
Test Document

for

Elysium

Version 1.0

Prepared by

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Full Group	Completed first version of the document.	01/04/24

1 Introduction

Test Strategy

Elysium is an app developed with the sole purpose of integrating various features involved in campus life onto a single platform. It provides the user the option to book any and every facility without any hitches in the booking experience.

Our team's testing strategy for such an app with a plethora of options was manual testing wherein each of the testers would individually test the app for various inputs or cases and match the obtained output with the desired output.

The testers have subjected the app to different possible input combinations and verified the proper response of the app as and when required. The tests not only consisted of proper verification of output on the app (frontend), but also consisted of constant verification for the proper entries in the database (backend). This leads to a precise check of all the functional and non-functional requirements to be fulfilled by the app as mentioned in the SRS document.

Testing Period of the App

The testing was an integral part of the development process. During the implementation, the app was subjected to tests corresponding to basic functions such as logins, bookings, etc.

However, the majority of the testing of the app was done after the implementation of the app. Since the basic functionality of the app was set in stone and tested, any bugs encountered in the app were easier to tackle since they involved changes only in specific features of the app (certain functions of the source code). This made testing a lot more efficient and less time-consuming.

Testers of the App

Due to constraints of time and the size of the team, the developers of the app were the testers themselves. However, it was ensured that the responsibility of testing of units and components was not placed on the person who developed or played a role in developing them. This ensured the neutrality of the testing process. The benefit of having the developers being the testers was that we knew the different possible inputs and hence were able to carry out extensive testing to ensure the robustness of the application. Multiple errors were identified and corrected as and when discovered.

Coverage Criterion for Testing

Functional requirements were the criterion used for the testing.

Tools used in testing

No tools were used for testing. The entire process was manual.

2 Unit Testing

1. User Sign Up

One of the basic features of any application is the ability for the users to create a new account. So is the case with Elysium. Our app provides the user the ability to create a new account with the help of the sign up option. The user needs to provide a username, his desired password and his IITK email id to make a new account.

Unit Details: login pages.

Test Owner: Gottupulla Venkata Aman

Test Date: 03/12/2024 - 03/28/2024

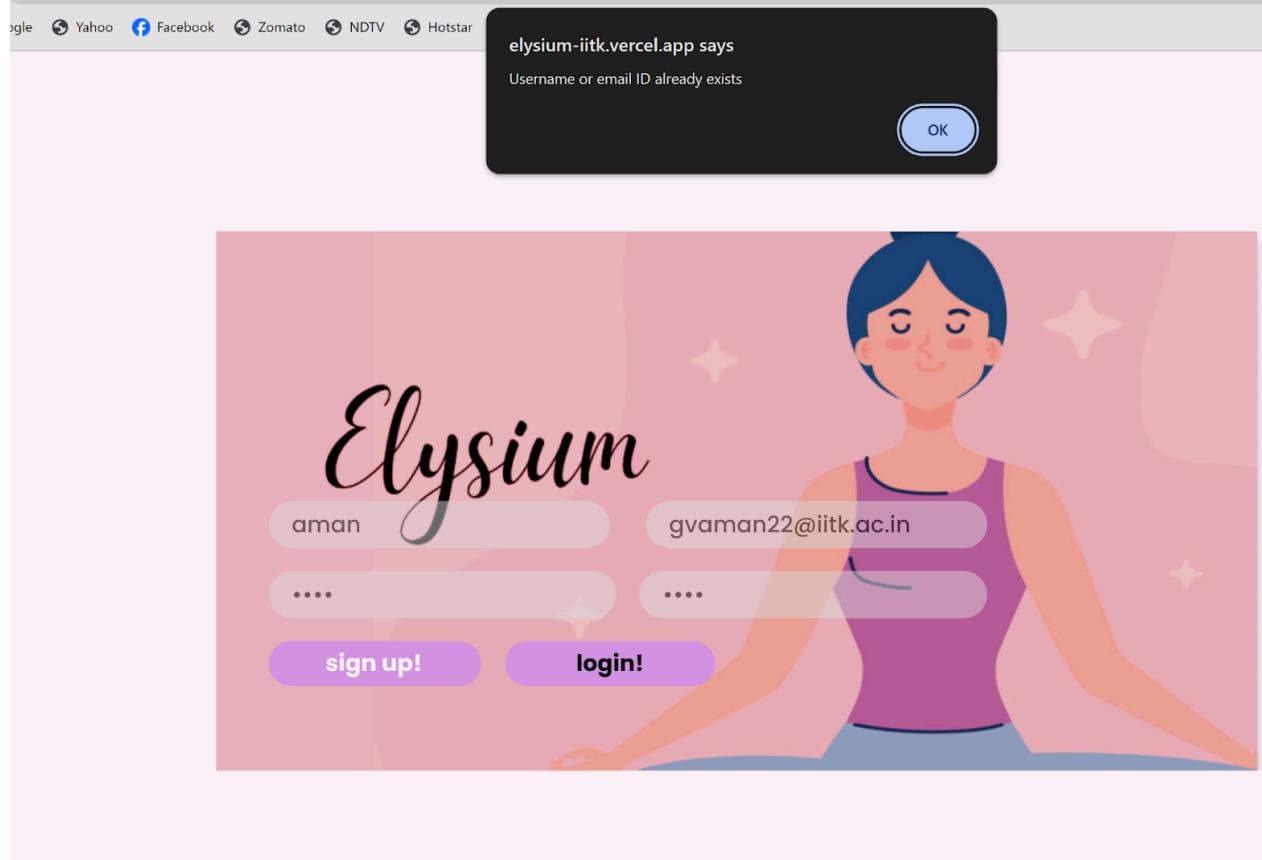
Test Results:

Elysium has a robust sign up process wherein the user is easily able to create a new account with no problem. The entire process consists of the industry standard sign up procedure with email verification.

It prompts the user if the passwords entered do not match.

