Emmanuel Yusuf - EY51 User Interface - CW2
Portfolio/Prototype - BasketballAddictsLDN

(1) Prototype Description Document

Introduction -

London's enthusiasm for basketball is unmistakable, yet the city's players face significant obstacles that prevent them from engaging fully in this amazing sport. The primary challenges include unpredictable weather and a lack of transparent, accessible information about local basketball venues. This discrepancy between the high interest in playing basketball and the limited opportunities available underscores a notable gap in London's recreational sports scene. Responding to this need, BasketballAddictsLDN was created as a specialised platform to support and cultivate the basketball community within the city. Our website is crafted to be the go-to resource for anyone looking to play basketball, offering extensive details on the top courts across each borough and organising regular basketball meetups. By simplifying how people discover places to play and facilitating easier connections among players, BasketballAddictsLDN empowers residents and visitors to enjoy basketball more frequently, regardless of the typical urban hurdles they might face.

Prototype functionality -

The common function that I have implemented is the user profile page where on BasketballAddictsLdn this feature acts as a final step. The user profile is a common feature that all systems have but it is still critical as it is a part of my 3 step user interaction: where you sign up (register), sign in (login) and then gain profile access. The profile has private information and gives you access to other parts of the system.

This is extremely necessary as we have features like the pickup game system(which as my unique feature will be explained in further detail.) Essentially, the feature allows viewers to know about sensitive information (for example where people will be at a specific date, address and time) this can be a major safety concern for viewers. Therefore, the user's profile allows us to maintain a secure environment as we can verify users who are organising and joining basketball games. Making this function not just a formality but a vital safety protocol for keeping trust within the community.

The unique feature

Originally, the unique feature of our platform was intended to be a weather recommendation system that would advise users on suitable playing conditions based on a 7-day weather forecast. However, due to limitations with the free API's usage caps, which restrict the feasibility of assessing continuous and reliable weather data without a paid subscription, this feature was reevaluated.
In its place, I chose the pick up game to be its appropriate replacement.This feature allows users to create and manage basketball matches by specifying key details such as date, time, location, and any applicable fees (notably in cases where courts require a booking fee). This immediately removes one of the biggest issues users face - who am I going to play with? As it facilitates the organisation of games by ensuring there are enough participants which is essential for team sport like basketball that needs at 6 plays to maximise enjoyment.

The pickup game system not only fills a functional need by helping users organise sports events but also fosters a sense of community and active participation. It allows players from various backgrounds, whether locals or tourists, to connect over their shared interest in basketball, enhancing the social value of the platform and therefore enhancing user experience.

Background technologies -
For the BasketballAddictsLdn platform I have used a few external css frameworks and javascript libraries.

Css framework for the overall styling and layout. (An example of where I used this is **style.css**) This was used in the development of my prototype because it helps in making the design of it aesthetically appealing while also ensuring readability and ease of navigation ;therefore, increasing user satisfaction. Furthermore media queries were used to ensure the site is fully functional and responsive.

I also used JavaScript and API integration. (Shown in Script.js)
Dynamic Content Loading -DOM Manipulation used in the prototype dynamically loads basketball court information upon the user's request. This feature is crucial for providing real-time data to users and is implemented using standard JavaScript methods like document.getElement.
Futhermore, I used Weather API Integration (shown in Weather.js) more specifically OpenWeatherMap API was initially planned to provide a 7-day weather forecast to inform users about suitable conditions for playing basketball. Although the prototype had to pivot away from using this as a main feature due to API limitations, the foundational work incorporated using JavaScript fetch demonstrates the capability to handle external APIs.

To conclude, the background technologies used greatly enhance user experience by providing an aesthetically appealing, stable, secure and responsive platform. Moreover, the prototype follows a professional manner by including a structured design in CSS plus separation between html, css and javascript which makes this scalable in future enhancements.

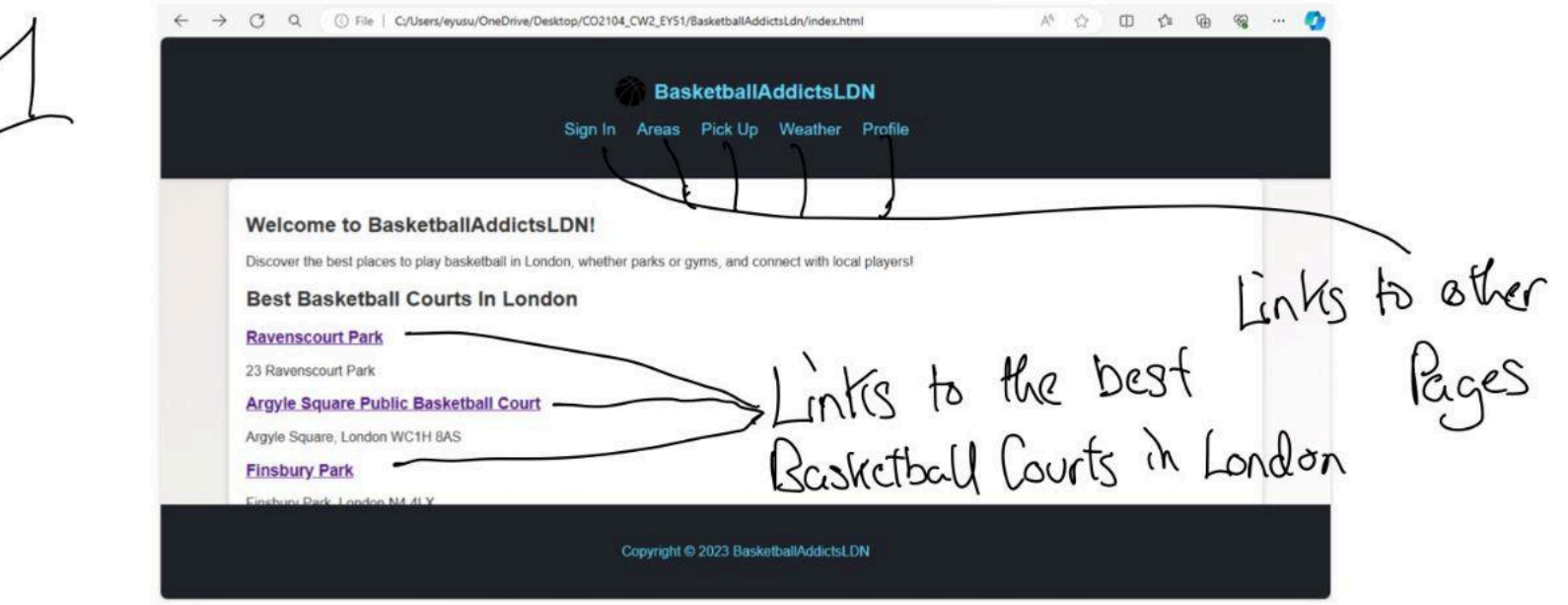
Walkthroughs in the form of annotated screenshots -

