BASKETBALL FACE SOCIAL MEDIA WEBSITE

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ABSTRACT

The project aims to create a social media website for basketball fans and professional athletes. Research indicates a growing struggle among users on mainstream social media websites to sift through an overwhelming influx of information. The sheer volume of content dilutes the basketball experience, leaving enthusiasts yearning for a more focused and enriching platform. The goal of the website is to promote interaction, collaboration and information sharing among the basketball community. Users can register, post and browse a variety of basketball-related content on the platform, including news and photos, and we will provide users with a place to focus on discussing. To achieve this goal, we will employ advanced Web development techniques to develop a user-friendly interface, and it is expected that the project will inspire new vitality in basketball social media, providing a platform for basketball fans to interact with their peers and learn about the latest basketball developments. We look forward to attracting a broad user base, including athletes, fans, journalists and clubs, thereby building a vibrant basketball community.

INTRODUCTION

With the rapid development of internet technology, social media platforms have become crucial for information acquisition, communication, and entertainment. However, mainstream social media platforms have several issues, such as fragmented information, time wastage, complex user experiences, and online fraud. This paper explores the drawbacks of current mainstream social media, particularly in sports-related websites, and proposes solutions.

Firstly, fragmented information is a significant problem on social media. Users are overwhelmed by irrelevant information, making it difficult to focus and find valuable content. Kang et al. (2019) highlighted that the design patterns of social media often lead to information fragmentation, affecting users' attention and information retrieval efficiency. Additionally, Barber

and Santuzzi (2020) examined the disruptive nature of social media information flows, finding that excessive information increases cognitive load and reduces user satisfaction.

Secondly, time wastage is a severe issue on social media. Maier et al. (2019) showed that social media platforms use various features and notifications to encourage prolonged user engagement, leading to significant time wastage on meaningless browsing. Firth et al. (2020) also pointed out that the time consumed by social media not only affects productivity but also has negative impacts on mental health.

Moreover, complex user experiences are another critical issue. Many platforms have numerous features and complex interfaces, making it challenging for users to quickly find the content they need. Panova and Lobo (2020) noted that complex user interfaces increase cognitive load and reduce user experience. Furthermore, online fraud is rampant on social media platforms, posing serious security risks to users. Tsikerdekis and Zeinalipour-Yazti (2020) studied fraudulent behaviors on social media and found that users' awareness and preventive measures against online fraud are relatively low, making them easy targets for scams.

Regarding sports-related websites, many existing platforms lack commenting and search functionalities, limiting user interaction and information retrieval efficiency. He et al. (2021) stated that commenting features help enhance user interaction and foster community formation. Additionally, the absence of search functionalities makes it difficult for users to quickly find relevant content, affecting user experience. Xu and Li (2019) examined the impact of search functionalities on user satisfaction and found that convenient search features significantly improve user satisfaction and loyalty.

To address these issues, this paper proposes several improvements. Firstly, optimize information flows and recommendation algorithms to reduce the interference of fragmented information and enhance the relevance and value of the content. Secondly, simplify user interface design, highlight core functionalities, and reduce users' cognitive load. Finally, strengthen online security education to raise users' awareness and preventive measures against online fraud.

RESEARCH METHODOLOGY

BasketballFace development follows the Scrum methodology as it has many advantages and is suitable for dynamic project environments. By using Scrum, I can gain greater flexibility and adaptability to changing requirements, ensuring that the end product is closely aligned with user needs and expectations. The iterative nature of Scrum allows for continuous feedback and improvement, allowing me to identify and resolve problems in a timely manner. In addition,

Scrum promotes structured workflows and better time management, resulting in increased productivity and a more efficient development process. These advantages make Scrum ideal for efficient BasketballFace development.

Analysis Phase

During the analysis phase, I used Google Forms to determine what my target audience wanted from BasketballFace. The purpose of the questionnaire is to gather insights from potential users about their functional and non-functional needs. The form includes various questions to better understand user preferences, desired features, and any issues they are currently facing on similar sports sites.

