Introduction: In today's fast-paced world, people often struggle to find the appropriate number of people to play with, coordinate logistics, and manage schedules, making it even more difficult to engage in physical activities regularly. This problem is further compounded for individuals who have recently moved to a new location or do not have an existing social circle that shares similar interests in sports. However, SportsMatch solves this problem by providing an online platform for individuals to connect and engage in physical activities with like-minded people, regardless of their location or social circle.

Functionality: SportsMatch offers a range of features that make it easy for individuals to connect with others who share similar interests in sports. Users can join matches in three ways: by entering a unique code to join an existing match, by selecting a match from the list of matches, which can be filtered based on the sport and location, or by creating a new match. The ability to enter a code to join a specific match makes it easy for users to play with their friends. Once joined, users can communicate with each other in real-time through the chatroom functionality to coordinate location, logistics, and more. Additionally, each user has a profile page that displays their name, total matches played, and favorite sports, increasing the sociability and competitive spirit of users in the app.

Tools: SportsMatch was developed using a combination of technologies that were carefully selected to ensure the application is scalable, reliable, and secure. The frontend of the application was built using CSS, Bootstrap, and React. React was chosen because of its ability to handle complex user interfaces efficiently. Additionally, Bootstrap was utilized to speed up the development process by providing a pre-built set of components and responsive design tools that ensured the application is optimized for different screen sizes. Firebase was used as the backend database management system, which allowed for the storage of all registered users and existing matches. Firebase was selected because of its flexibility, scalability, and real-time data synchronization capabilities, which enable seamless data exchange between clients and the server. Firebase also offers easy-to-use authentication and security features, making it a reliable choice for sensitive user data management. To ensure that the application is accessible to users worldwide, it was deployed on Google Cloud using AMD instances, with Nginx web server. Nginx was used as a reverse proxy and load balancer, which distributes incoming traffic across multiple servers, ensuring high availability and performance.

Future Work: In terms of future work, SportsMatch has several potential improvements. Firstly, we plan to add a feature that suggests suitable venues for each match based on the user's location. Each location will show the total number of players potentially playing at that location at a particular time. Secondly, we will introduce merit/demerit points to each user based on their punctuality, game streak, total games played, and more. This feature will increase competitiveness and motivation among users. Lastly, we aim to enhance and beautify the front-end of the application to improve user experience and attract more users. These future works aim to improve the usability and competitiveness of SportsMatch, making it a top choice for individuals looking to engage in physical activities regularly.