- **Main Page (Index)**

This is the homepage where not much needs to be explained. At the top you have 5 headings where one clicked will send you to its corresponding page.

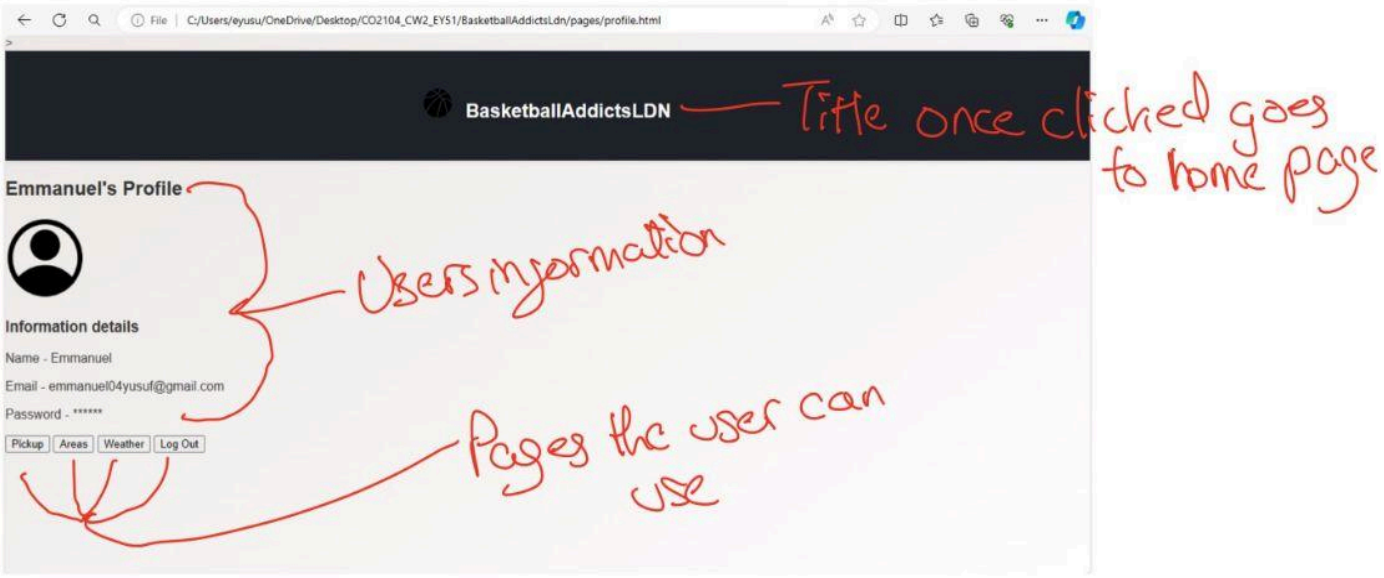
Sign In, Areas, Pick Up, Weather, Profile* (*For profile unless user has already signed will just send you back to the home page).

And below are that are the 3 most popular basketball courts in london and if you click any of the 3 link it will send you to an additional external website that will give you more details about those parks like opening hours.



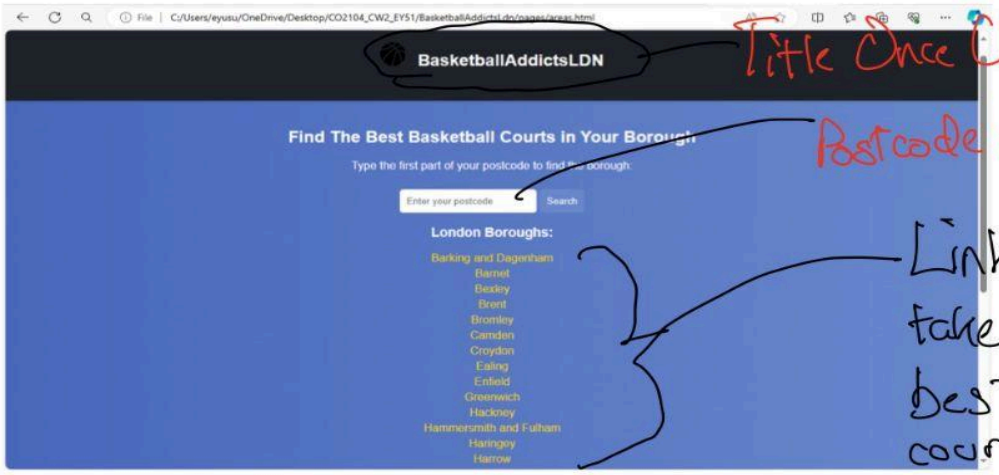
- **Profile Page**
  This is the profile page where not much needs to be explained. This page shows the profile of the user that signed with the user's information detail (Name, Email and Password that is changed to asterisks). Also at the bottom are 4 buttons that link to other pages Pickup, Areas, Weather, Log Out
  *All pages except the index page the title once clicked will send you back to the index page.

