



SC2006 : Software Engineering

Lab#1 Deliverables

Lab Group - Z51 Team: 4 – Binary Brains

Project name: *Sport Spot - where player meets place*

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1.0 Project Introduction

1.1 Mission Statement:

Sport Spot aims to be the most reliable source for recommending public sports facilities in Singapore for people of all age groups. Our website serves as a wellness resource for Singaporeans, offering a variety of opportunities for residents, communities, and societies to take part in and spread the joy of active living.

1.2 Scope:

Our web application will allow users to find the nearest sports facility they are willing to go to.

1.3 Target Audience:

We want our web application to reach and be utilized by people of all age groups.

2.0 Documentation of Functional and Non-functional requirements

2.1 Functional Requirements

1. Account

- 1.1. Users must be able to create a new account.
 - 1.1.1. System must check if all the requirements are filled and create a new account for the user.
 - 1.1.1.1. System must prompt the user to change if the preferred username is already in use.
 - 1.1.1.2. System must prompt the user to change the passwords if the password doesn't meet the requirements that is at least 1 special character, letters in mixed cases, at least 8 characters should be present.
 - 1.1.1.3. System must prompt the user to update the email address if there is an existing account under the same mail.
 - 1.1.2. System must send a confirmation email to the user to validate the new account created.
- 1.2. Users must be able to login to the account using their user id and password.
 - 1.2.1. Once the user submits the login details, the system must verify it.
 - 1.2.2. System must show the main home page.
 - 1.2.3. Users must be able to access their profile by clicking on the account.
 - 1.2.4. Users must be able to make changes in the profile when they want
- 1.3. Users can reset their password if they had forgotten it.
 - 1.3.1. System must prompt the user to change the passwords if the password doesn't meet the requirements that is at least 1 special character, letters in mixed cases, at least 8 characters should be present.
- 1.4. Users must grant permission to the system to allow their activity to be displayed.
 - 1.4.1. System must ask for permission from the user for displaying their sports activity.
- 1.5. Users may use the application as a guest.
 - 1.5.1. The system must allow the user to use the application as a guest.

1.5.2. The system must prompt users that for 'buddy recommendation' they must create their account first.

2. Location

2.1. Users must choose between granting permission for the system to track location or inputting the location manually.

2.1.1. If the user grants the access, the system must locate the user.

2.1.2. If the user denies the access, the system must ask the user to choose between input their location manually or select their location from location categories provided.

2.1.2.1. If the user selects to input their location manually, the system must ask the user to input their pin code.

2.1.2.2. If a user selects to choose their location from categories, the system must ask the user to choose between the location categories provided.

3. Application

3.1. Users can choose a sport from the given menu.

3.1.1. The system must display the entire list of available sports facilities according to the sport the user has chosen.

3.1.2. The user can decide whether they want to narrow down the list in 3.1.1 by filtering using the weather or location.

3.1.2.1 If the user wants to filter by weather, the user will be prompted to input the time they want to go to the facility.

3.1.2.2. The system must recommend the chosen sports facilities that would be usable in the weather condition.

3.1.2.3 The user may also choose to filter by location.

3.1.2.4. The system must recommend the sports facilities available in a 10km range.

4. Buddy List

4.1. The user can see the list of individuals going for the same sports as them.

4.1.1. The system must display all users who are within a distance from the user.

4.1.2. The system must ensure only users who have granted permission for their details to be displayed are displayed.

4.1.3. The system must allow users to filter the players to contain only those who play a particular sport.

2.2 Non-functional requirements

1. Usability

1.1 Within the first 2 minutes of using the system, 99% of new users must be able to efficiently navigate and use the features.

2. Reliability

2.1. The system must perform without failure 99% of the time.

3. Performance

3.1 The location should be accurate to within 50 meters.

3.2 The search result should be available in 5 seconds.

4. Supportability

4.1 The system must be capable of supporting 1000 users at the same time.

5. Security

5.1. Passwords should be at least 8 characters long and contain at least one uppercase and one numerical.

5.2. The system must be capable of hashing user passwords and storing them without explicitly revealing them to database administrators.