Questionnaire link (https://forms.gle/kSt6TKs8SKKU1T558) is a random distribution, in order to collect differences from a wide range of respondents and fair feedback. A total of 15 respondents took part in the survey, providing invaluable feedback that has been crucial to the growth of BasketballFace.

Design Phase

The design phase of BasketballFace focused on establishing a solid foundation for the website by creating a comprehensive system architecture and user interface. During this phase, I meticulously planned the architecture to ensure scalability, performance, and security, selecting appropriate technologies to support core functionalities such as user registration, posting, commenting, and real-time chat. A robust database schema was designed to efficiently manage user data, posts, comments, and messages, emphasizing data integrity and optimized performance.

For the user interface, I aimed to make it intuitive and visually appealing. I focused on simplifying navigation and ensuring that the design was user-friendly and modern. This phase was crucial in ensuring that BasketballFace would not only meet its functional requirements but also provide a seamless and engaging experience for its users.

Implementation Phase

The implementation phase is the longest and most intensive phase of BasketballFace's development process. This phase includes the actual coding and development of the website based on the design specifications and requirements gathered in previous phases. At this stage, all core functions such as user registration, Posting, commenting, live chat and integration of mini-games are developed.

Throughout the implementation phase, I made sure that each feature was tested adequately and that any errors or issues were identified and resolved in a timely manner. This stage also includes integrating the various components of the system, such as databases, user

interfaces, and algorithms, into a cohesive and fully functional website. By the end of this phase, BasketballFace had evolved from a conceptual design to a working prototype, ready to move into the final testing phase to ensure its reliability and performance.

Testing Phase

The beta phase is a key part of BasketballFace's development process, ensuring that the site functions correctly and delivers the best user experience. At this stage, adequate testing is carried out to identify and correct any defects, errors and weaknesses in the system.

In order to collect user feedback, I use Google Forms (https://forms.gle/wKZEhcnSbsaHp5m49) to create a comprehensive survey of the broad user. The survey included questions that evaluated various aspects of the site, such as functionality, usability, performance, and overall user satisfaction.

Links to Google forms are randomly assigned to gather unbiased feedback. A total of eight respondents participated in the survey, and they provided valuable insights into their own experiences and problems. The data collected from the survey is analyzed using Google Forms' built-in tool, which generates graphs and charts for each question.

Based on the feedback received, we made the necessary adjustments and improvements to the website to address the issues identified. This iterative testing and improvement process ensures that BasketballFace meets the standards of high quality and reliability, providing users with a smooth and rich experience.

RESULTS AND DISCUSSION

BasketballFace has been successfully developed and all related documentation has been completed. Throughout the development process, modern web technologies were used to ensure that the platform met its intended goals. The back end is developed using PHP to handle user authentication, post management, and live chat capabilities. The front end is created with HTML, CSS, and javaScript and focuses on providing a seamless user experience through intuitive navigation and clean design. A powerful MySQL database is used to efficiently store and manage data, ensuring that user data, posts, comments, and chat logs are stored securely. A comprehensive approach to development and testing ensures that BasketballFace not only meets its functional requirements, but also provides a smooth, rich experience for users.

After opening the website, the user will see a registration interface, and the user needs to enter the user name, email, password and confirm the password to create an account as shown in Figure 1.

Figure 1 register page

Then the user will enter the login page, enter their username, password to log in as shown in Figure 2.

