

Covey Meadows

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Our Feature: Farming

Currently, the leisure activities that Covey Town provides are limited and don't promote user retention. We decided to tackle this problem and implement a fun activity that keeps users coming back. We have added an interactive farm area to Covey Town. This way, players now have an incentive to come online, and in the process, they can meet and talk to other players in the farm area as well. With this new farm area, we hope to bring a sense of community, as all players will be able to see each others' farms and progress.

All users now start with 5 seeds in their inventory. Once they log into the farm, they can claim a plot of land and start farming! Different plants take different times to grow, but once a plant grows, it can be harvested and sold to the shop for money. Our shop has a multitude of seeds that users can buy with their money to customize their farm with. To further encourage users to keep playing, we implemented a leaderboard which ranks them according to different stats that they accumulate by farming. In order to boost the competitive spirit of farming, we have also added stealing and sabotaging, where users can steal from and sabotage other users' plots for rewards. However, this comes with a risk when you fail, and the chance that you are able to successfully practice this deviance is much lower if the user that you are stealing from or sabotaging is online. Lastly, to bring some livelihood to our farm area, we added some farm animals to really capture the farming vibes.

Technology Stack + Design

We created this project using the initial Covey.Town codebase. To create and render the farm area and animal sprites, we used the Phaser library. We implemented our frontend UI in TypeScript using React, using components from the Material UI and Chakra UI libraries. To handle user authentication, we used NextAuth with Google. For our backend, we used Prisma to interface with a PostgreSQL database hosted on Heroku. For the frontend to backend interactions, we use socket events to handle any updates and changes to the farm area or player statistics. We also expanded on the existing express server and built new REST endpoints with Swagger to persist and retrieve data from our database. Our continuous integration pipeline runs a large suite of Jest tests on both the frontend and backend, and deploys our site using Vercel.

Future Work

Although we created a fully functional farming minigame within Covey.Town, there are always extensions that can be made. Something that could be expanded on would be the multiplayer interactions within the farm area. We added stealing and sabotaging other users, but it would be nice if there were collaborative features as well. For example, adding trading between users or being able to give other users access to your plot.

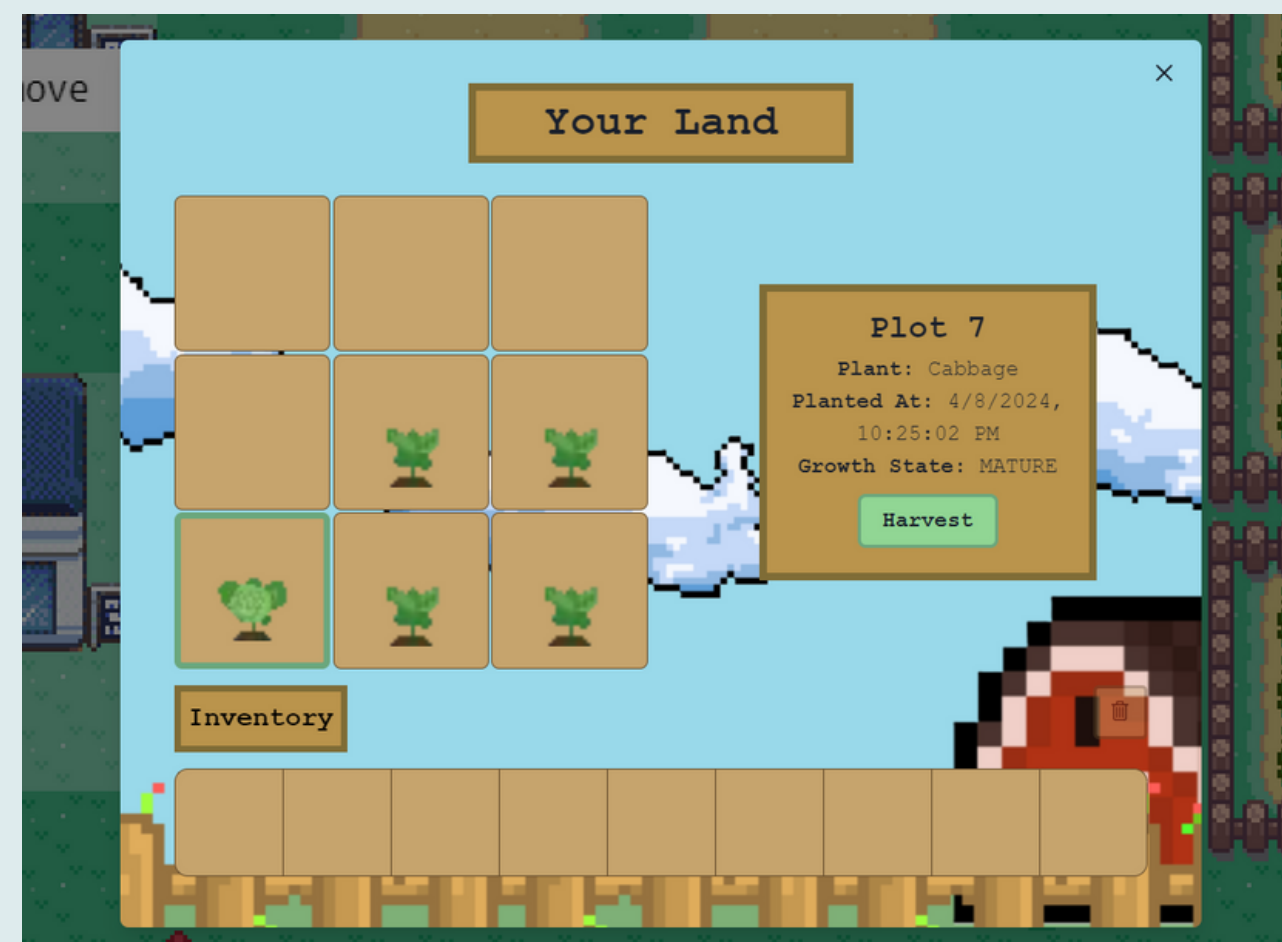
Another feature would be to add dynamic farm areas to a town. We implemented the farm area with the constraint that there could only be 12 lands in one town, but in order to handle more users, this would need to be expanded. Future work may include giving a town the ability to scale up or down on how many lands they want.