6. Localization

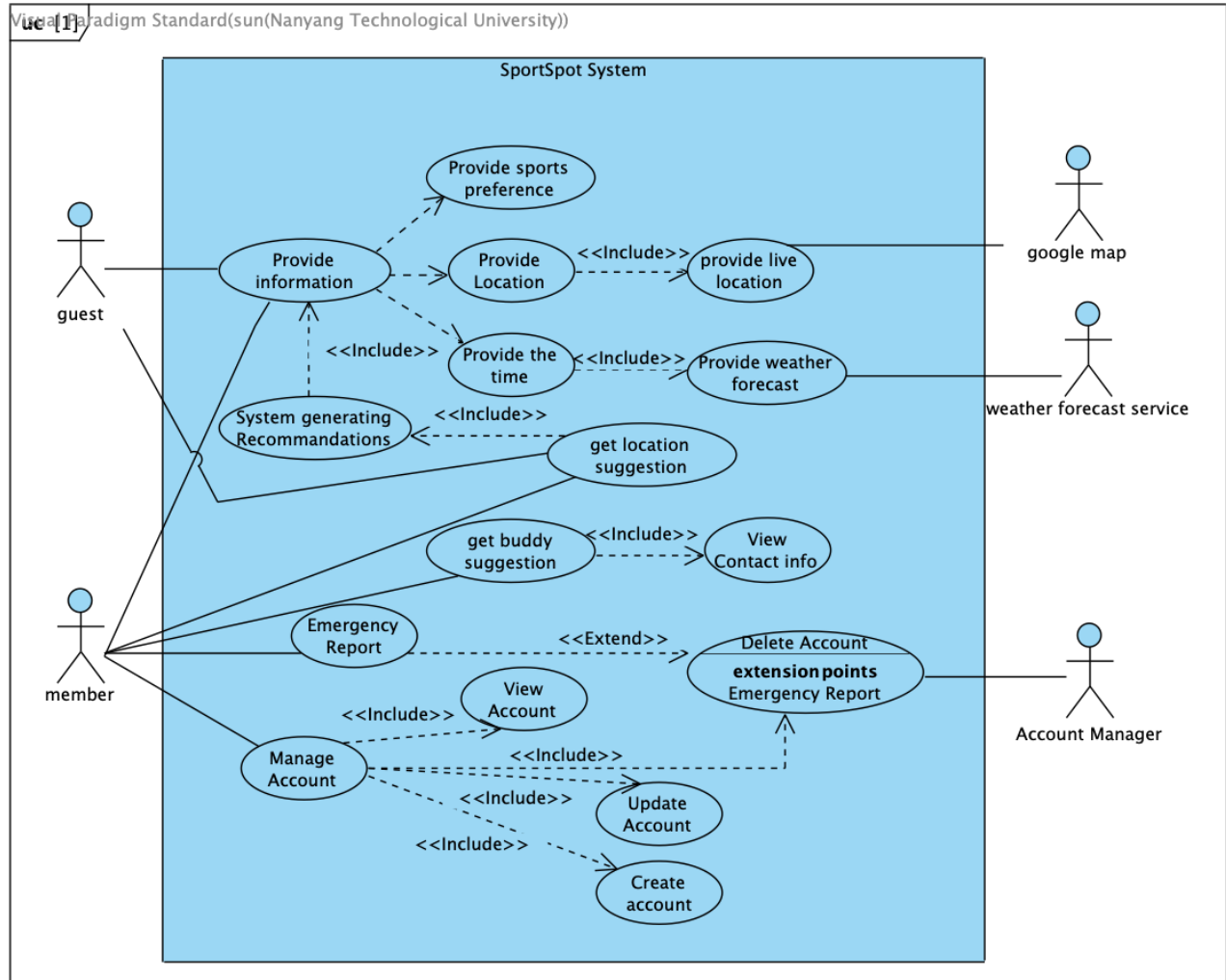
6.1. Data must be given in Singapore's unit of measurement. (distance in meters, temperature in degrees Celsius, and so forth.)