1



- **Areas Page Annotated Screenshots**

1



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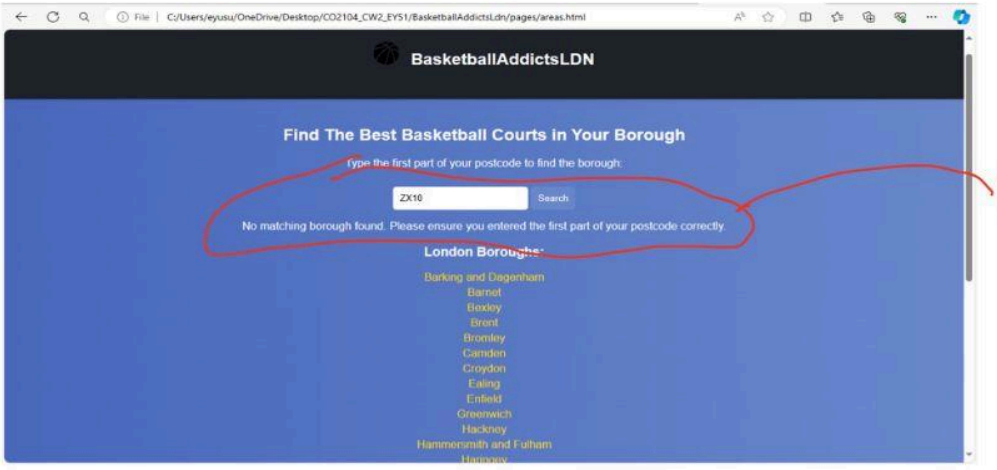

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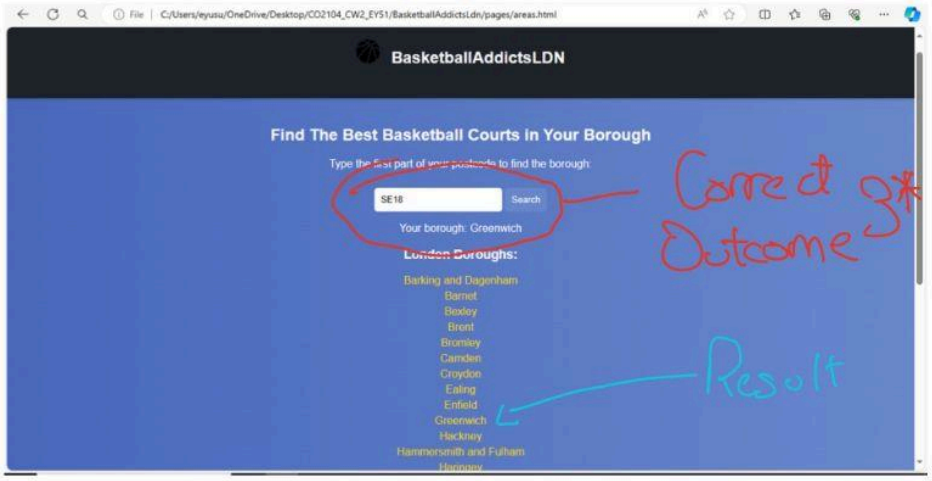

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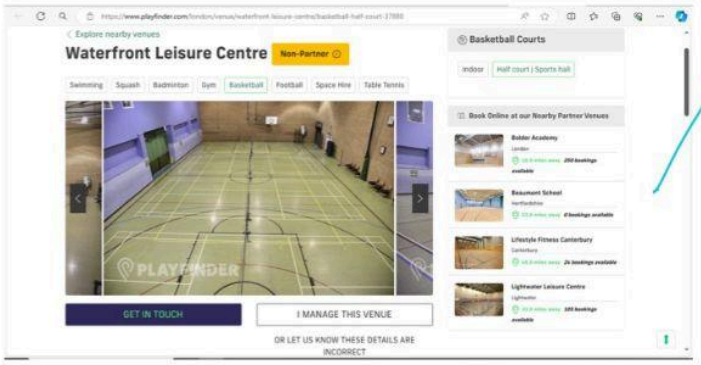
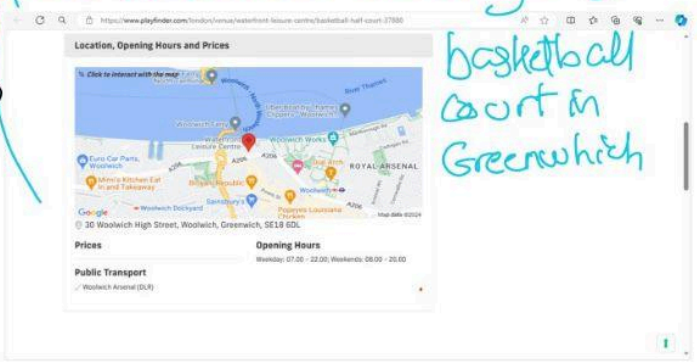


The link opens the address and images of basketball court in Greenwich

6



- **Areas Page explanation on walkthrough**

1 - That is the overview of the Areas Page the Icon and Title BasketballAddictsLDN is the heading and if clicked will send user to the home (index) page
There is also postcode search bar