Demo + Source

Our demo site is available at spring24-project-s24-group-306.vercel.app and our code in our [GitHub repository](#).



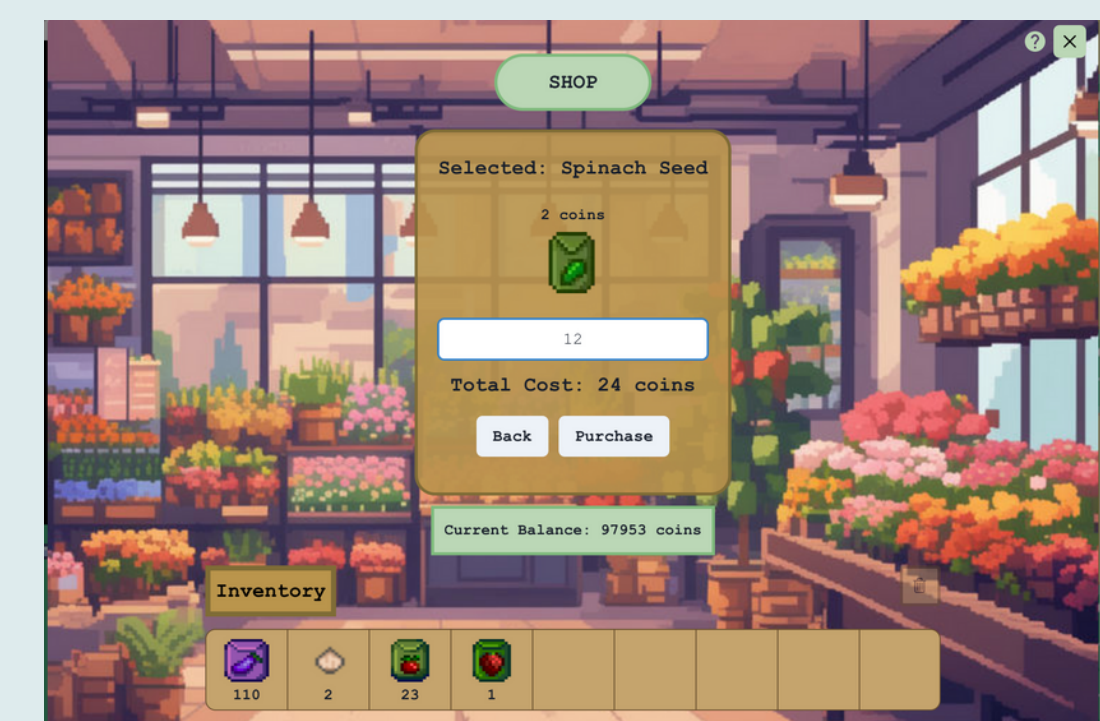
The New Farm Area



Interface when user interacts with their own plot



Interface when user interacts with the shop



Buying/Selling from the Shop



When first joining a town and interacting with a plot

LEADERBOARD					
RANK	NAME	Coins	Planted	Sabotages	Steals
12	Harry (You)	00	0	0	0
1	Kevin	0817	60	53	33
2	Charlie	0765	17	79	1
3	Hodi	0634	13	45	24
4	Ivan	0600	83	14	13
5	Judy	0541	3	57	04
6	Linda	0504	36	3	37
7	Grace	0246	24	6	62

Town Leaderboard



When user interacts with another user's plot (mature plant)



When user interacts with another user's plot (growing plant)