3.0 Data Dictionary

<i>TERM</i>	<i>DEFINITION</i>
User	A person who has a registered account and is using the services provided by the application.
Guest	A guest is an anonymous user account that provides access to a website on a limited or temporary basis.
Account	The profile of the user in our system which contains details (Name, Username, Email, Phone Number, Rating) associated with them.
Username	A unique name that is associated with the user.
Password	A string of characters (letters, numbers, special symbols) that allow the user to access their account
Location	The action of placing or situating someone or something.
Weather	The state of the atmosphere at a particular place and time as regards heat, cloudiness, dryness, sunshine, wind, rain, etc.
Sports Buddy	Someone who accompanies you for sports activity.
Sports activity	Participating in the Sport in any capacity which includes, but is not limited to, participation in training or competitions.
Buddy List	A list of users who are participating in the same sport in the same location.

4.0 Initial Use Case Model

4.1 Use Case Diagram



4.2 Use Case Description

Use Case ID:	UCI_1		
Use Case name:	Create Account		
Created By:	Binary Brains	Last Updated By:	
Date Created:	29.01.2023	Date Last Updated:	

Actor:	User
Description:	Create Account enables new users to register for an account in the database management system. Users must enter their Name, Username, Email, Phone Number, and Password in order to establish an account.
Preconditions:	<ol style="list-style-type: none">1. Username must not be taken by someone else.2. Passwords must consist of at least 1 special character, letters in mixed cases, at least 8 characters should be present3. Phone numbers must not be registered to an existing account.4. Email must not have been registered previously.
Postconditions:	<ol style="list-style-type: none">1. System sends a confirmation link to the user's email account.2. System displays the main home page.
Priority:	
Frequency of Use:	1
Flow of Events:	<ol style="list-style-type: none">1. User enters the required details which are : Name, Phone numbers, Username, Email and Password.2. System validates the information.3. System creates a new account for the user.4. System updates account information in database.5. System directs the user to the main home page.

Alternative Flows:	<ul style="list-style-type: none"> a. If the user account already exists: Phone number/ email taken. <ul style="list-style-type: none"> 1. System displays “User account already exists” 2. System prompts users to create an account or log in. 3. If you create an account, then continue from main flow step 1. 4. If log in, then system directs to log in page to continue from Login b. Username already taken <ul style="list-style-type: none"> 1. System displays “Username already taken” 2. System prompts users to input a different username. 3. Continue from main flow step 1. c. Passwords do not meet requirements. <ul style="list-style-type: none"> 1. System displays “Please input a password of at least 1 special character, mixed case and at least 8 characters long” message. 2. Continue from main flow step 1. d. User wants to sign in as a guest instead of creating an account.
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Use Case ID:	UCI_2		
Use Case name:	Update Account		
Created By:	Binary Brains	Last Updated By:	
Date Created:	29.01.2023	Date Last Updated:	

Actor:	User
Description:	Update Account allows users to change password and address in the system database.
Preconditions:	<ol style="list-style-type: none"> 1. Passwords must adhere to requirements: at least 1 special character, letters in mixed cases, at least 8 characters. 2. The address must be in the system database.
Postconditions:	<ol style="list-style-type: none"> 1. System sends a confirmation link to the user's email account if there are any changes. 2. System displays the main landing page.
Priority:	
Frequency of Use:	1 - 2 times per login
Flow of Events:	<ol style="list-style-type: none"> 1. User inputs new password or the address they want to change to 2. System validates the information. 3. System updates account information in database. 4. System directs the user to the main landing page.
Alternative Flows:	<ol style="list-style-type: none"> a. Passwords do not meet requirements. <ol style="list-style-type: none"> 1. System displays "Please input a password of at least 1 special character, mixed case and at least 8 characters long" message. 2. Continue from main flow step 1.

