# CS4530 Final Project: Hide And Seek Game

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## Our Feature: Hide And Seek Game

CoveyTown currently does not provide many immersive interactions beyond simple modal functionality. We decided to build a multiplayer Hide-and-Seek game that increases engagement in the CoveyTown environment and offers the opportunity for users to meet new people through interaction rather than conversation.

Players can join a Hide-and-Seek game as either a Hider or Seeker; Hiders can change their sprite and hide among random objects in the room, while the Seeker must correctly distinguish the Hiders from the decoys. The Seeker wins if they find all Hiders before running out of guesses, and the Hiders are awarded points based on how long they survived, how often they changed disguises, and how much they moved in-game.

## Tech Stack and Design

We utilized the existing CoveyTown codebase and implemented the abstract Game and GameArea classes to create our main HideAndSeekGame and HideAndSeekGameArea classes. The HideAndSeekArea modal allows players to join, start, and customize games, with the HideAndSeekAreaController serving as the connection to the game on the server-side. We also use a Supabase SQL database for persistent storage of player scores.

Our game also involves changes to the Phaser scene to enable the new immersive features we built. We created new sprite sheets and extended the capabilities of the PlayerController to allow players to change their sprite to 'hide' as certain objects, and to render players as a 'ghost' with higher transparency. We also modified the scene to render the FOV around the seeker when enabled.

## Future Work

We had envisioned several desirable features that were outside of the project's scope. We would like to incorporate more game customization, including modifying the seeker FOV and number of decoys/guesses, to add score benefits and allow for more interesting games. We discussed improvement to hiding such as orientations for our decoy sprites. We would also add a 'How to Play' section to the modal or sidebar that explains the rules of the game. Lastly, we also considered refactoring our backend to use more precise guess detection based on varying sprite sizes.

## Demo and Source

Demo Site: https://hide-and-seek.onrender.com/

Github Repo: https://github.com/neu-cs4530/fall23-team-project-group-401