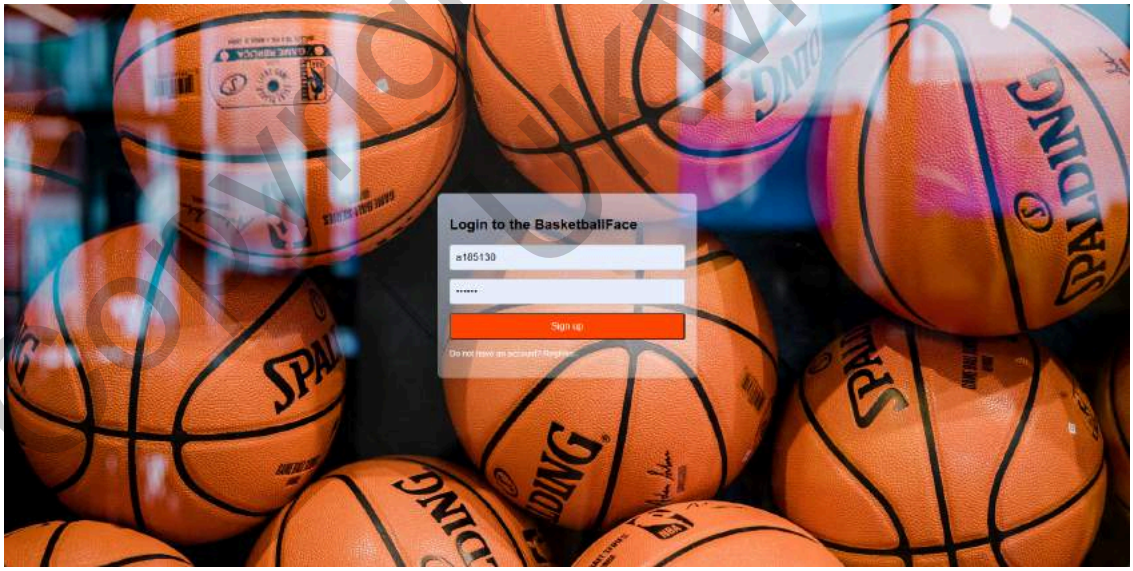

Figure 2 login page

After successful login, the user will jump to the main page, as shown in Figure 3. The top is the navigation bar, the navigation bar on the left side of the nba and cba categories can be clicked to filter the displayed posts. In the middle is the search bar, and on the right you can view posts from users you follow and chat buttons. In the middle of the page is the main part which can preview some posts recommended by the system, some of the above on the right are send post

buttons, you can jump to the corresponding page, and some of the following on the right are some of the official push articles.

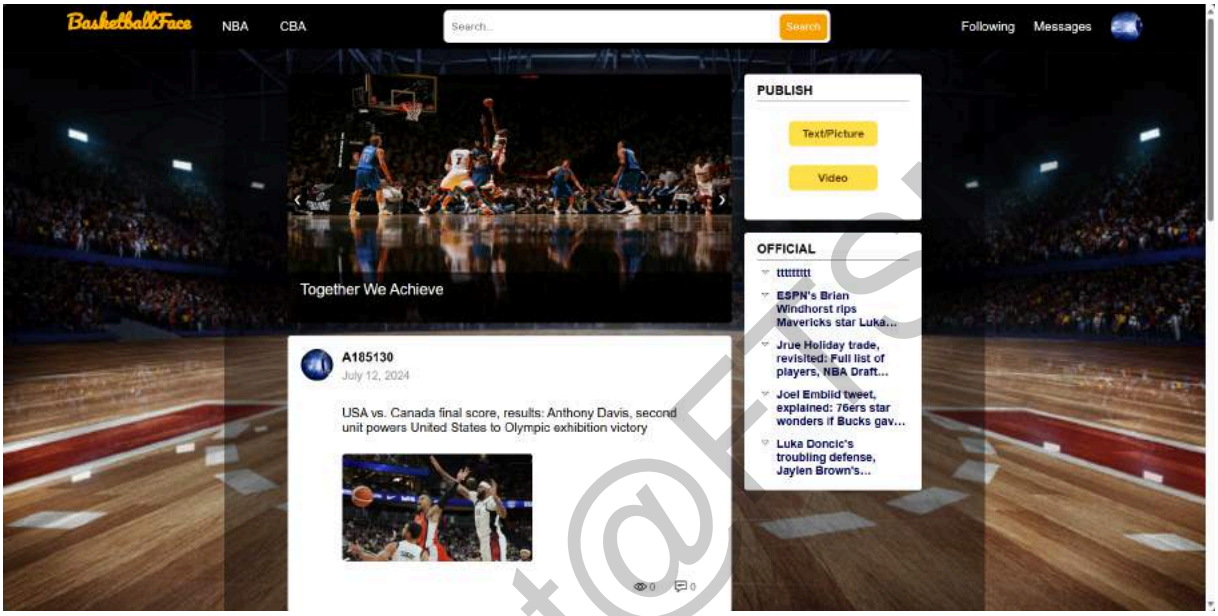

Figure 3 recommend post

Figure 4 shows the page that displays the content of the post after you click on it. On this page you can follow the author by clicking the Follow button. There is also a comment function below the post where you can send some of your thoughts, as shown in Figure 5.

