Pac-Rats Development Project Summary

Group 8 - Jonathon Repta, Amal Syed, Edward Liang, Jennifer Alonso

Project Overview:

Our project is a multiplayer, Pac Man-esque browser game that would allow for up to numerous players to compete both with each other and against one another. The game will feature traditional Pac-Man style gameplay combined with a number multiplayer oriented additions such as custom server hosting, custom map creation/sharing, an advanced leaderboard system, and so on.

Purpose of the Project:

Pac-Man is an arcade classic that almost everyone is familiar with. People of all backgrounds have enjoyed the simple yet addicting gameplay of Pac-Man and it's enduring success is proof that there is still a market for Pac-Man style gameplay -- even in a market increasingly concerned with big budget releases. The purpose of our product is to revitalize and build upon the fundamentals laid by Pac-Man in order to captivate an audience of people who are familiar with Pac-Man, but are looking for something fresh.

Scope of the Work:

Presently, there exist a wide variety of Pac-Man ports on dedicated gaming consoles. However, none of their monetization schemes are the "freemium" model and none of them are browser based multiplayer games. Because our product is competing in a slightly different market than the average Pac-Man game, it's competition will not only be standard Pac-Man ports, but also the more broad category of free-to-play games in general. By revilitazing a classic game we would be able to capture a market of players who would not otherwise be interested in a more serious/novel game.

Scope of the Product:

To get the user playing fast, the product will provide a simple GUI that anyone familiar with computers could understand. When a player first interacts with the product they will be prompted to login or sign up. Once they do, a new player profile will be created in the database or their login credentials will be validated. Upon signing in and entering the main menu, players will be able to choose between one of the many game modes (co-op, free-for-fall, solo, etc) and select a map for the game to be played on. The map can either be randomly generated (and have an associated seed) or be selected from one of the many community made maps. The player will then decide whether they will host or join an existing game. If they choose to host, they can do so privately or publicly (for anyone to join). Once the lobby is full of players, the host can start the game. When the game ends, players can choose to stay in the lobby and keep playing or return to the start and choose a different game mode.

Stakeholders:

In a project there are many stakeholders. They are people that take interest in or the development of the project. The client might be a game company/publisher such as Bandai Namco, Koei Tecmo, Capcom, etc. Any company interested in revitalizing one of their existing IPs and applying modern monetization schemes in order to capitalize on a growing market. Since this game is free for all users in the browser, everyone can be called a user as long they have internet access, and computer. A customer might be a user that not only plays the game but also is interested in supporting the company by making in-game purchases, paying for private server hosting, etc. Other stakeholders might include beta testers and marketing managers. Beta testers test the game before the official release for bugs and glitches. Marketing managers are needed to help advertise the game and attract a diverse community.

Mandated Constraints:

Mandated constraints are requirements that are set in stone before the project even started. Since our game is browser based and focused on accessibility, the game must be compatible with all the major browsers (Google Chrome, Mozilla Firefox, Microsoft Edge, etc) as well as LTS versions of those browsers. To put it concretely, our product must be compatible with browsers that account for a total market share of at least 80% of the world's internet users. In addition to software constraints, our project also includes accessibility options for users with certain hardware/technological constraints. The product will support the low end, low power devices such as chromebooks. Furthermore, the game will be accessible to users with disabilities such as color blindness through the use of color blind friendly color palettes and be accessible to hard of hearing users by not relying on auditory cues for essential bits of gameplay. Lastly this game is "Free 2 Play", meaning those without the financial means will still be able to enjoy our product. If the game wants to expand, then everyone should be able to have a fair challenging match. There are a lot of games today that are paid to win. Pac-Rats have a reward scheme for users who spend time playing the game, yet don't have the ability to make in-game purchases.

Naming Conventions and Definitions:

To make our game distinct from Pac-Man, "Pac-Men" in Pac-Rats are represented as pack rats and the ghosts are represented as foxes. The title was chosen for its resemblance to Pac-Man whilst allowing us to incorporate our own unique branding. In regards to terminology surrounding the game modes, *free-for-all* is a game mode where there are no teams and every is pitted against each other -- meaning that the end of a match will have a singular winner, rather than a winning team. On the other hand *co-op* is a mode where multiple players work together to achieve a similar goal -- without any opponents on the board.

In regards to user classes, there are two classes of players within the game. *f2p (*free to play*)* players who don't spend any money on the game, and *p2w* (pay to win) players who do. As the name suggests *f2p* are players that play the game without spending any money and *p2w* are players that pay real money for in game items, server hosting, etc in order to enhance their experience.

Relevant Facts and Assumptions:

        The product will operate on several assumptions . The first assumption we are operating on is that the player has an internet connection and understands the basics of web browser usage. Secondly, we assume that the user is familiar with a standard game of Pac-Man. Since internet usage has grown rapidly in the past decade, and Pac-Man is one of the most popular arcade games of all time, these assumptions are fair by our estimation. Since Pac-Man is so ubiquitous (and simple), we are also assuming that even without a tutorial, players will be able to pick up the game in a rapid manner. In regards to monetization of our game, we assume (based off of market research) that the vast majority (90+%) of players will not spend any money on any of the *p2w* services present in the game.

        Furthermore, the product will be developed with certain facts in mind. Firstly, the developers must respect intellectual property laws and ensure our product contains sufficiently original content. The developers also need to understand and comply with privacy regulations like the GDPR (General Data Protection Regulation).