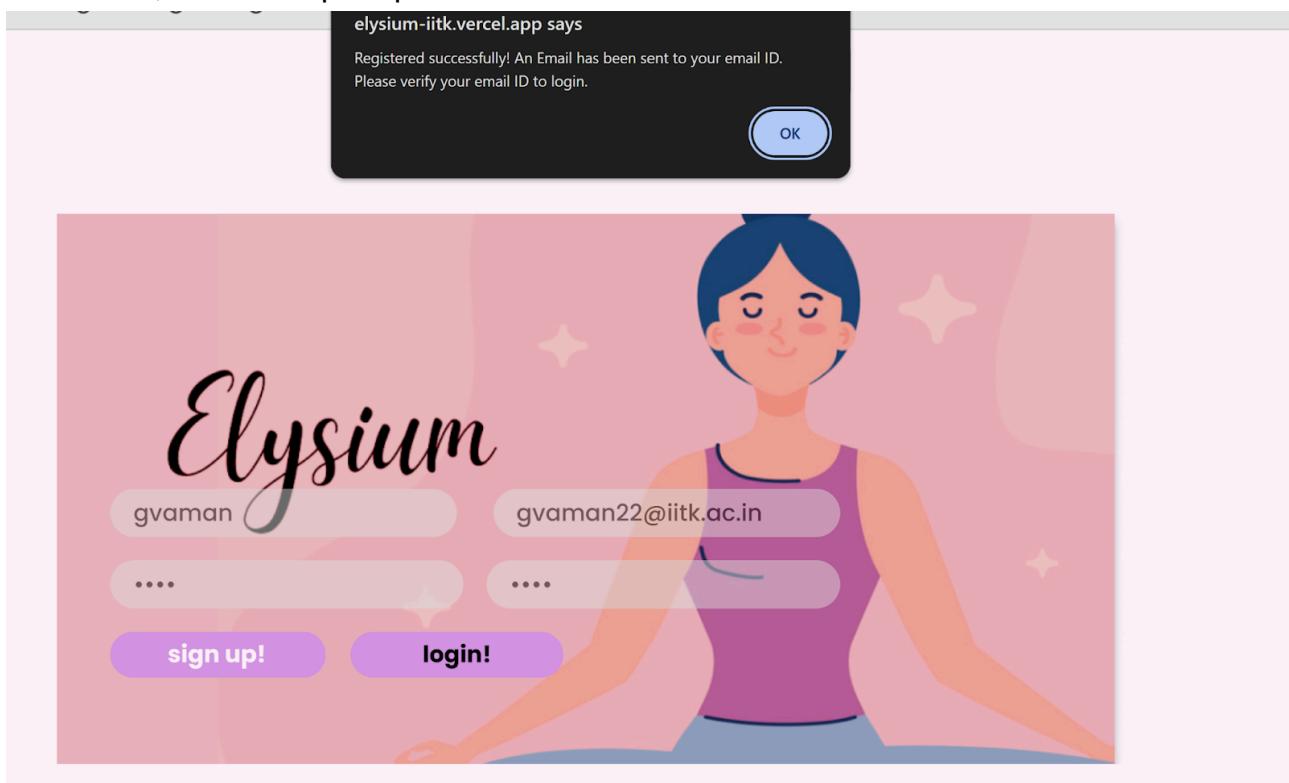


If the username is not available or an account corresponding to the email id already exists, the user is prompted with a notification as follows:



If the username is available, a verification link is sent to the IITK email account corresponding to that username.

In addition, the user is prompted about the same via a notification as follows:



This username is now entered into the database.

```

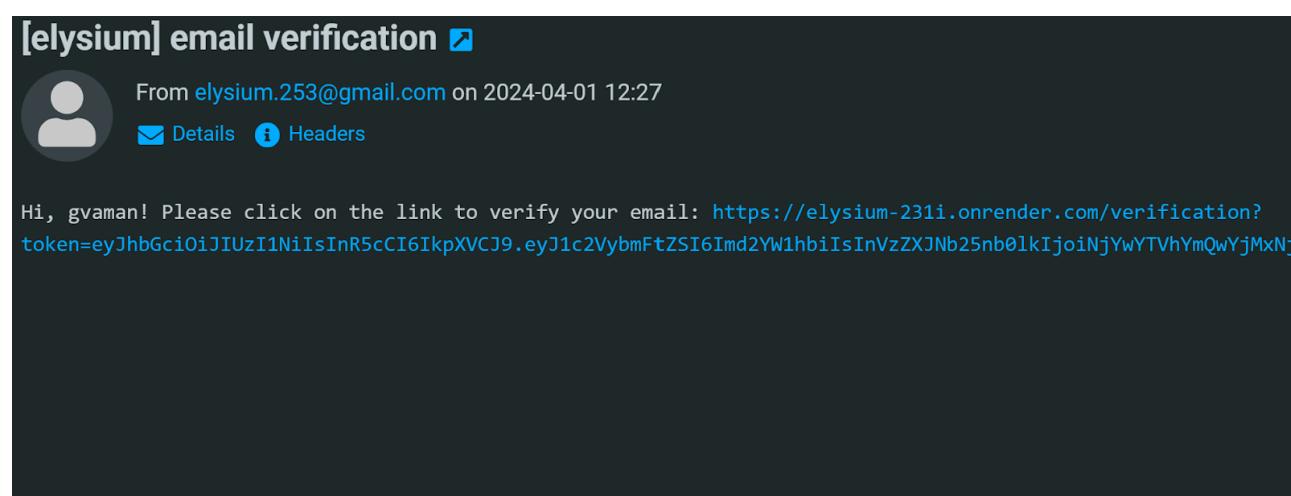
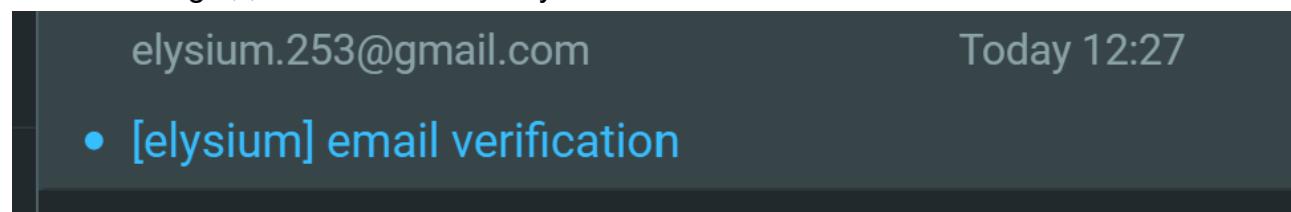
_id: ObjectId('660a59810b31618a63b56870')
username : "aman"
email_id : "aman@iitk.ac.in"
user_category : 1
password : "$2a$10$gckbQ818T/nUGlzTQA8q1uCqr.BsN3JQwuVSbkD6gxZklJL3d/VSW"
profile_pic : ""
type_of_sport : ""
validity : "false"
__v : 0

_id: ObjectId('660a5abd0b31618a63b56882')
username : "gvaman"
email_id : "gvaman22@iitk.ac.in"
user_category : 1
password : "$2a$10$DAzRoRu9mW0vuQW6i08YJ.2LSFNLEjPU/6hjTTwhdJ8wh1L/eCY."
profile_pic : ""
type_of_sport : ""
validity : "false"
__v : 0

```

However, it is to be noted that without the validation, the validity of the user will be “false” and hence the user will be unable to login and use the application.

In order to login, ,the user has to verify his/her account.



On clicking the link, the user is redirected to the following page wherein the confirmation message is given whether the user is verified or some error has occurred.