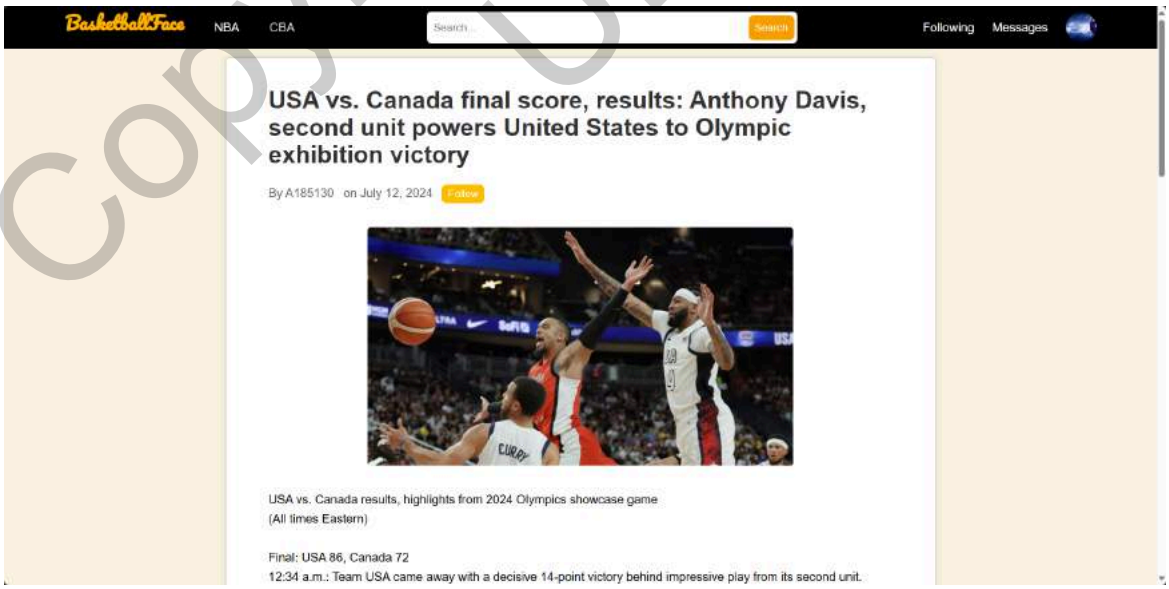

Figure 4 post content

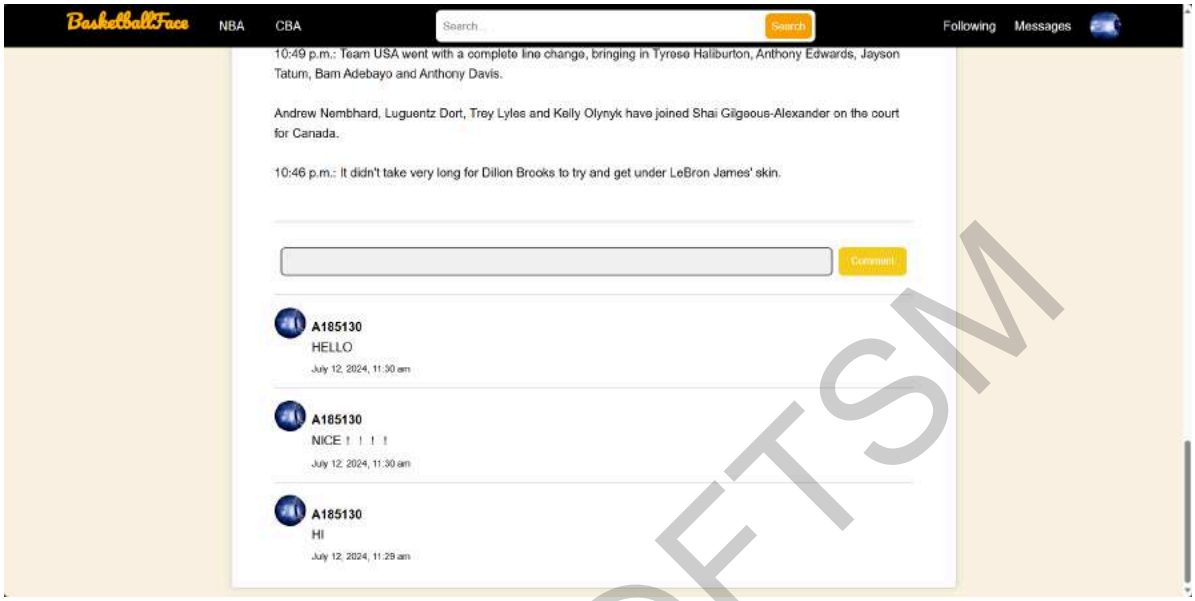

Figure 5 post comment

Figure 6 shows the post page where you can set the title, image/video, content, and the section you want to post.