Use Case ID:	UCI_3		
Use Case name:	Delete Account		
Created By:	Binary Brains	Last Updated By:	
Date Created:	29.01.2023	Date Last Updated:	

Actor:	User, Account Manager
Description:	Delete Account allows users to delete their account from the system database.
Preconditions:	<ol style="list-style-type: none"> 1. A valid account must exist in the database. 2. User's account is already logged in.
Postconditions:	<ol style="list-style-type: none"> 1. System sends a confirmation link to the user's email account to complete the deletion. 2. System deletes users' accounts from the database.
Priority:	
Frequency of Use:	1
Flow of Events:	<ol style="list-style-type: none"> 1. User goes to account settings and chooses the delete account option. 2. System makes sure that the user is logged in. 3. System sends a confirmation link to the user's email account to complete the deletion. 4. System deletes users' accounts from the database.
Alternative Flows:	

Use Case ID:	UCI_4		
Use Case name:	Location suggestion		
Created By:	Binary Brains	Last Updated By:	
Date Created:	29.01.2023	Date Last Updated:	

Actor:	User, Guest
Description:	Location suggestion allows registered users and guests to give their location to the system for it to make recommendations.
Preconditions:	<ol style="list-style-type: none"> 1. The user must give permissions to the system to access their locations 2. Passwords must adhere to requirements: at least 1 special character, letters in mixed cases, at least 8 characters. 3. Phone number must not link to an existing account. 4. Email must not link to an existing account.
Postconditions:	<ol style="list-style-type: none"> 1. The recommended sports facilities are displayed
Priority:	
Frequency of Use:	1 - 5 times per login
Flow of Events:	<ol style="list-style-type: none"> 1. The user allows system to access its location 2. System generates the users location 3. System displays facilities that are up to 10 km away from the user's current location 4. System allows user to filter according to weather conditions or distance
Alternative Flows:	<p>a. Location permission not given</p> <ol style="list-style-type: none"> 1. System prompts user to input the location manually 2. User inputs their pincode 3. System displays facilities that are up to 10 km away from the user's current location 4. System allows user to filter according to weather conditions or distance

	<p>b. The location the user inputs is incorrect</p> <ol style="list-style-type: none">1. The pincode the user inputs is out of range2. User is prompted to re-enter the pin code3. System identifies the users location4. System displays facilities that are up to 10 km away from the user's current location5. System allows user to filter according to weather conditions or distance
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Use Case ID:	UCI_5		
Use Case name:	Buddy suggestion		
Created By:	Binary Brains	Last Updated By:	
Date Created:	29.01.2023	Date Last Updated:	

Actor:	User
Description:	Users can connect with others who utilize the same sports facility as them using the buddy recommendation feature.
Preconditions:	<ol style="list-style-type: none"> 1. The user must give permissions to the system to share their activity details. 2. This feature is only available to users who have created an account. 3. The user must accept the request of the user to connect with them and contact them.
Postconditions:	<ol style="list-style-type: none"> 1. System shows the contact information of the user once they have accepted the request.
Priority:	
Frequency of Use:	1 - 5 times per login
Flow of Events:	<ol style="list-style-type: none"> 1. User goes to a buddy recommendation and sends a request. 2. System prompts the request for other users. 3. After a request is accepted, users can contact each other.
Alternative Flows:	

Use Case ID:	UCI_6		
Use Case name:	Provide sports preference		
Created By:	Binary Brains	Last Updated By:	
Date Created:	29.01.2023	Date Last Updated:	

Actor:	User, Guest
Description:	Provide sports preference allows the system to generate location recommendations by sports preference
Preconditions:	
Postconditions:	1. System displays the recommended facilities location according to the user's chosen sports preferences.
Priority:	
Frequency of Use:	1 - 5 times per login
Flow of Events:	<ol style="list-style-type: none"> 1. The user must choose from the list of sports available 2. The user will then be prompted to choose whether they want to display the results based on distance or weather suitability. 3. The system will show sport facility recommendations to the user on the basis of chosen sport.
Alternative Flows:	

Use Case ID:	UCI_7		
Use Case name:	Provide location preference		
Created By:	Binary Brains	Last Updated By:	
Date Created:	29.01.2023	Date Last Updated:	