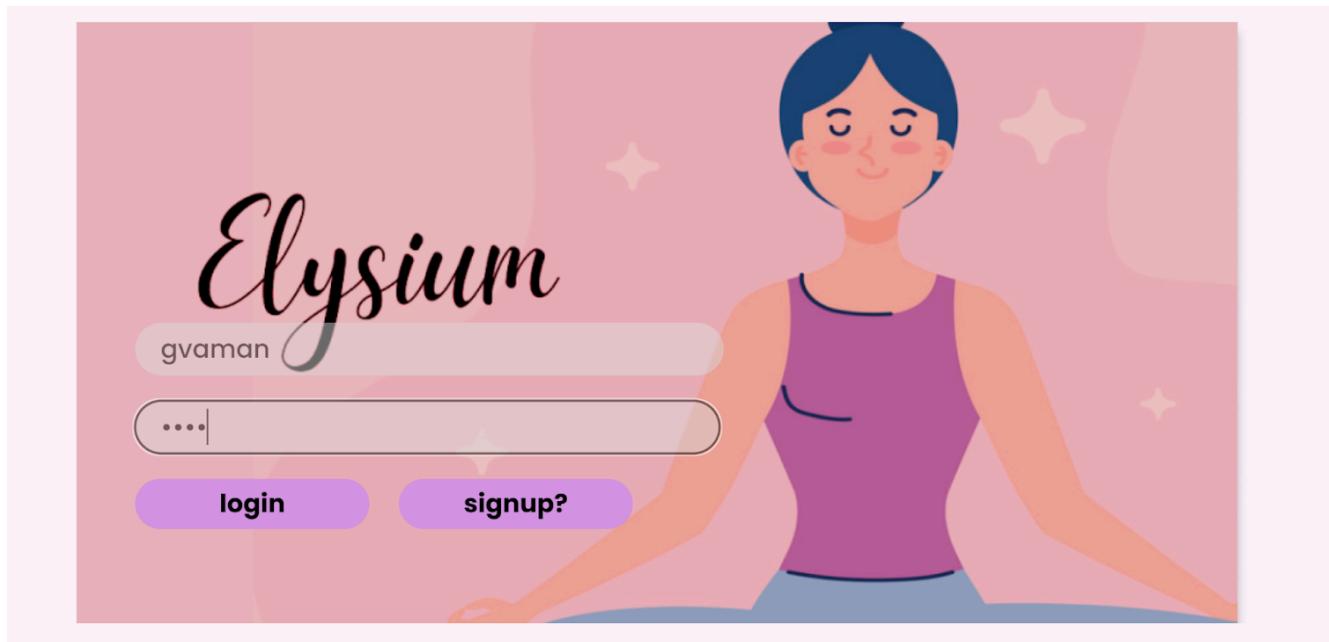
On verification, the validity of the user in the database is converted to true, essentially activating the account.

Pretty-print

```
{"message": "User gvaman verified"}
```

```
_id: ObjectId('660a59810b31618a63b56870')
username: "aman"
email_id: "aman@iitk.ac.in"
user_category: 1
password: "$2a$10$gckbQ818T/nUGlzTQA8q1uCqr.BsN3JQwuVSBkD6gxZklJL3d/vSW"
profile_pic: ""
type_of_sport: ""
validity: "false"
__v: 0
```

```
_id: ObjectId('660a5abd0b31618a63b56882')
username: "gvaman"
email_id: "gvaman22@iitk.ac.in"
user_category: 1
password: "$2a$10$DAzRoRu9mW0vuQW6i08YJ.2LSFNXLEjPU/6hjTTwhdJ8wh1L/eCY."
profile_pic: ""
type_of_sport: ""
validity: "true"
__v: 0
```



☰

good afternoon!
Monday, April 1, 2024
12:32 PM

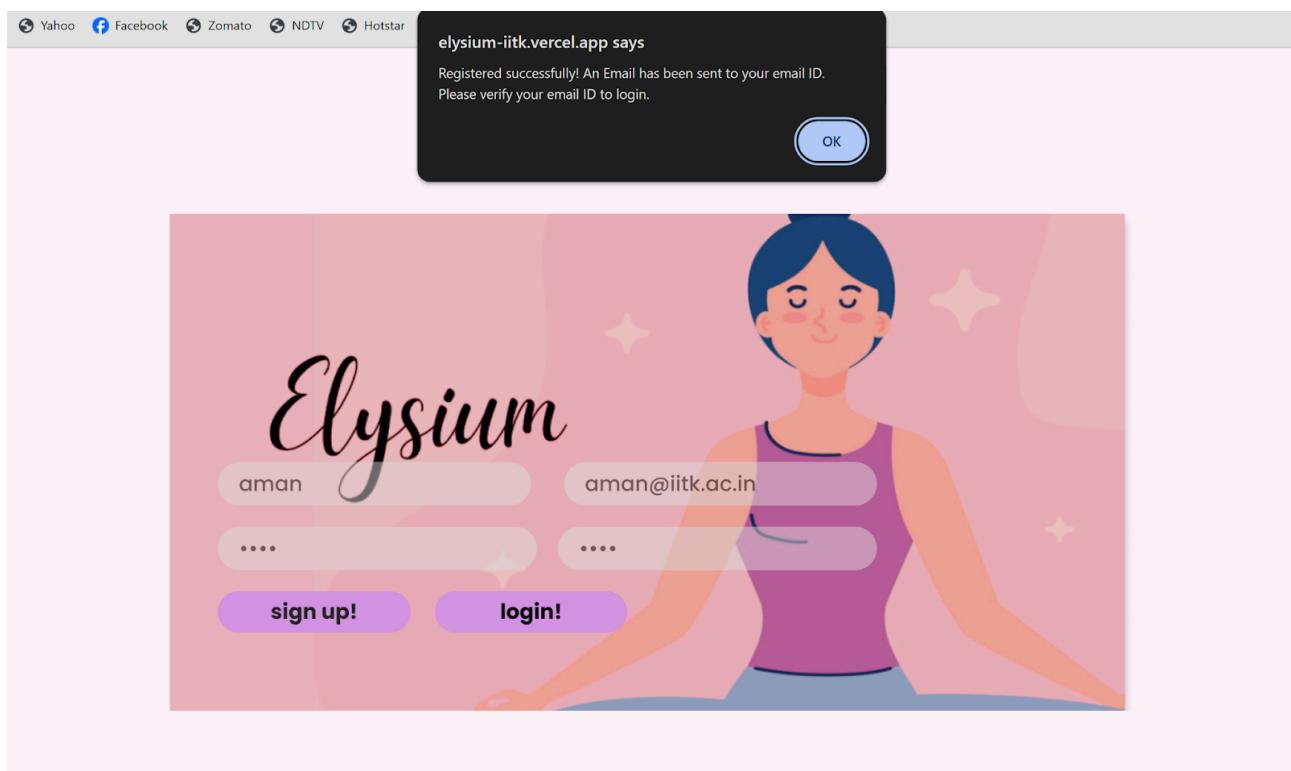
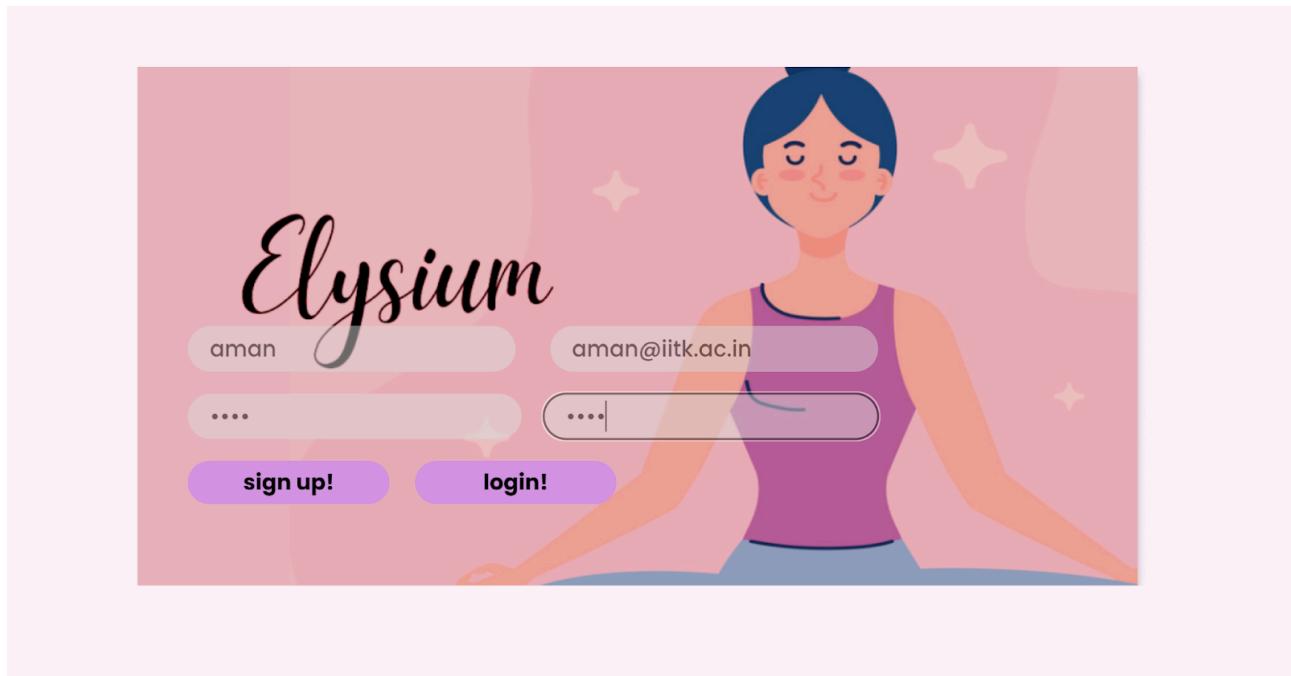
hey gvaman! how are you today?