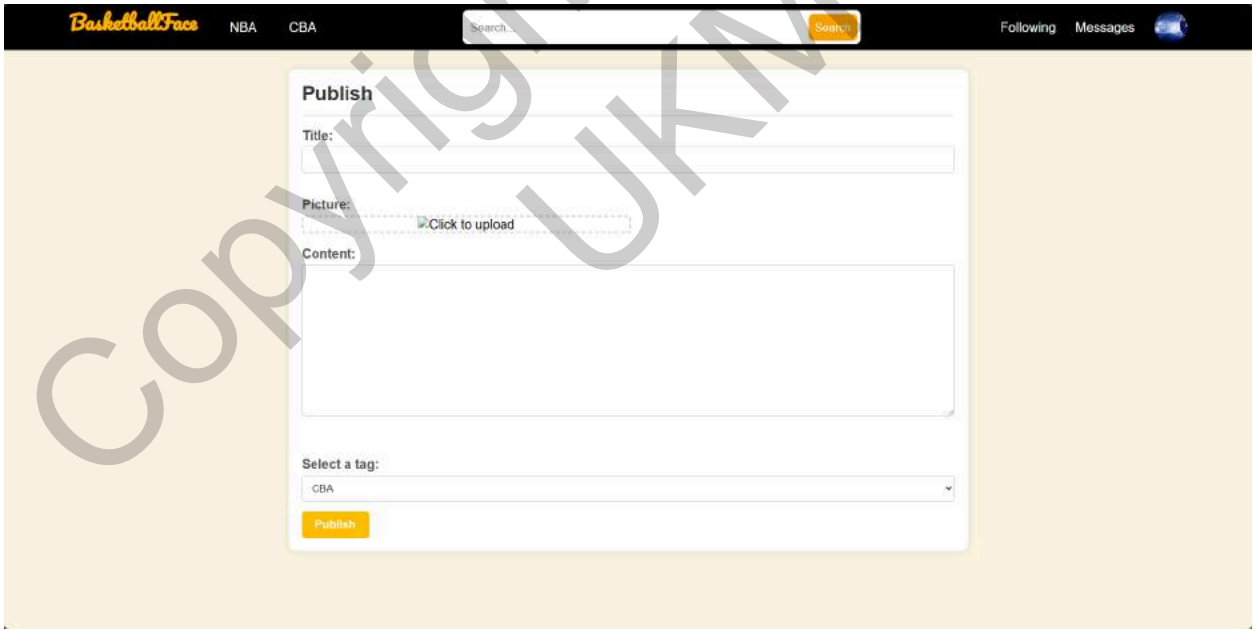

Figure 6 publish page

Figure 7 shows the user Profile Center page, which displays the user's posts, comments, following list and followers list, and can edit their profile by clicking the button to the right of the user profile.