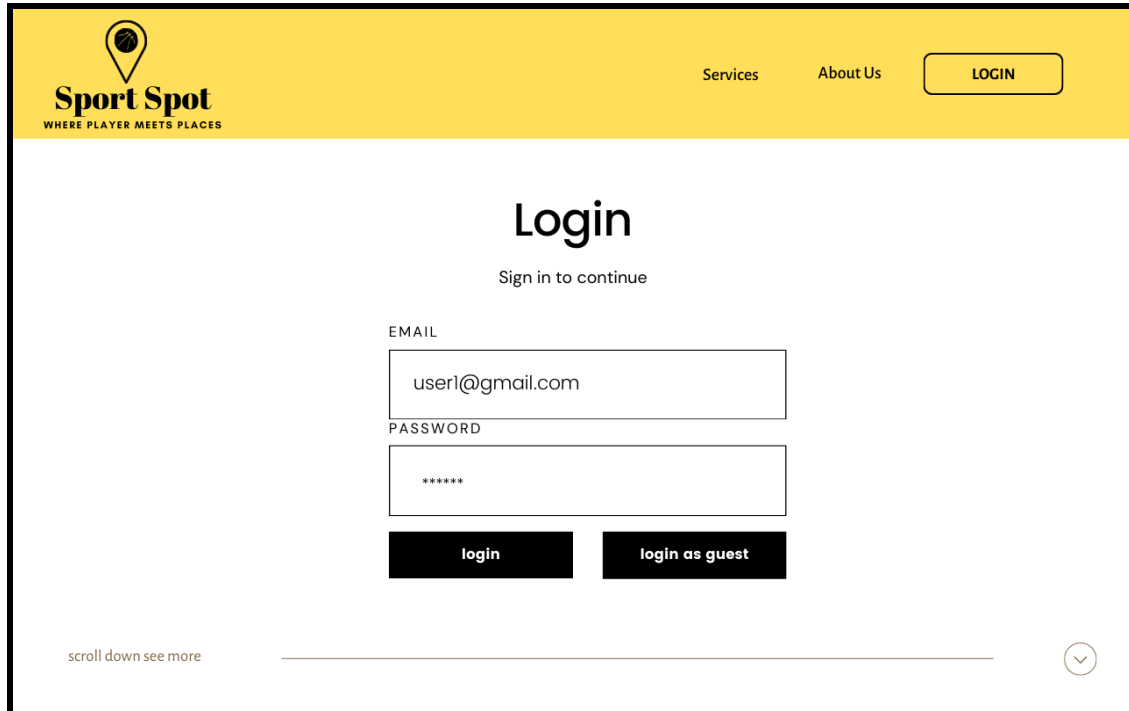
Actor:	User, Guest, Google Maps
Description:	Provide location preference allows the user to get recommended facilities that are within a 10km range.
Preconditions:	1. The user has chosen the filter by location option
Postconditions:	1. System displays the recommended facilities location according to the user's current location.
Priority:	
Frequency of Use:	1 - 5 times per login
Flow of Events:	<ol style="list-style-type: none"> 1. The user must choose the filter by locations option 2. The system will display sports facilities within a 10km range in ascending order.
Alternative Flows:	

Use Case ID:	UCI_8		
Use Case name:	Provide weather forecast		
Created By:	Binary Brains	Last Updated By:	
Date Created:	29.01.2023	Date Last Updated:	

Actor:	User, Guest, Weather Forecast Service
Description:	Provide time allows the user to get suitable facilities based on current weather conditions
Preconditions:	1. The user has inputted the time they want to use the facility
Postconditions:	1. System displays the recommended facilities according to weathers suitability
Priority:	
Frequency of Use:	1 - 5 times per login
Flow of Events:	1. The user has chosen the filter by weather option 2. The system will display sports facilities suitable to use in the current in ascending order of distance .
Alternative Flows:	

5.0 UI Mock-Ups

5.1. Login page



The login page features a yellow header with the Sport Spot logo (a location pin icon) and the tagline "WHERE PLAYER MEETS PLACES". Navigation links for "Services" and "About Us" are present, along with a "LOGIN" button. The main content area is white and contains the heading "Login" and the instruction "Sign in to continue". Below this are two input fields: "EMAIL" with the value "user1@gmail.com" and "PASSWORD" with masked characters "*****". Two buttons, "login" and "login as guest", are positioned below the password field. At the bottom left, there is a link "scroll down see more" and a horizontal line. A small circular arrow icon is located at the bottom right.