YOUR BOOKING HISTORY

facility	date	status
get going and play!		

Statistics 0 0

Now, there exist some minor bugs in the signup process. Elysium is unable to determine whether the email given by the user exists in reality or not. As a result, the prompt obtained would be the same independent of whether the email exists or not, but is able to determine if the email or username is already taken or not.



The only problem this bug holds is the fact that once a username is entered with a wrong email, the username is lost forever. The only way to re-obtain it would be to manually delete the entry from the database.

Another minor bug that exists is after the verification of email, the user is supposed to be redirected to the website, which is not happening.

Structural Coverage: All cases with all possible combinations have been tested and hence the coverage is 100%.

Additional Comments: Two minor bugs are existing and need to be fixed.

2. Login page

Login page was tested

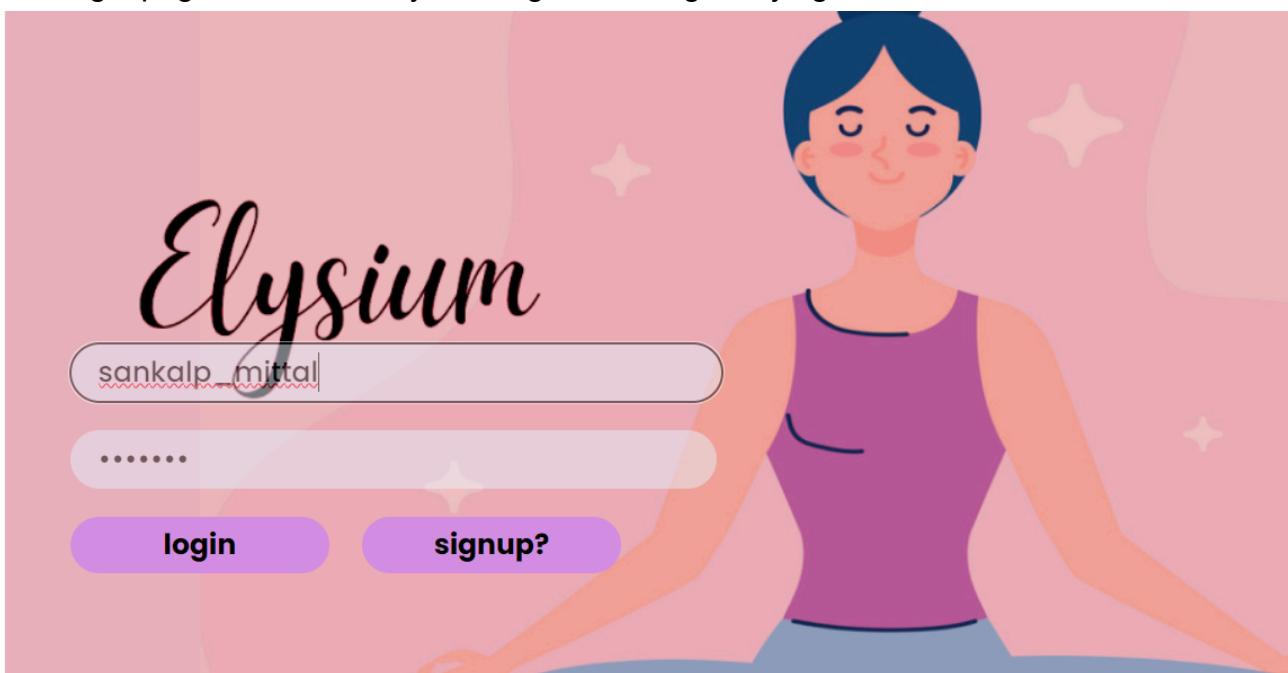
Unit Details: login pages.

Test Owner: Sankalp Mittal

Test Date: 04/30/2024 - 04/30/2024

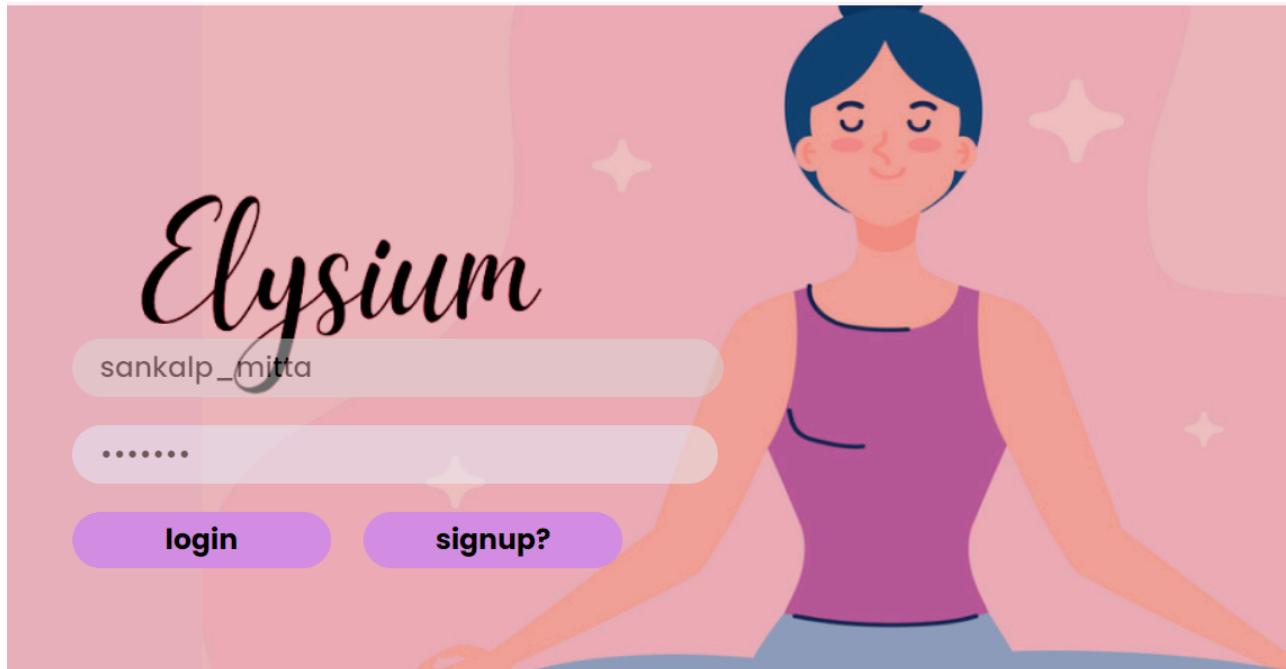
Test Results:

