CS4530 Final Project: "Conversation Areas"

"Group 9X": Avery, Calin, Orion and Ripley

Our Feature: Conversation Areas

In the original release of Covey.Town (demoed at https://spring2021.covey.town), users connect to a "Town", which provides a 2D arcade-style map that users can walk around in. When two users get close, they are able to see and hear each other through a video call. One problem that we observed with the app was that users would focus on exploring the relatively small map, and then not know what to do: how do you have a conversation with someone else when there is nothing to indicate that you want to talk? If two people are talking, how does a third person know that it is OK to approach them and join the conversation?

We developed an exciting new feature concept for our term project: **Conversation Areas**. Conversation Areas are parts of the map that users can enter and begin a "conversation" in, attaching a textual label to the area so that other users who walk by can see the topic of conversation.

While covey.town would normally show a video chat with all users who are "near" you, we propose that users in conversation areas see *exactly* the set of users who are also in that conversation area. This will support conversations taking place over a larger radius than would be otherwise possible.

Demo and Source

Our demo site is available at https://app.covey.town, and our code at https://github.com/neu-se/covey.town/

Conversation areas are shown as translucent overlays on the map. In this screenshot, Calin is in a conversation area alone while working on debugging; Ripley and Avery are in an (offscreen) conversation area working on project planning.

Our Technology Stack & Design

We implemented the conversation areas feature in the existing covey.town codebase. Each conversation area is represented as an "object" in the tilemap, which can be easily manipulated using the map editor, "Tiled." These objects are dynamically constructed when the map is loaded, and rendered on the screen by Phaser. When a player enters an "empty" conversation area, a message is displayed inviting them to set a topic for the conversation area, which is input through a React/Chakra modal. The conversation areas are tracked by the CoveyTownController backend, and synced to each client using socket-io. A sidebar was added to React UI to list all of the conversation areas in the town, along with who is in each area. This sidebar relies on several React hooks to receive updates.

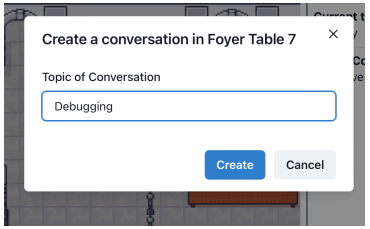
Our continuous integration pipeline runs an automated test suite on the frontend and backend components, and then deploys the site using Heroku and Netlify.

Future Work

We struggled to design a good abstraction for bridging communication between the Phaser-based game world and the React-based web app. While we *did* make it work, we imagine that conversation areas might be extended for other purposes, and there may be other needs for rendering React components as a result of interactions in Phaser. Future work might review these abstractions and create a more standardized API. The original Covey.Town codebase did not have an interface to determine which player should be included in the video chat, and offered only one implementation of that behavior. We implemented conversation areas by tweaking that implementation. Future work might consider abstracting an interface for this.

Future work might also consider different "modes" of conversation areas: perhaps in some, only one user has the permission to talk, and all others are listeners.

When a user enters an empty conversation area, a help message appears



After pressing the spacebar, a Chakra-UI modal appears to solicit the topic of the conversation area and create it