Sport Spot
WHERE PLAYER MEETS PLACES

Services About Us LOGIN

Login

Sign in to continue

EMAIL

user1@gmail.com

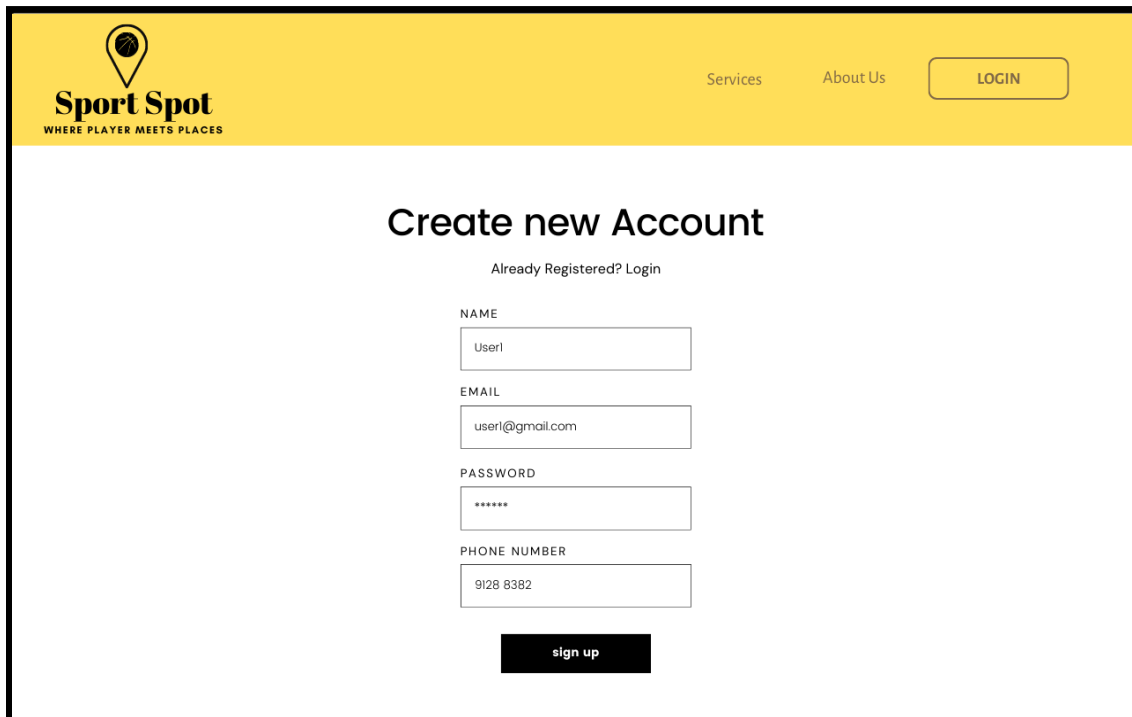
PASSWORD

login login as guest

scroll down see more

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5.2. Create New Account



The "Create New Account" page has a yellow header identical to the login page. The main content area is white and features the heading "Create new Account" and the instruction "Already Registered? Login". Below this are four input fields: "NAME" with the value "User1", "EMAIL" with "user1@gmail.com", "PASSWORD" with "*****", and "PHONE NUMBER" with "9128 8382". A "sign up" button is located at the bottom center.