The login page is successfully working and taking verifying from the database

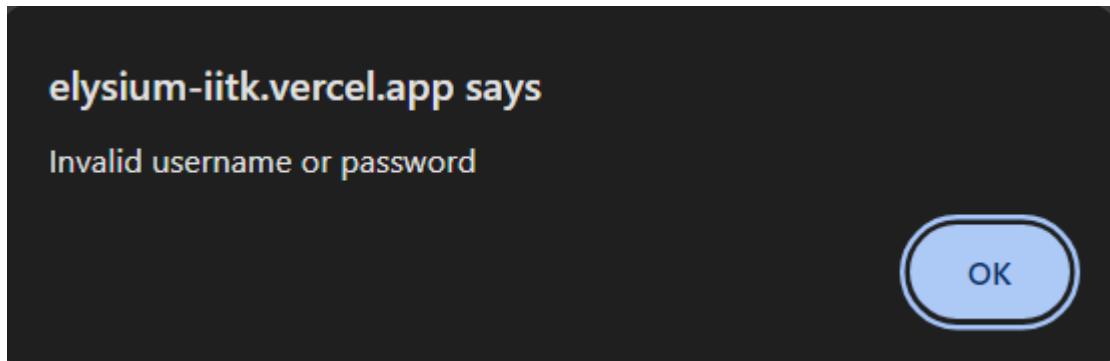


```
_id: ObjectId('66058d9962062aa40dd091f8')
username : "sankalp_mittal"
email_id : "mittalsankalp@iitk.ac.in"
user_category : 1
password : "$2a$10$oSV6n2u6bm0IEd/G3zI9Nup6oqydhfx9ZapyaEKa7/KD9cnXUcLUW"
profile_pic : ""
type_of_sport : ""
validity : "true"
__v : 0
```

On entering wrong credentials



the following prompt is shown



Structural Coverage: 100%

A fatal bug was found but it was fixed, and all features worked as expected after the bugs were fixed.

Additional Comments:

Multiple login pages were opened and multiple users signed in this caused mismatch in user ID input in the database

```
_id: ObjectId('6607c4dc7bd7b67ea6cd2d35')
user_id: ObjectId('66058d9962062aa40dd091fb')
time_slot: 6
type: 0
year: 2024
month: 3
booking_status: 1
time_of_booking: 2024-03-30T07:53:02.200+00:00
__v: 0
```

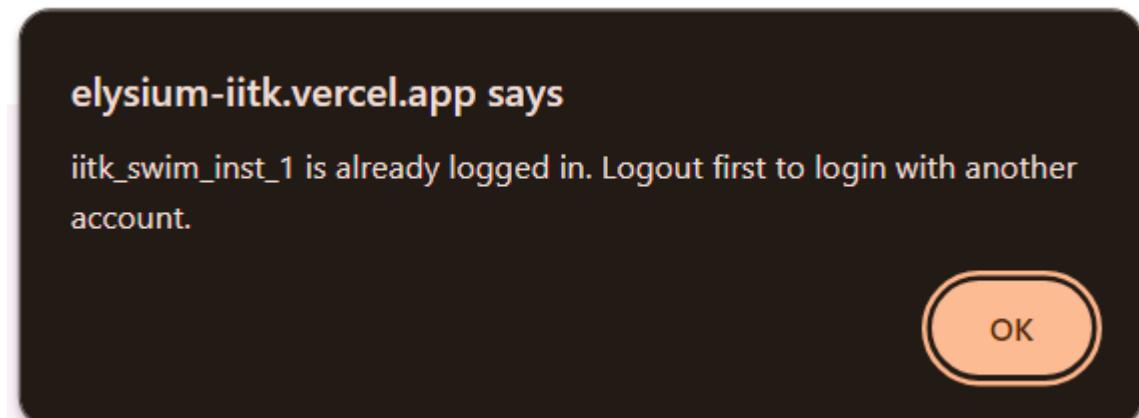
```
_id: ObjectId('6607c6d37bd7b67ea6cd2d55')
user_id: ObjectId('66058d9962062aa40dd091fb')
time_slot: 16
type: 0
year: 2024
month: 3
booking_status: 1
time_of_booking: 2024-03-30T08:01:25.419+00:00
__v: 0
```

```
_id: ObjectId('6607cb9b7bd7b67ea6cd2d90')
user_id: ObjectId('66058c4d62062aa40dd09150')
time_slot: 6
type: 0
year: 2024
month: 3
__v: 0
```

and consequently in the front-end

username	year	month
sankalp_mittal	2024	march
iitk_gym_inst_1	2024	march
iitk_gym_inst_1	2024	march

This was fixed and for a 2nd login the previous ID had to be logged out



3. Team Sports(basketball)

Booking of workshops and the tutorials page was tested. Here we list the results for basketball only the results of the rest were the same.

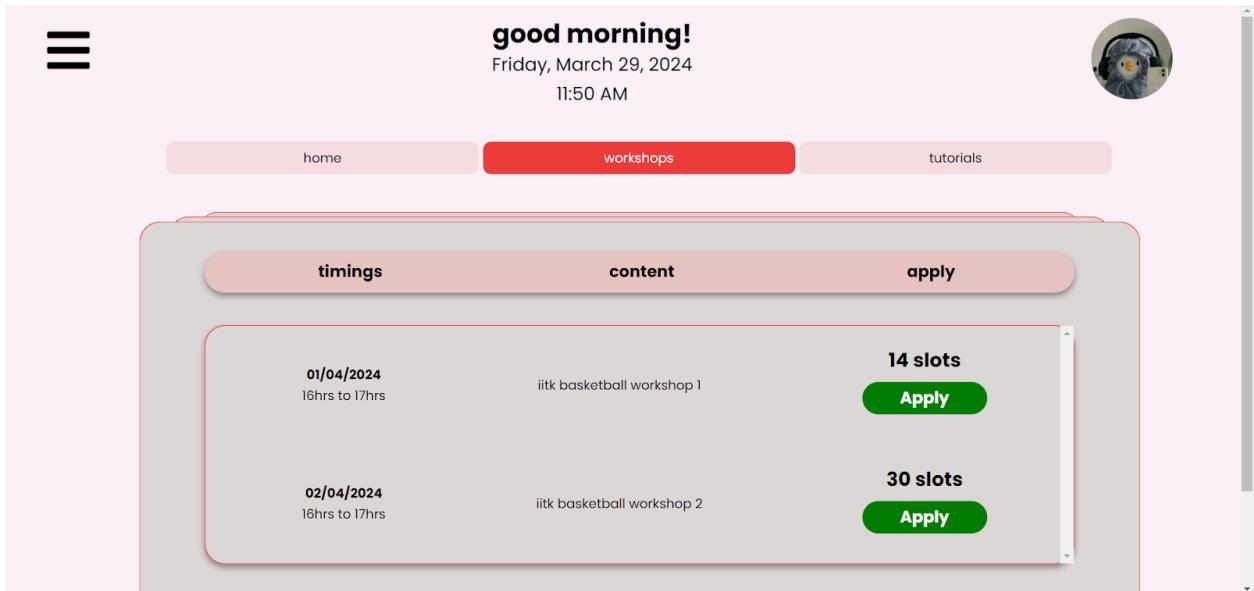
Unit Details: User basketball pages.