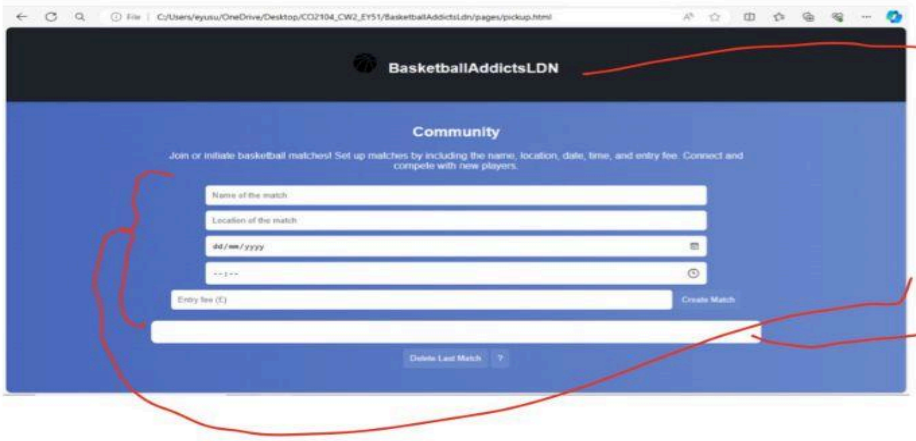
2 - First validation I typed in ZX10 which is not a real postcode and when searched the result is ‘ No matching borough found. Please ensure the first part of you postcode correctly’

3 - Second validation I left the search bar blank and clicked the search button and the result was ‘ No matching borough found. Please ensure the first part of you postcode correctly’

4 - ‘Correct utilisation’ I searched up where I live SE18 and the output came out as ‘Your borough: Greenwich’ So hypothetically as the user now I would find scroll down and find Greenwich in the list of boroughs below and click it.

5 and 6 - So when the borough links are clicked in this instance greenwich it then transports to the website or the official website of the best basketball court in greenwich in this case Waterfront Leisure Centre where you can see images of the place, the address, opening times and the map overview of the place. Some links have even more details and some links have less but relatively consistent.