Sport Spot
WHERE PLAYER MEETS PLACES

Services About Us LOGIN

Create new Account

Already Registered? Login

NAME

User1

EMAIL

user1@gmail.com

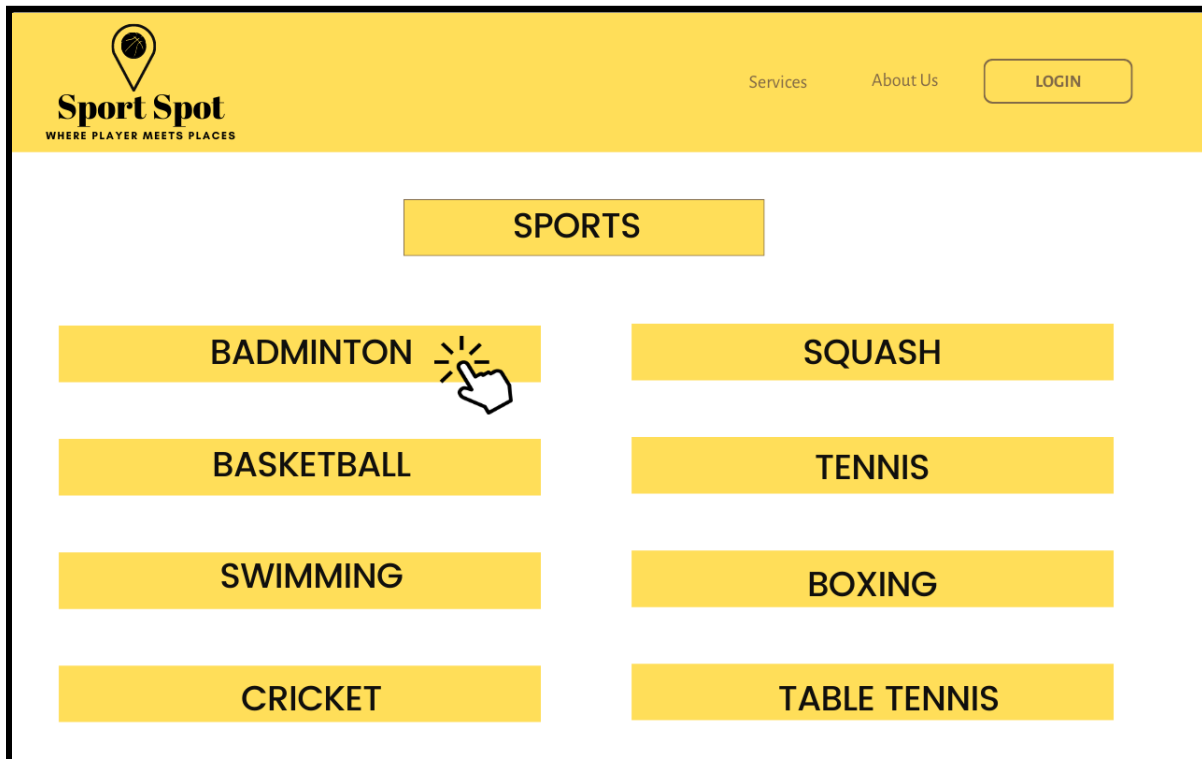
PASSWORD

PHONE NUMBER

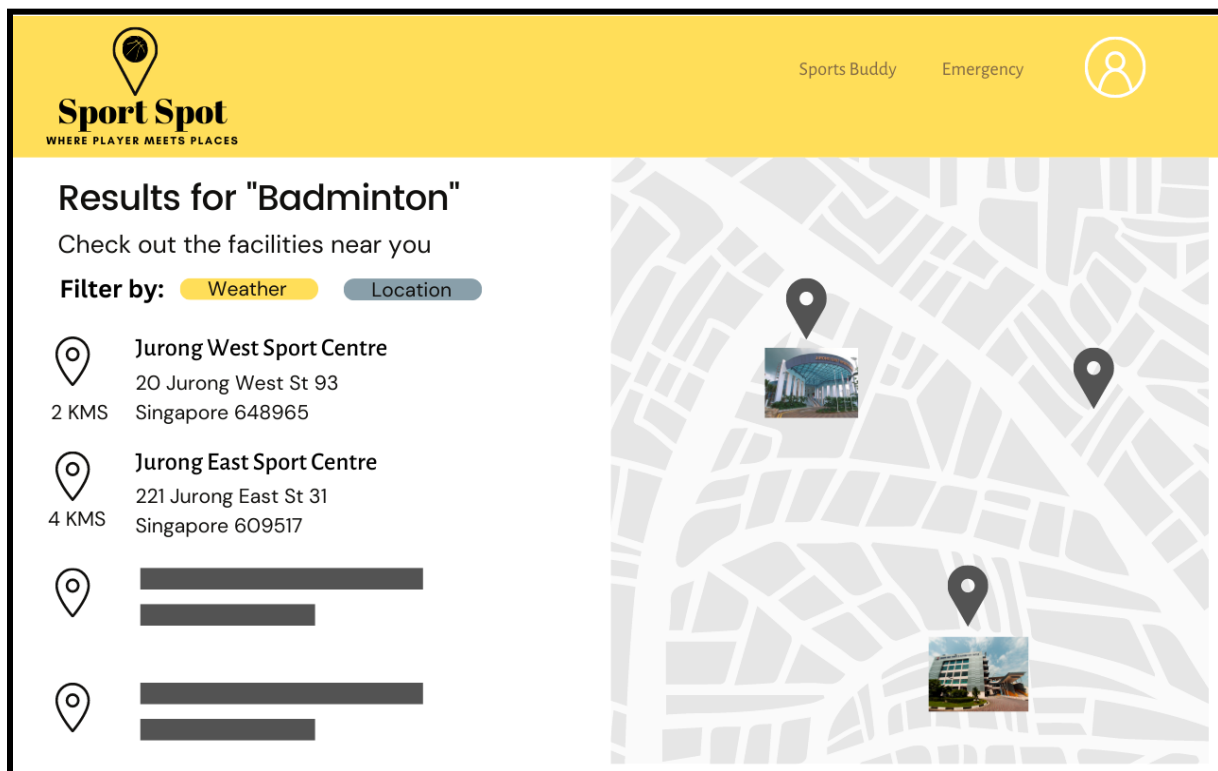
9128 8382

sign up