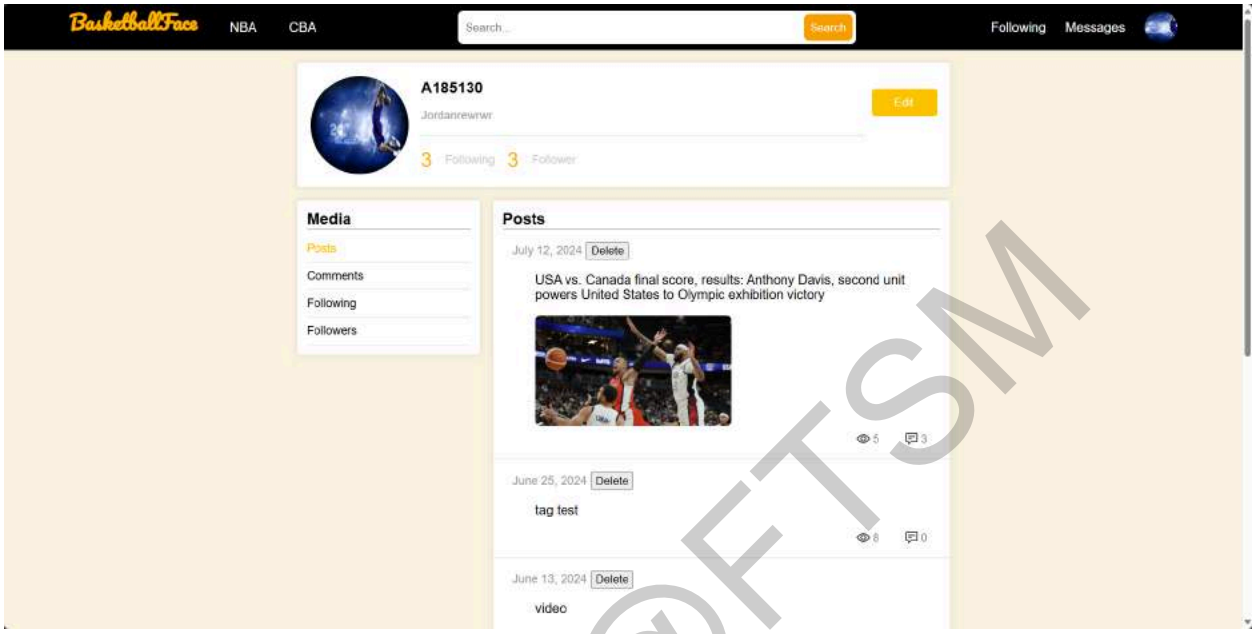

Figure 7 profile page

Figure 8 shows the chat page, where a user can create a separate session with another user through the Chat button on their homepage.

