multiple React/Chakra modals in HangmanArea and HangmanBoard, allowing them to join and start new games, make letters guesses, and guess the entire word. Our continuous integration pipeline runs an automated test suite on the frontend and backend components, and automatically deploys the site using Github Actions, Heroku, and Render.com.

Users can play our game by walking up to the Hangman area and pressing 'Space'
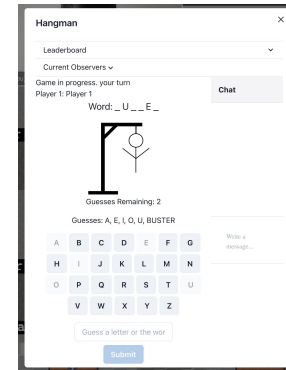
Players can make letter guesses or try to guess the entire word
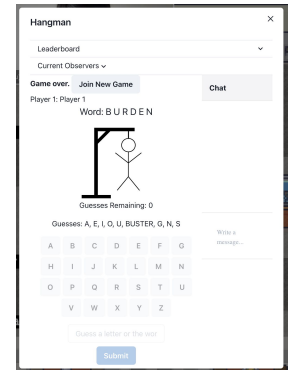
When the stick figure is fully drawn, the correct answer is revealed