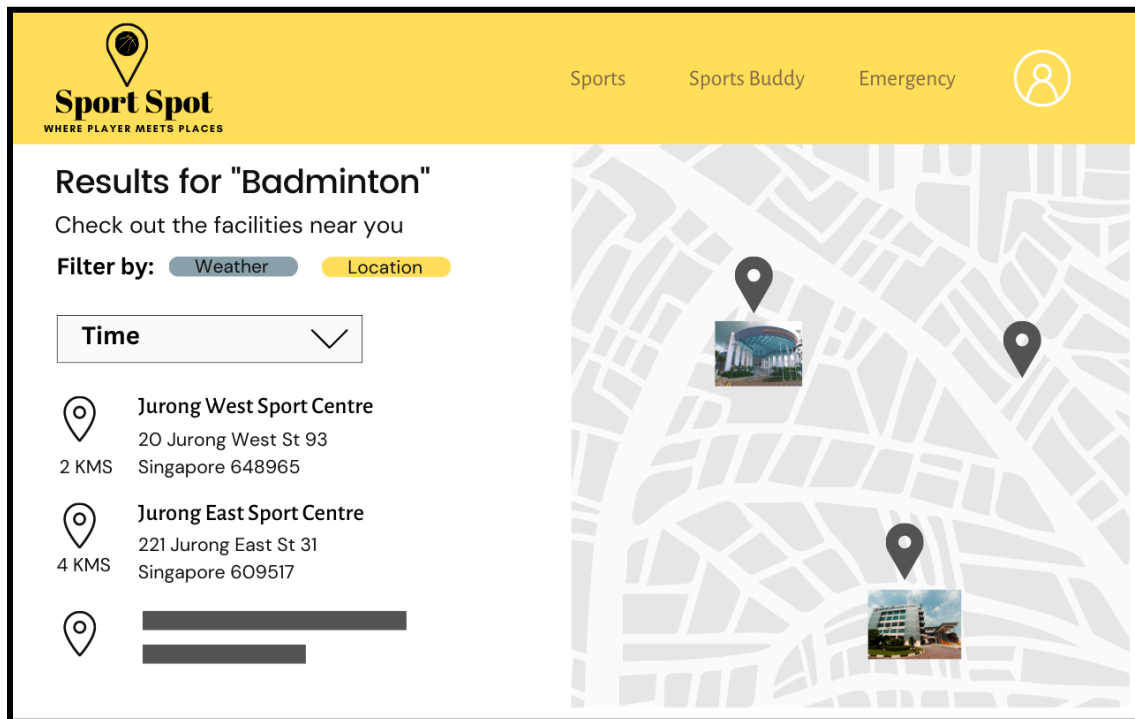
5.3. Choose the sports you want to play



5.4. Recommendation on the nearest sports facility on the basis of the chosen sports activity



5.5. Check the weather before going to the facility



5.6. Find people to join you through sport buddy feature