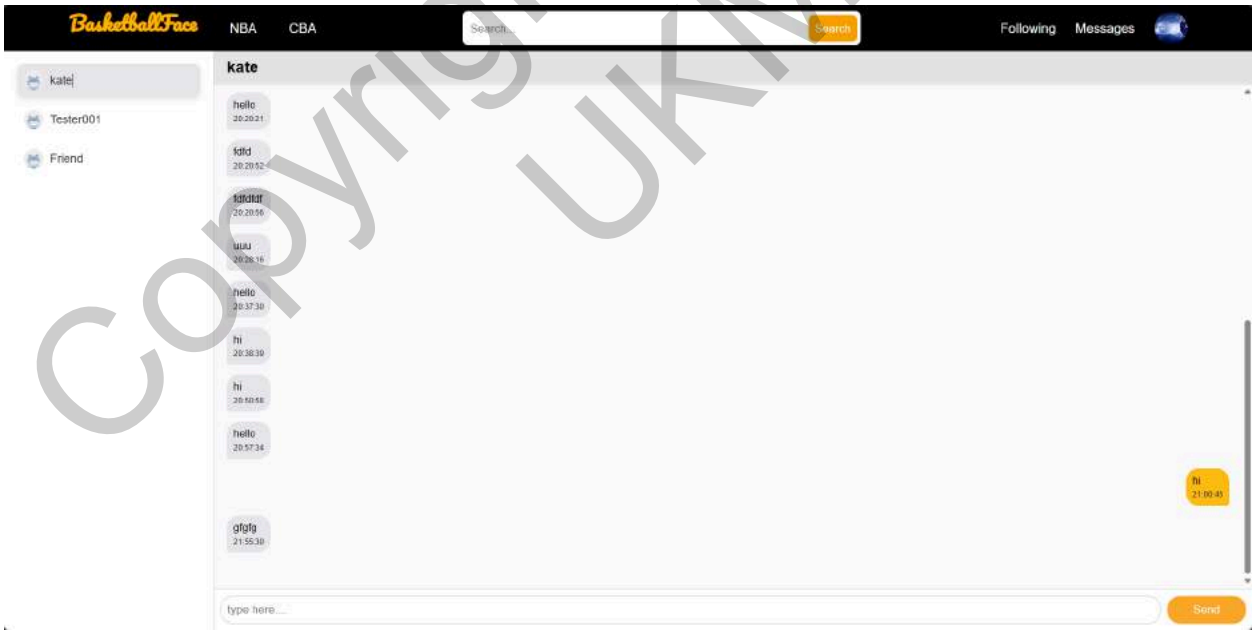

Figure 8 chat page

The small game of the website is depicted in Figure 9, where users can launch the ball by dragging it within the dotted line box located in the lower left corner. Points are earned by successfully hitting the inside of the moving basket, which changes its position randomly. With

each change in basket position, players are given 5 opportunities. Try to achieve a higher score and aim for consecutive hits without missing to unlock an additional surprise.

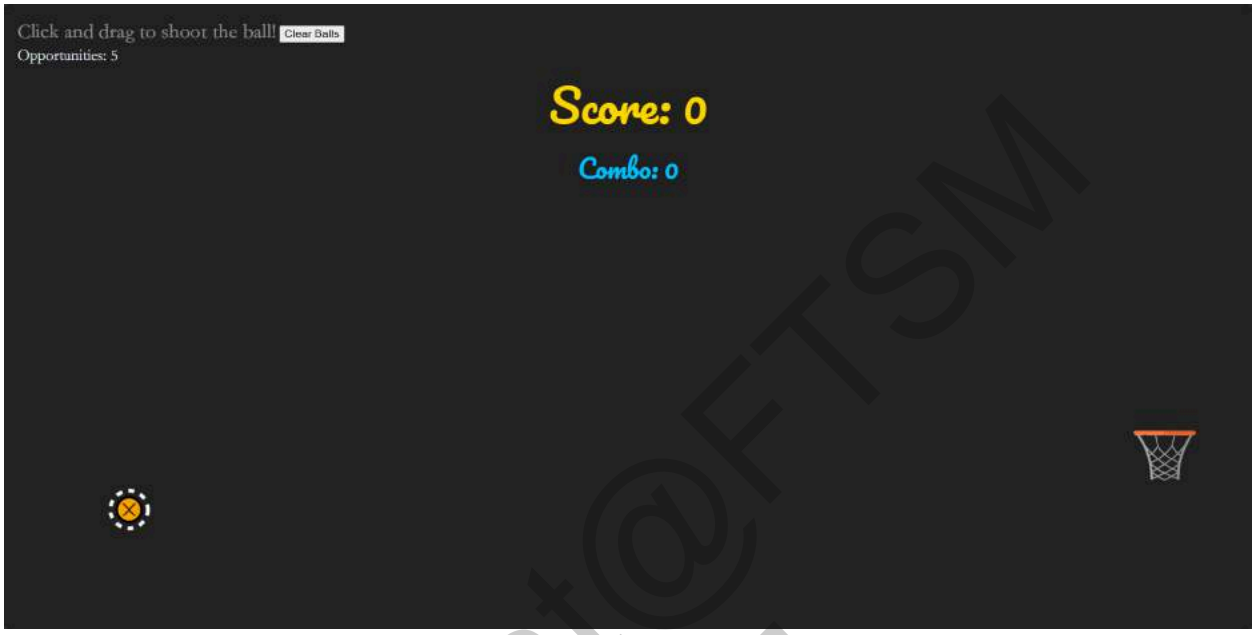

Figure 9 game page

Usability Testing

Usability testing is a key step in ensuring BasketballFace meets user needs and expectations before its public release. The main goals of this testing phase are to evaluate the usability of the system, collect quantitative data, and measure overall user satisfaction.

