

CS4530 Final Project: "Achievements System"

"Group 416": Karim, Shai, and George

Our Feature: Achievements

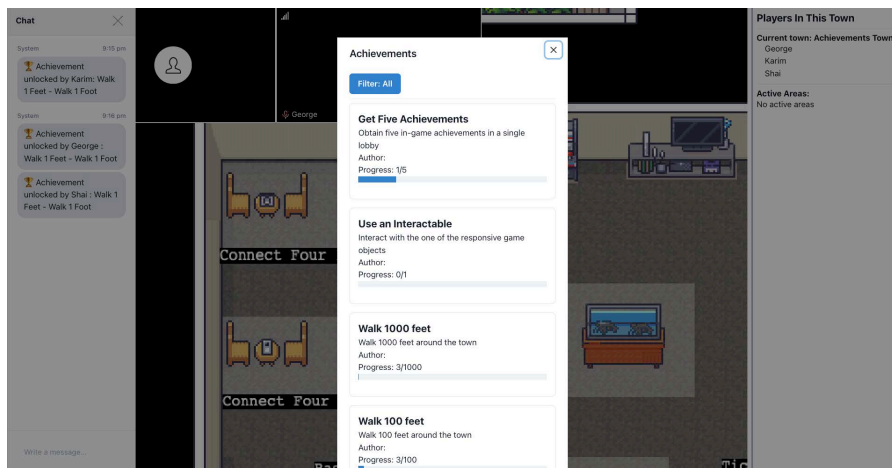
In the original release of Covey.Town (demoed at <https://spring2021.covey.town>), users connect to a "Town", which provides a 2D arcade-style map that users can walk around in. But there is no clear objective or sense of fulfillment when something is done in the town. How do we introduce a sense of purpose and achievement into this open-ended exploration? What mechanisms can we implement to validate the accomplishments and efforts of our users within this virtual space?

We rolled out an innovative feature: **Achievements System**. It enriches user engagement by awarding achievements for various in-game actions, such as exploration or interaction. Each achievement, visible to others, serves as a badge of honor, encouraging a goal-oriented approach within our virtual space.

This system shifts the dynamic from mere presence to active accomplishment, fostering a community where achievements highlight individual contributions and foster a sense of collective progress. It creates an engaging layer of challenge and discovery, enriching the user experience. As users unlock achievements, they gain recognition for their efforts.

Demo and Source

Our demo site is available at <https://app.covey.town>, and our code [here](#).



Achievement notifications appear in the chat window. In the provided screenshot, Karim reviews his list of achievements, while offscreen, Shai and George receive real-time alerts for their recent unlocks.

Our Technology Stack & Design

We integrated the Achievements System into Covey.Town, enriching the user experience by recognizing activities like 'PLAYER_WALK' and 'GET_ACHIEVEMENT'. Implemented in TypeScript, this system triggers specific achievements based on user actions. Achievements are visually acknowledged in the UI with React notifications and Chakra UI modals, offering users immediate satisfaction for their in-game actions.

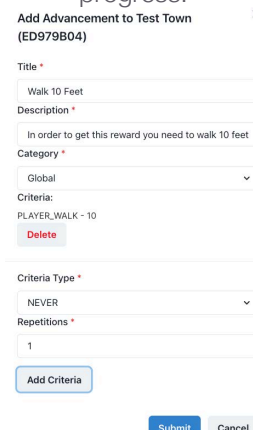
Backend improvements to the CoveyTownController support this feature through dedicated endpoints for achievement management and tracking, ensuring consistent recording of user achievements. Synchronization via socket-io facilitates instant updates, keeping all users' achievements current across sessions. This setup not only enhances user engagement but also ensures that progress and recognition are seamlessly integrated into the gaming environment.

Future Work

Future enhancements to the Achievements System will introduce a dynamic leaderboard, showcasing players who have earned the most achievements in Covey.Town. This update caters to the community's request for a more competitive and engaging environment, allowing players to not only track their accomplishments but also see how they stack up against others.

The leaderboard implementation will require minimal adjustments to our backend since achievements are already tracked per user. The focus will be on the frontend, developing an intuitive interface that displays the leaderboard and individual rankings when a player's avatar is clicked.

This enhancement will strengthen the social fabric of Covey.Town by providing a new way for users to engage, compete, and share their in-game progress.



A user is able to add custom achievements.



A chatMessage appears notifying the user when an achievement has been completed.