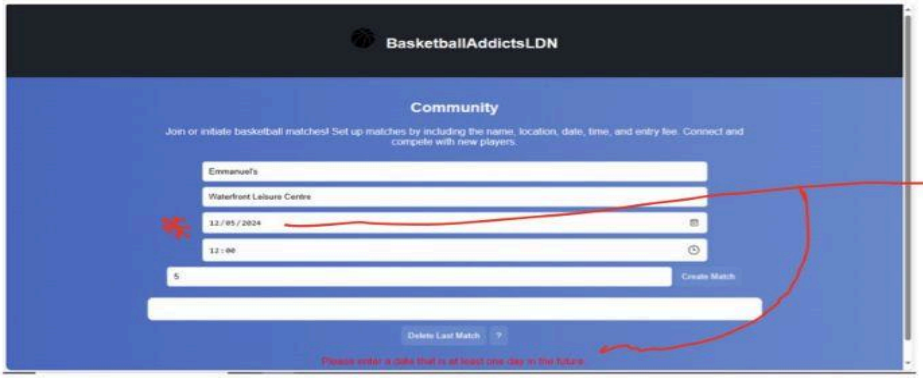
- **Pick up Page Screenshots**



Title - Once Clicked → Home page

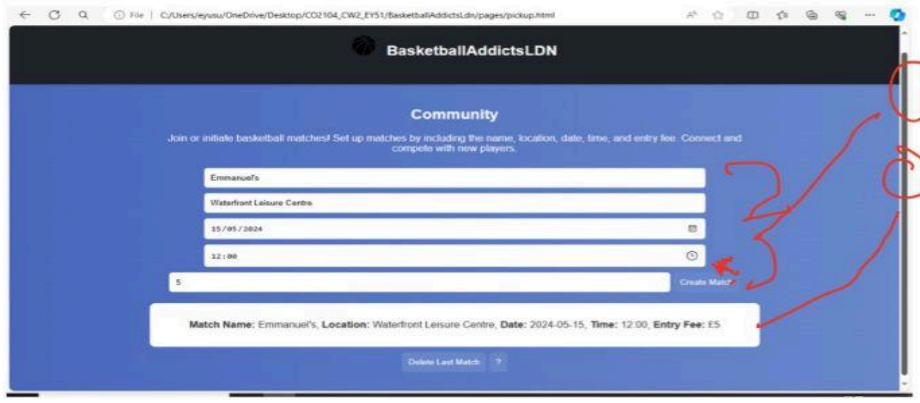
All the inputs

This is where the output shows



Validation

The created match date has to be 1 day ahead of current time

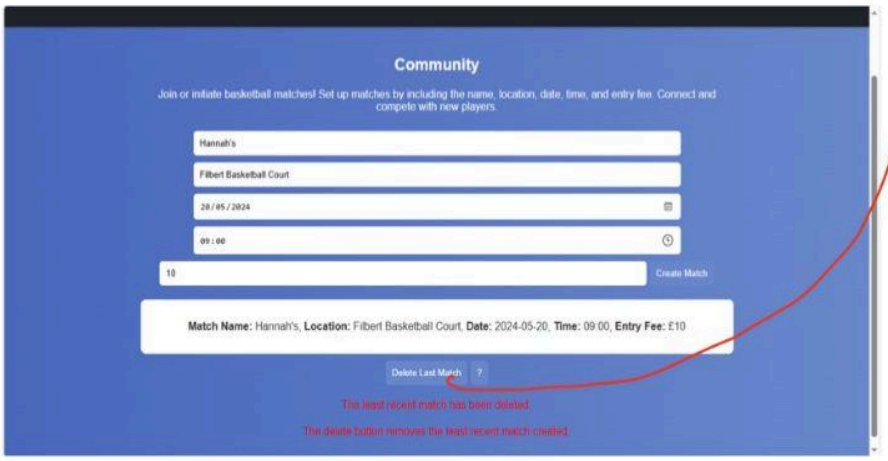


Correct Result Outputted

Made another match request for testing purposes

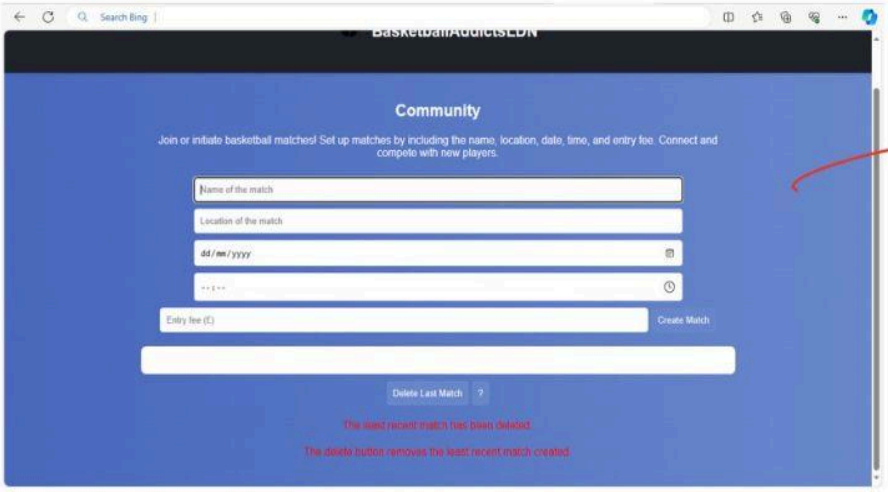
The ? explains what the delete button does

5



Once clicked it deletes the least recent match

6



Clicked again and now all created matches are gone.

- **Pick Up Page explanation on walkthrough**

1 - That is the overview of the Pick Up Game Page, the Icon and Title BasketballAddictsLDN is the heading and if clicked will send user to the home (index) page
The main part of the page is the input text boxes. There are 5 intotal Name, Location, Date, Time and Entry fee then there is a create match at the bottom right. Finally there is bottom text box that outputs the results and a delete button that

2 - Another validation check this one if the created match Date is not 1 day ahead of current time (in this situation I inputted 12/05/2024) it will not make the match and it will output 'Please enter a date that is at least one day in the future'

3 - First correct version where I inputted Emmanuel's, Waterfront Leisure Centre, 15/05/2024, 12:00, £5 and added it to the output result section.

4 - I made a second correct version for testing purposes.
Second version result- Hannah's, Filbert Basketball Court, 20/05/2024, 00:00, £10
And also I clicked what the ? button next to the delete button which outputs a short and concise explanation on how the delete button operates. Output -'The delete button removes the least recent match created.

5 - I clicked the delete button once and like I previously said it removes the least recent match created so in this case it removes this created match: Emmanuel's, Waterfront Leisure Centre, 15/05/2024, 12:00, £5 and also outputs this message Output - 'The least recent match has been deleted.

6 - I click it once again and i removes the remaining created match in this scenario Hannah's, Filbert Basketball Court, 20/05/2024, 00:00, £10

Heuristic evaluation and Usability testing results -

For this segment I created a questionnaire of 10 questions each one representing one of Nielsen's 10 Heuristics Evaluation where 5 peers tested and worked through my prototype and scored while also leaving comments and advice.

These were the questions and answers with the corresponding heuristic it represents:

End-users

1. Jo - A university student and basketball player.
2. Dave - A university student originally from Canada.
3. Mikel - A university student and plays basketball as a hobby.
4. Lisa - A university student.
5. Emma - A university student originally from Canada .

Questionnaire Results

Question 1- Visibility of System Status - When making changes to the system, How well did the website keep you informed about those changes?

- Jo: Rating: 1 - "System updates were overall very prompt especially when I deleted a match in the pick up page, but some actions lacked immediate, literal feedback."
- Lisa: Rating: 2- "The status updates were clear and timely."

Question 2 - Match Between System and the Real World - Did the language and symbols used on the website feel familiar and were there any terms or phrases used intuitively and aligned with your real-world expectations?"

- Dave: Rating: 2 - "Most terms were clear, but some US dialect like 'pickup games' might confuse new users not familiar with basketball."
- Emma: Rating: 3 - "Most terms were clear and made it easy to navigate but got confused on the Areas page because I did not know what a postcode is."

Question 3 - User Control and Freedom - "Did you find it easy to navigate through the website and was there any extended process that could have been shortened?"

- Mikel: Rating: 1 - "Navigating was straightforward and there was 1 extended process when creating a match since there are so many inputs it would be good to have a clear all button to quicken the process if I want to change everything I just filled in. "
- Lisa: Rating: 3 - "It was easy for me but young people or users that are extremely inexperienced may not know that the title is clickable and therefore would be confused on how to navigate since it is not explicit."

Question 4 - Consistency and Standards - "Did you find any inconsistencies in the website's design or terminology? How consistently were design elements and language used across different pages?"

- Jo: Rating: 1 - "A consistent use of elements across pages; however, the index page title is blue whereas in every other page it is white. "
- Emma: Rating: 0 - "Uniform design and terminology throughout the platform."

Question 5 - Error Prevention - "How effectively does the website prevent errors?"

- Dave: Rating: 4 - "Form validations prevented errors very well but there was a major error with the weather since it won't display due to the api limited access."
- Mikel: Rating: 2 - "Good error handling, especially during account setup.(Sign up and Sign in"

Question 6 - Recognition Rather Than Recall - "Were you able to recognise and reuse previously seen elements easily without having to recall information from different parts of the website?

- Lisa: Rating: 2 - "Recognisable icons and for every page except the home page the main title takes you back to the home page , but some sections require remembering information from previous pages for example remembering your login details."
- Jo: Rating: 1 - "User-friendly interface that made it easy to recognize functionalities."

Question 7 - Flexibility and Efficiency of Use - "How would you rate the website in terms of catering to both inexperienced and experienced users? Were there shortcuts or customisable features that enhanced your interaction?"

- Emma: Rating: 2 -"For an experienced person like me the shortcuts are great since every page except the home page the main title takes you back to the home page and the home page and profile page have links to all the other necessary pages. However, for an inexperienced user if they fail to realise that the title is clickable, then, they may get stuck.."
- Dave: Rating: 2 - "Customisable settings like creating a match are good, but could offer more advanced user options."