Test Owner: Ritesh Baviskar

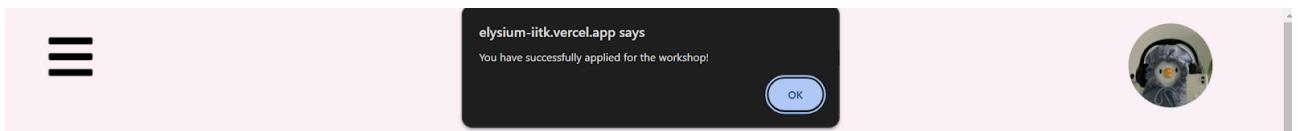
Test Date: 04/26/2024 - 04/26/2024

Test Results:

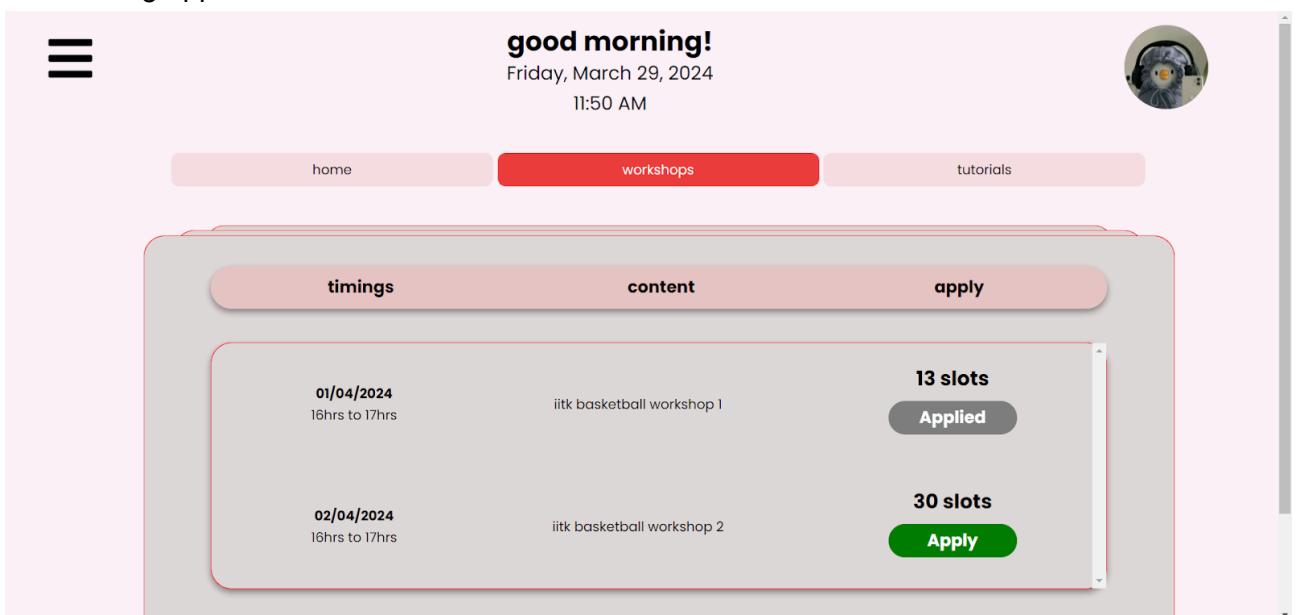
1. Workshops: When applied for a workshop, an appropriate alert was generated and the *apply* option changed to *applied*.



Alert upon applying:



After having applied:



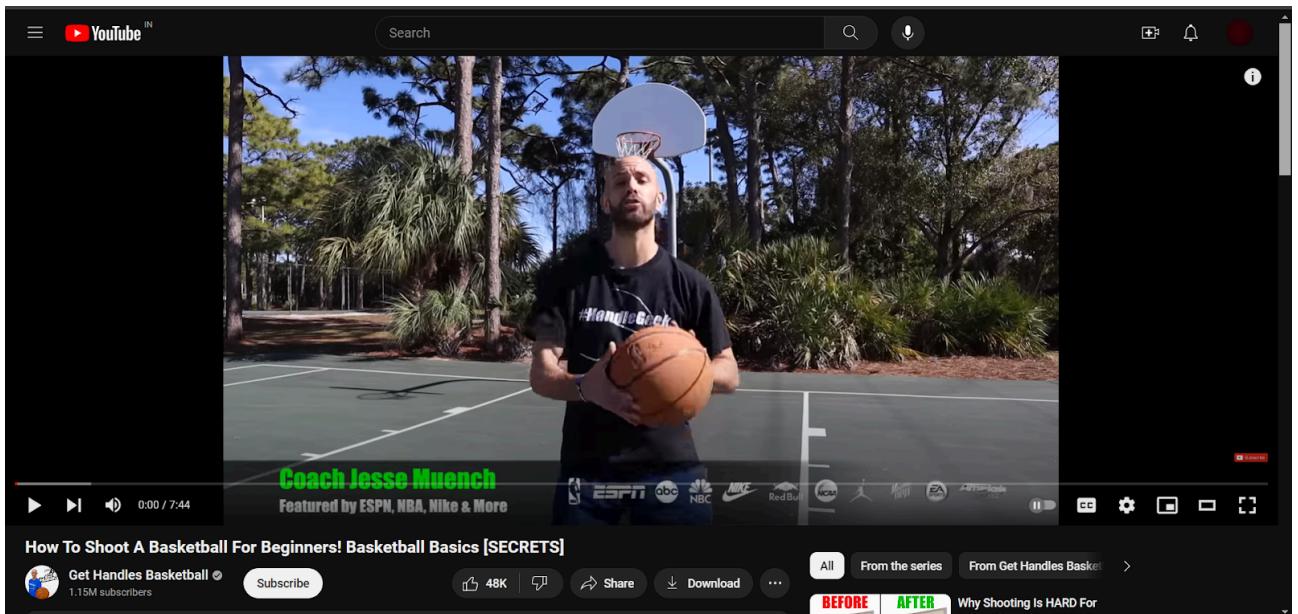
Corresponding entry in workshops database:

```
_id: ObjectId('66065db92a14bf66af3ef8eb')
user_id: ObjectId('66058c4d62062aa49dd09150')
time_of_booking: 2024-03-29T06:20:41.472+00:00
booking_status: 1
type_of_sport: "basketball"
session_id: ObjectId('6605a0609e7f1dc45d287f31')
__v: 0
```

2. Tutorials : Working of the *click here* button was tested and was found to redirect correctly to the expected webpage.

topic	author	link
How To Shoot A Basketball For Beginners	Get Handles Basketball	click here!
Basketball - How to Play?	Tutorials Point	click here!
Elevate Your Game: The Ultimate Basketball Training Masterclass	FIBA - The Basketball Channel	click here!
The Breakthrough Basketball Blog	Breakthrough Basketball	click here!

After clicking *click here*:



Reference: [▶ How To Shoot A Basketball For Beginners! Basketball Basics \[SECRETS\]](#)

Structural Coverage: 100%

All features worked as expected.

4. Non-team sports(Badminton)

Elysium provides the user of the application the ability to book badminton courts, sessions and playmates if desired. In addition, the user can also go through tutorials

posted in the tutorials tab of the dashboard to learn badminton on his own. Also, the user is able to monitor his ranking through the leaderboard and is also able to view the top 10 ranking players.