For usability testing, we created and randomly distributed a Google Forms (https://forms.gle/wKZEhcnSbsaHp5m49) survey to collect feedback from a diverse group of respondents. A total of eight respondents participated, providing detailed insights into their interactions with BasketballFace.

The scoring criteria of the questionnaire:

5 - Very much agree

4 - Agree

3 - General

2 - Disagree

1 - Strongly disagree

The high average scores across various usability metrics indicate that BasketballFace is performing exceptionally well in terms of functionality and user satisfaction. Specifically, users found the registration process easy to use (4.88/5), allowing new users to quickly join the platform. The login process received a perfect score (5.00/5), reflecting a reliable and user-friendly authentication system. Publishing posts (4.88/5) and commenting (4.88/5) were both rated highly, highlighting the platform's ease of content creation and interaction. Additionally, editing home page information (5.00/5) and browsing other users' profiles (5.00/5) were found to be straightforward and intuitive. The private chat functionality (4.88/5) and the fun and usability of the basketball games (4.75/5) were well-received, with the search functionality (5.00/5) being particularly effective.

Table 1 usability test result

No	Item	Average Score
1	Do you find the registration process easy to use?	4.88 / 5.00
2	Do you think the login went well?	5.00 / 5.00
3	Did you find the process of publishing a post (text, image or video) smooth?	4.88 / 5.00
4	Do you find the process of commenting below the post smooth?	4.88 / 5.00
5	Do you find the process of editing information on your home page easy to use?	5.00 / 5.00
6	Do you find the process of browsing other users' home pages smooth?	5.00 / 5.00
7	Do you find the process of communicating privately with other users through the chat button smooth?	4.88 / 5.00
8	Do you find the process of playing basketball games fun and easy to use?	4.75 / 5.00
9	Do you find the process of using the search box to find relevant posts or users easy to use?	5.00 / 5.00
	Average	4.92 / 5.00

The overall average score of 4.92 out of 5 demonstrates a high level of user satisfaction with BasketballFace. These results validate the platform's design and functionality, showing that it effectively meets user needs and expectations. Based on the feedback, the platform's key features are performing well, though there is room for minor improvements in the mini-games. This positive feedback ensures that BasketballFace provides a high-quality, user-friendly experience for its audience.

Recommendations for Improvement

After discussions with some users, some future improvements were suggested to enhance the BasketballFace platform. First, expanded features such as integrating live streaming of basketball

games, providing advanced analytics for player performance, and integrating with professional basketball organizations can significantly enrich the user experience. In addition, optimizing the system architecture is critical to enhancing scalability, ensuring that the platform can handle a larger user base and increased traffic while maintaining consistent performance. Improved security measures are also critical, including constant updates to prevent emerging threats and ensure user data remains secure. Finally, developing a mobile app version of the platform will provide users with greater flexibility and accessibility to cater to the growing trend of mobile Internet usage.

CONCLUSION

Overall, the BasketballFace project has been successfully developed and has passed the beta phase. Throughout the project, various components were developed, including user registration and login, post and comment functionalities, user profiles, a search function, a chat system, and a basketball mini-game. Although many problems were encountered in the development, they were finally solved through other methods, which also reflected that the learning at this stage achieved ideal results, and this project also laid the foundation for future study and career, providing important insights and skills that will benefit future endeavors in both academic and professional settings.

System Strengths

The developed system features a user-centric design with an intuitive and user-friendly interface, making it easy for users to navigate and interact with various features. It includes comprehensive functionalities such as posting, commenting, chatting, and a mini-game, providing a rich and engaging user experience. The system is compatible with multiple browsers, ensuring a consistent experience for all users. Extensive usability testing confirmed that users could complete tasks smoothly without confusion or errors, indicating a well-designed and efficient user experience.

System Weaknesses

While BasketballFace has been successfully developed, several shortcomings still need to be addressed with additional resources and time. One significant issue is scalability; although the current system performs well, further optimization and enhanced infrastructure are required to accommodate a larger user base. Additionally, the system is limited to running on computers, restricting accessibility for users who prefer mobile devices. Developing a mobile version would significantly broaden its user base and enhance usability. These works will be updated gradually in the future so I will continue to maintain this website to meet the needs of more users.

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