Question 8 - Aesthetic and Minimalist Design - "Was the information presented on the website cluttered or well organised? Did you find any information on the pages that seemed unnecessary or distracting?"

- Mikel: Rating: 0 - "Clean design without unnecessary information."
- Lisa: Rating: 1 - "Mostly minimalist, but some pages felt cluttered with text. For example the areas page has a long list of all the boroughs in london"

Question 9 - Help Users Recognize, Diagnose, and Recover from Errors - "When errors occurred, how easy was it to understand what was wrong and how to fix it? Were the error messages helpful and clear?"

- Jo: Rating: 1 - "Errors were clearly explained with suggestions for fixing them."
- Emma: Rating: 1 and a 4 - "When errors occur for 90% they are clearly explained with a resolution with the exception of the weather page where an automatic error comes with no resolution as this situation is very unique."

Question 10 - Help and Documentation - "If you needed help, was it easy to find instructions or support? How useful and accessible was the help provided?"

- Dave: Rating: 3 - "If an error occurs it normally gives a reply of satisfactory resolution but a help section/page would be useful.."
- Mikel: Rating: 1 - “I never needed help so I guess that answers the question because I didn’t need help so therefore I didn’t look for help.

Usability Testing

To effectively assess the success of the final design of the BasketballAddictsLDN platform, a simple series of usability tests was designed and conducted. These tests aimed to evaluate critical functionalities and the overall user experience. Here's a breakdown of the usability testing process, the collection of results, and a discussion on how these findings have impacted the final design.

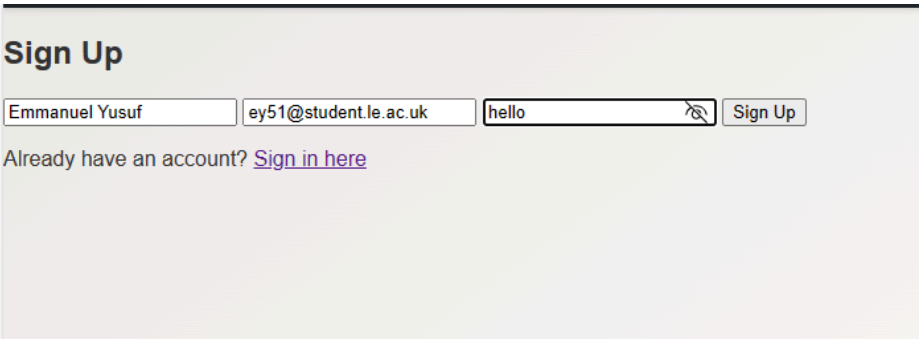
The usability tests focused on the following key tasks:

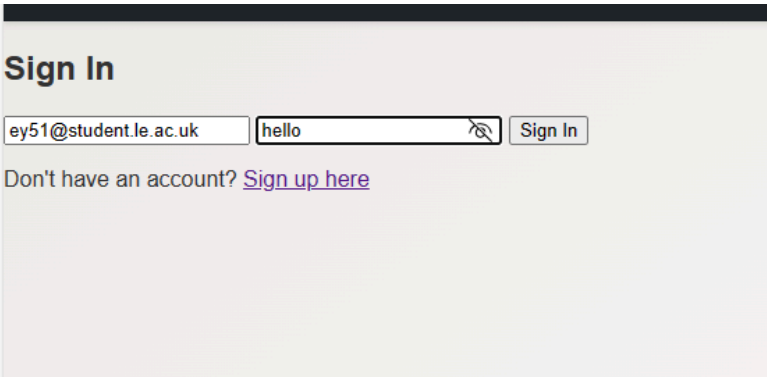
1. **Signup, Sign In Profile:** Test the registration process to evaluate its correctness. Assess the login mechanism and ease of accessing the user profile.
2. **Creating a Pickup Game:** Tesst the process of setting up a new basketball game, focusing on form usability and feature accessibility.
3. **Finding a Court Using the Postcode Finder:** Determine the effectiveness of the court finder tool in terms of ease of use and accuracy of results**.**
4. **Navigating to Different Sections:** Measure how easily users can navigate between different sections of the website without guidance.
5. **Weather System:** Test whether the London weather forecast would be retrieved and a corresponding recommendation output to the weather on if it is suitable to play basketball outside.

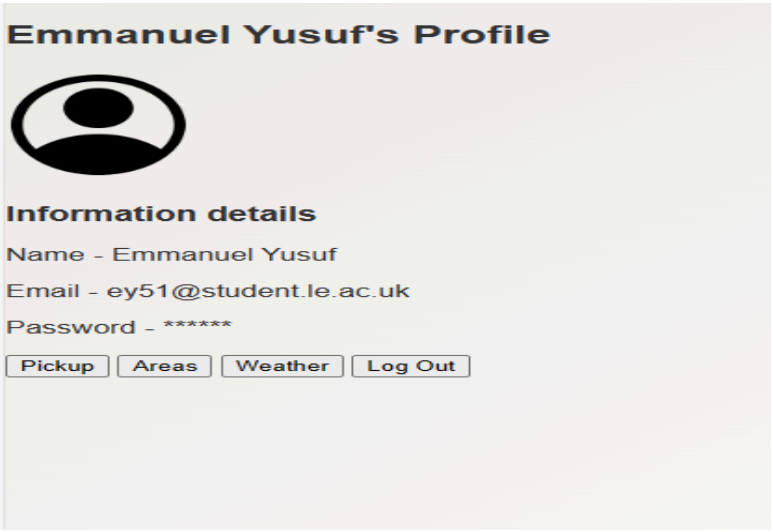
Overall Test Results

Task 1: Signup, Signin and Profile	**Task 2: Create Match**	**Task 3: Find Court**	**Task 4: Navigation**	**Task 5: Weather**
Success	Success	Success	Success	Fail