This is supplemented by the fact that the user can check his bookings as a whole via the profile button which shows the user all his bookings.

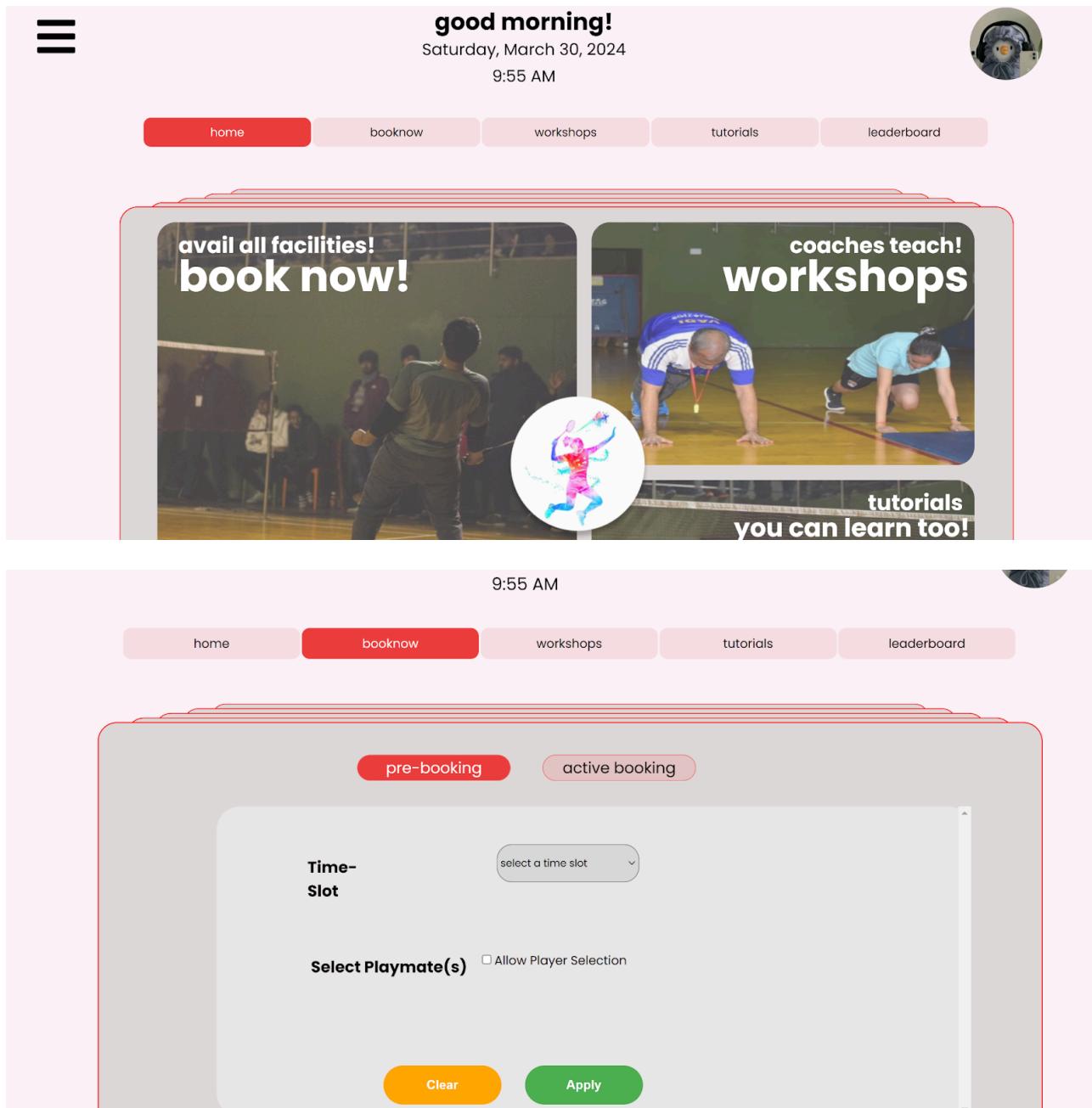
Unit Details: User badminton pages.

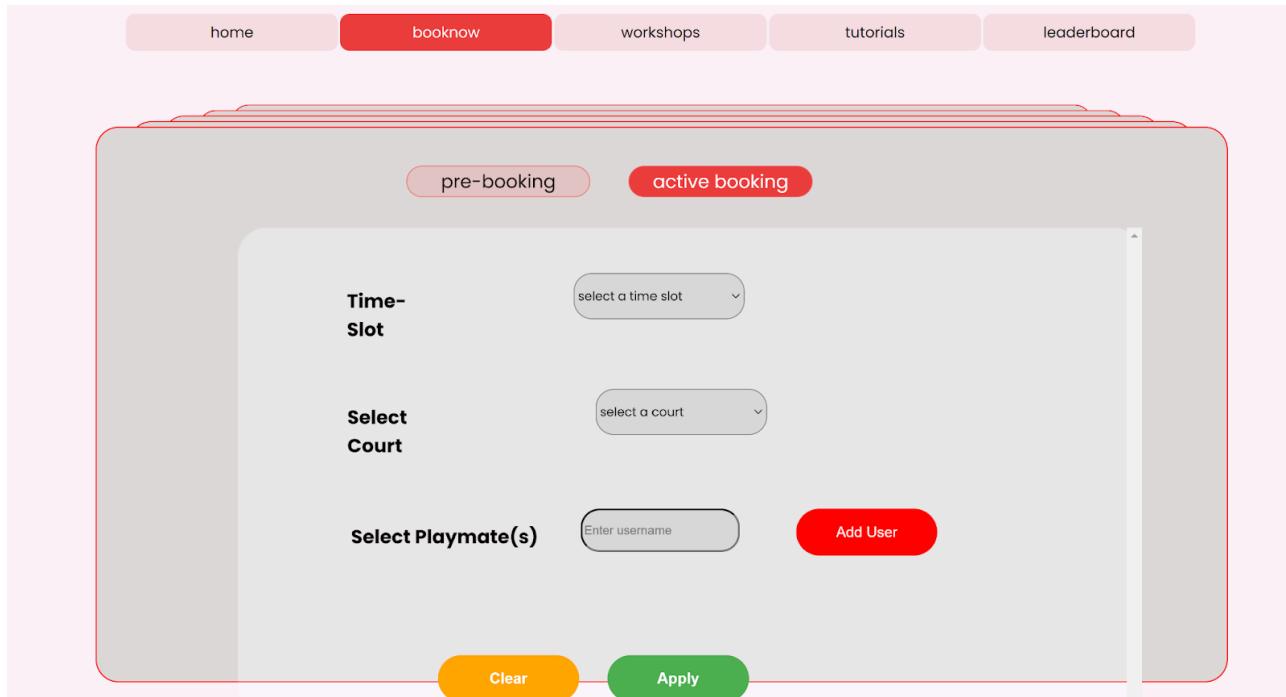
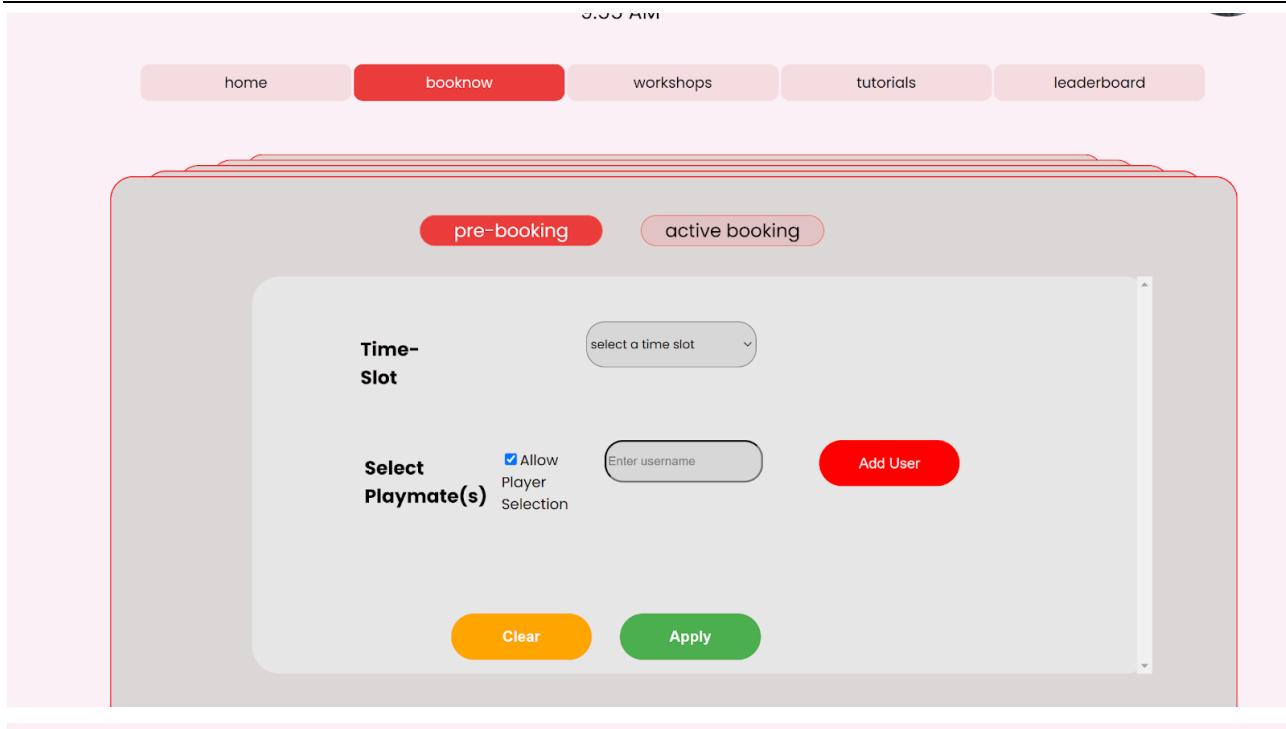
Test Owner: Aditi Khandelia

