

Lab 1 - PartyUp!

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I. Introduction

Many modern video games emphasize teamwork and cooperative gameplay, typically through online matchmaking; however, they often lack built-in features to help players find suitable teammates. While online matchmaking can successfully pair a player up with other players, it is usually done randomly or fails to properly match people up given a player's skill level or role in the video game. This issue can create a significant challenge for players who might struggle to find reliable partners for cooperative experiences. For example, *Marvel Rivals* is a competitive multiplayer video game that involves two teams of six players, each player choosing a hero or villain to fulfill a role on their team. While *Marvel Rivals* has a matchmaking system that takes into account player skill level, many players still take issue with their pairing, such as some teams not filling roles practically required to succeed. Another issue that players might face with randomized matchmaking is the potential to have their teammate being toxic or not taking the game seriously, hindering the rest of the team and ruining the match and overall experience. While social media or gaming forums exist that can be used to find compatible teammates, they rely on others to be active on the forums around the same time, which is not always a reliable alternative to native matchmaking.

PartyUp! is a website that will combat this issue with finding compatible teammates. It is a dedicated platform designed to help players connect with others through a structured filtering and search system. Users can create or join parties based on their own preferences, in a way that is easy and efficient to use. The goal of *PartyUp!* is to provide a solution to an underlying problem with online matchmaking found in video games to make them more enjoyable for everyone by giving them the opportunity to be matched with like-minded players and the ability to fill out roles and responsibilities before they're thrown into a game.

PartyUp! is a website created to help players find compatible teammates for online multiplayer games. Many games that emphasize teamwork often leave players to rely on random matchmaking, which can result in unbalanced teams, uncooperative teammates, or negative experiences. Our solution provides a structured platform where players can either create or join parties that meet their specific needs. Through filters such as game, platform, region, language, rank, and role, players can easily connect with others who share their goals and playstyle. The objective of *PartyUp!* is to improve the overall gaming experience by giving players more control over who they play with, ensuring teams are more organized, enjoyable, and reliable.

II. PartyUp! Description

A. Key Features and Capabilities

Our software allows individuals who are playing team games to find others playing the same game. What is so unique about our software is that it would be one of the first apps dedicated to helping gamers find groups for their games. It'll do this by filtering individuals that are looking for groups by game, region/language, and other filters that may be specific to that game such as rank, role, and platform. These filters, unique to *PartyUp!*, allow users to quickly find a party that meets their exact conditions quickly and easily. Rather than having to read through many irrelevant posts or waiting for a response that might never come, with *PartyUp!*, you can find only parties relevant to you in just a few clicks, and you can be relatively sure that all of the listed parties are active and eagerly waiting to jump into a game. Additionally, in order to help build an active community of users, we intend to implement community pages that can be used to create guides and community posts by users that other users can interact with.

B. Major Components

Because the product will be a browser based service, the hardware requirements for users is any device that has a web browser, such as smartphones, tablets, and computers. To build the product, hardware required is our development hardware and server hardware. The software components are the IDE and browser, as well as a Windows operating system. Our main IDE will be VSCode and the browser we use will be either *FireFox* or *Google Chrome*. The product is a web application that will be created using server side PHP and JavaScript, a MySQL Database, and a mix of HTML, CSS, and JavaScript for the frontend, possibly via React.

The software components of the application will be the ability to register user accounts, the matchmaking system that will allow users to find party members to play with, as well as sorting and filtering system to allow users to look for other players on the same game, platform, and region they are in.

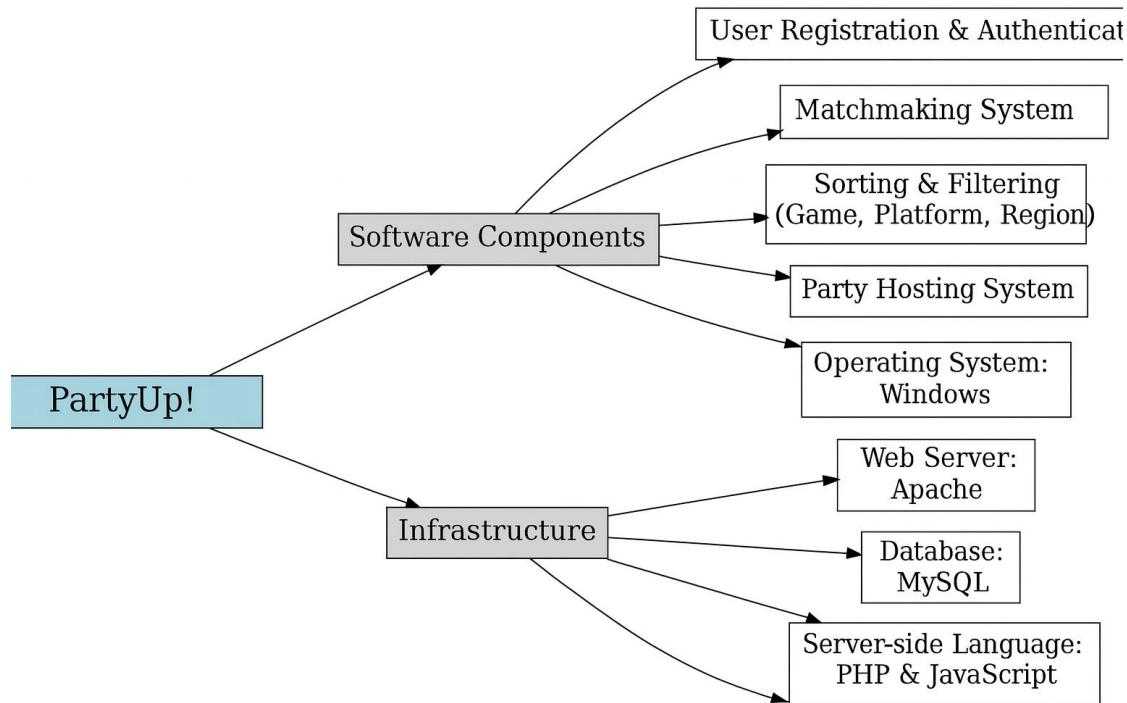


Figure 1. Major Functional Components Diagram

III. Use Case and End User

Alex is a 20-year-old college student who enjoys playing team-based games like *Marvel Rivals* and *Rainbow Six Siege* in the evenings. When using in-game matchmaking, Alex often ends up with unbalanced teams, uncooperative teammates, or toxic players, which ruins the experience. He doesn't always have friends online to play with, so finding a reliable group can be frustrating.

With *PartyUp!*, Alex can log in and quickly search for a party that fits his needs. By simply selecting a few filters in drop down menus, Alex can quickly and easily find a party that suits his particular circumstances. These filters will ensure he only looks at parties that are relevant to his game, platform, region, language, rank, and role. Instead of relying on luck in random matchmaking or waiting for replies on social media forums, Alex can instantly connect with players who are ready to play and are similarly minded.

PartyUp! gives users like Alex a safe, efficient, and enjoyable way to meet teammates, accomplish in-game objectives, and get the most out of their gaming time.

IV. Glossary

Looking for Group: A feature that allows players to form a party with others semi-randomly

Matchmaking: The process of pairing players together in multiplayer games

Party: Players grouped together before matchmaking

Platform: Hardware you play a game on, such as, *PlayStation*, *Xbox*, PC, and *Nintendo Switch*

Rank: A symbol of player skill given by games e.g. bronze, silver, gold, platinum, and diamond

Toxic: Mean or otherwise very unpleasant player(s) or behavior