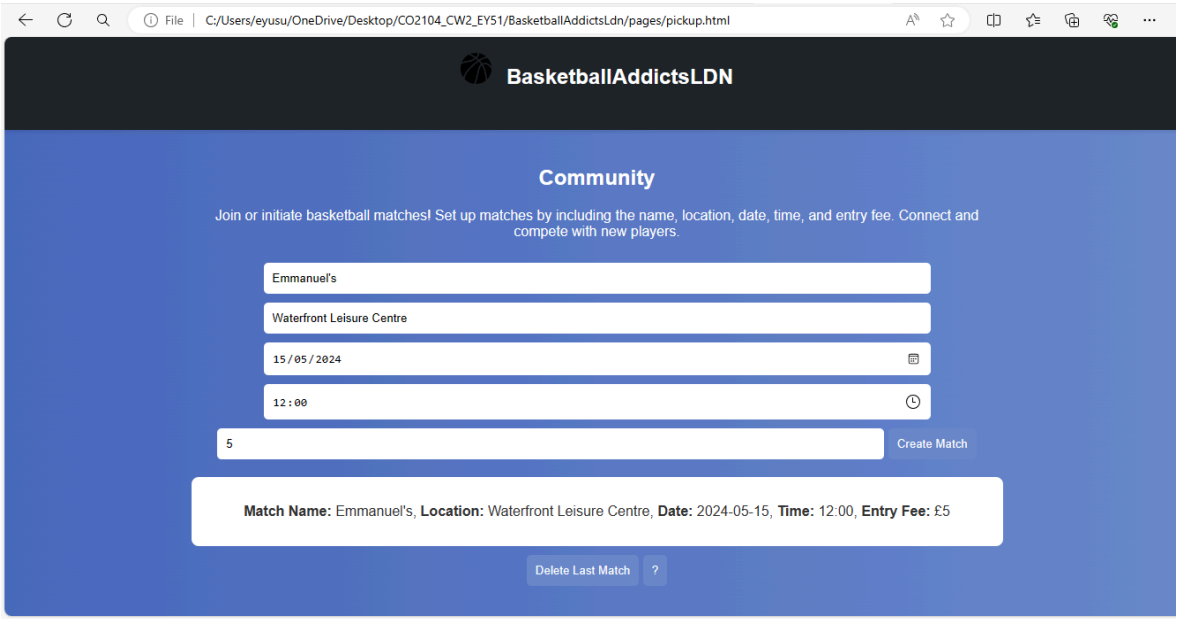
Evidence - Shown from screenshots proving it works as intended to.
Task1 - Success



