

Team 15 Project Charter

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Problem Statement

Crossword puzzles are something that almost everyone has attempted in their life. Though, a near fact of doing crossword puzzles is that one will eventually need help or get stuck, and why not embrace that idea? Puzzle Party is our solution. An innovative way to solve crosswords together through a real time updated crossword puzzle, Puzzle Party can be a solution to the question “what do you guys want to do?” While there are some applications that allow for crossword puzzles to be completed cooperatively, we aim to have a more polished UI and have plans to add additional modes with other games as well. It’s also free, unlike the co-op that The New York Times has.

Project Objectives

1. Build a website where people can collaborate on the same crossword puzzle in real time
2. Implement concurrent crossword solving
3. Create a messaging system for users to communicate on during a game
4. Develop a code sharing system so that users can play with their friends.
5. Implement collaborative play of other games as time allows (e.g. sudoku)

Stakeholders

- Joe Ruhe, Nicole Bain, Arielle Dong, Nathan Lytle - The software developers.
- Dr. Xiangyu Zhang - Professor of the course, who will oversee the development cycle as a whole, and will step in and assist in resolving any difficulties the developers may run into that the Project Coordinator cannot fully resolve.
- Yufeng Qian - Project Coordinator, who will essentially take on the role of product owner, being responsible for feature approval and priority/requirement adjustments for the developers.
- Dominic Damoah - Project Grader, who is responsible for evaluating and grading the results of the developers’ efforts on the project throughout the development cycle.

- Purdue Computer Science Department - If the need arises, the developers will work with the project coordinator to acquire the assistance of the department in multiple different forms (servers, software, other equipment, etc.) for the project.
- Users/Player-base - This refers to the types of users that the software will be used by, being the people who will play the web-based game(s) we aim to create. As our software aims to create a collaborative environment where players can invite friends to play with, the friends who receive an invite to collaborate on the game are included in the player-base. As we initially are planning on creating a crossword specifically, our target player-base is quite wide in range, including anyone interested in playing puzzle games like crosswords with friends/collaborators.

Deliverables

By the end of the project, we plan to have the following features of our product:

- Playable crossword puzzle feature, with word and letter validation
- Sudoku puzzle feature, with number validation
- Interactive webpage to allow users to easily navigate within the crossword and across other games
- Functional, synchronous multiplayer feature that indicates the location of the user's mouse and presence of other users on the webpage (up to 2 other users)
- Crossword/sudoku box user location highlighted
- Real-time chat function to discuss and collaborate with other users
- Seamless client-server protocol to allow for simultaneous updates in each user's browser

We plan to do the majority of our frontend in Javascript, utilizing a platform called Aply to allow us to implement the multiplayer chat and collaboration functions. Adding on to this, we will be implementing client-server interactions using WebSockets in NodeJS on locally hosted servers. They will be peer to peer, and the server will end when the original host closes the server. We also plan to use VSCode to write and compile our code, and GitHub to allow for collaboration and easy integration of features.