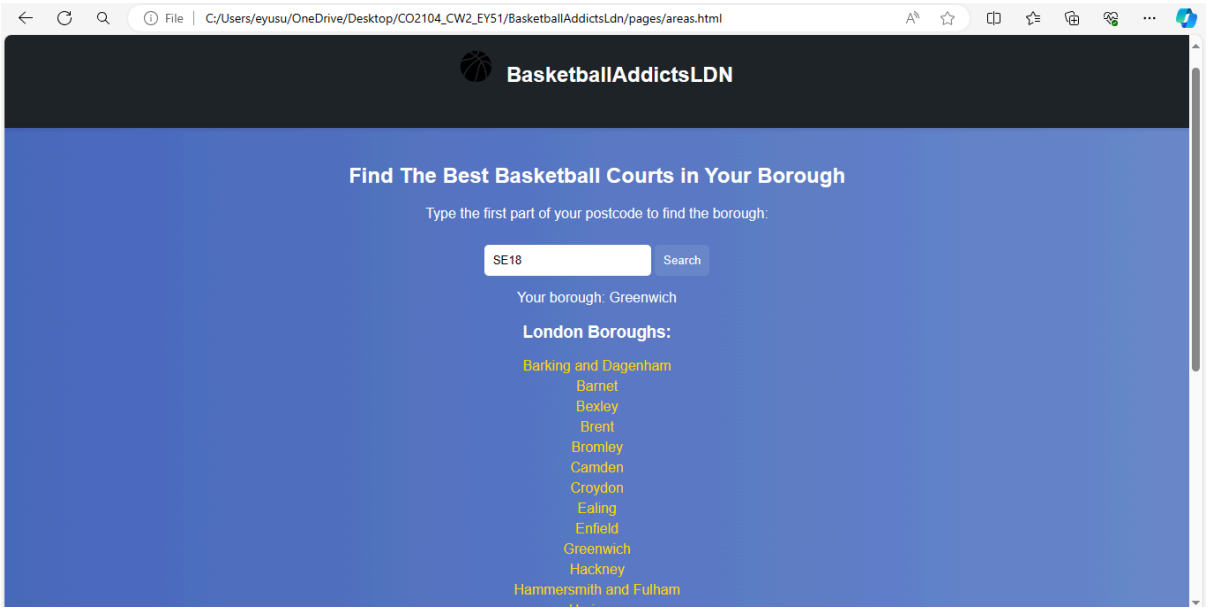


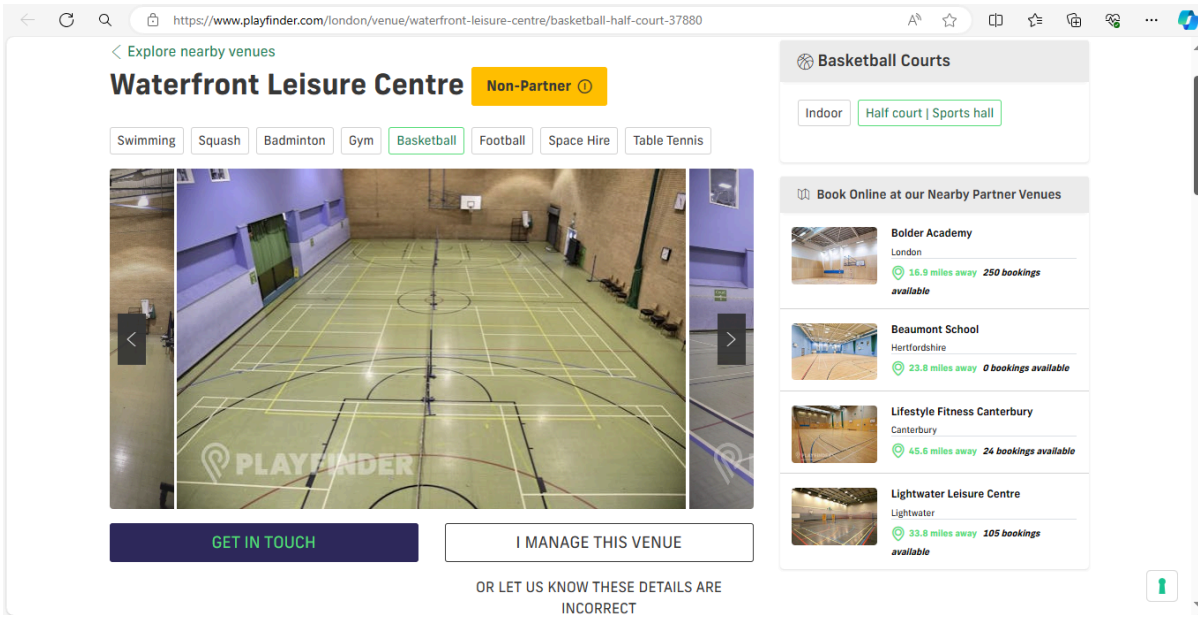


Task 2 - Success



Task 3

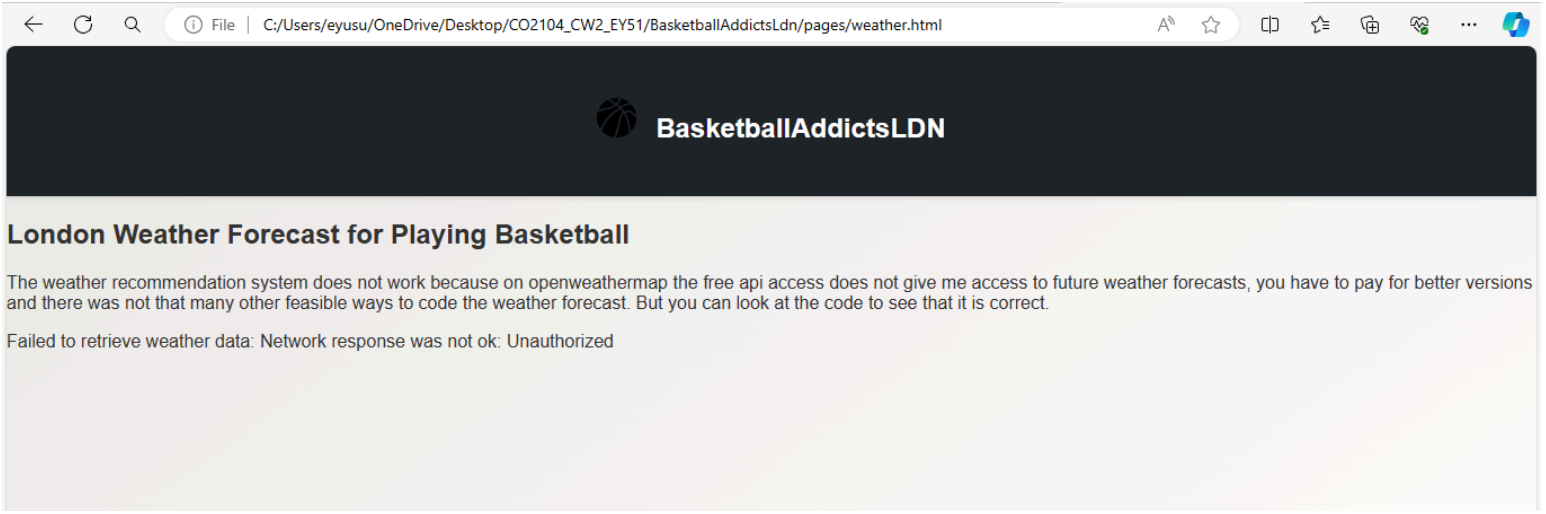




Task 4 -Success

Cannot prove through just screenshots but navigation without any guidance.

Task 5 - Failed



Feedback and Discussion -
Key Findings:

Positives

- Sign up, Sign in and Profile: These processes were successful, indicating good design and clear instructions.
- Creating a Pickup Game: Unique feature was successful, really good and simple design.
- Navigation was found to be easy to move between sections, which indicates good navigational design.

Negatives:

- Enhance Court Finder Interface: The courtfinder works very as a two step process the problem is it a little bit limited to only the best court of each borough and users want variety and .choice
- Fix Weather: Weather page failed to retrieve weather data due to the api restrictions. So some solutions could be, finding a different method or api service that offers free weather api that is not restricted or paying for the membership to release current api restrictions.

These findings could have been crucial in improving the final adjustments to the designs as improving the negatives would ensure the platform is more user-friendly and better tailored to meet the needs of its users. Therefore, not only improves the user experience but also enhances the overall functionality of the site, making it more appealing and easier to use for all new users.

Conclusion -
In conclusion, the development of the BasketballAddictsLDN platform has successfully translated the original vision into a functional and user-friendly prototype tailored for basketball enthusiasts seeking to find courts and organise games.The prototype showcases essential features like user profiles, game creation, and court finding, each rigorously tested to meet the needs and expectations of potential users. Moving forward, to progress this prototype into a final product, further development would focus firstly on fixing the weather system, enhancing the postcode/court finder and then finally concentrating on refining features based on user feedback. Additionally, integrating more comprehensive user support and advanced customisation options would be necessary to fully realise the platform's potential and firmly establish it as a comprehensive resource for the basketball community.