Test Date: 03/27/2024 - 03/30/2024

Test Results:

The entire badminton section is running smoothly except for a small bug in the front end wherein in the active booking of the booking tab, the apply and clear button go out of the cardstack. These buttons work as expected, hence, a visual bug.





The screenshot shows a workshop booking interface. At the top, there are five navigation buttons: home, booknow, workshops (highlighted in red), tutorials, and leaderboard. Below this is a large, rounded rectangular container with a light gray background and a thin red border. Inside, there are two horizontal rows of booking slots. Each slot has three columns: 'timings' (date and time range), 'content' (workshop name), and an 'apply' button.

timings	content	apply
01/04/2024 13hrs to 14hrs	iitk badminton workshop 1	50 slots Apply
02/04/2024 10hrs to 11hrs	iitk badminton workshop 2	24 slots Apply

The screenshot shows a tutorial links interface. At the top, there are five navigation buttons: home, booknow, workshops, tutorials (highlighted in red), and leaderboard. Below this is a large, rounded rectangular container with a light gray background and a thin red border. Inside, there are four horizontal rows of tutorial links. Each link has three columns: 'topic' (link title), 'author' (link source), and a 'link' button.

topic	author	link
BADMINTON TRAINING FOR BEGINNERS	Shuttle Life	click here!
Badminton Tutorial	Tutorialspoint	click here!
12 Basic Badminton Techniques that you MUST Know – Introduction	BG Badminton Academy	click here!
4 Ways To Master Your Backhand In Badminton	Badminton Insight	click here!

Position	Name
1.	aditya_khandelia
2.	monica_khandelia
3.	pankaj_khandelia
4	arush_upadhyaya
5	rishita_upadhyaya
6	kushagra_srivastava

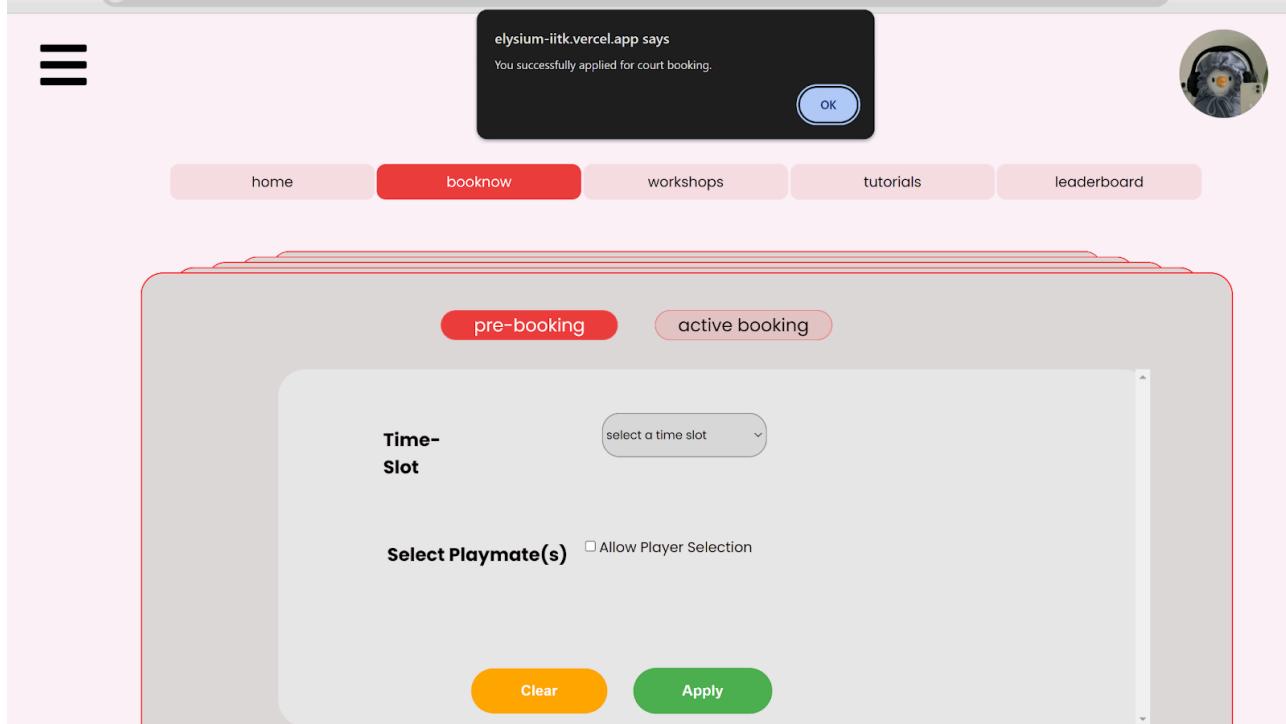
Position	Name
4	arush_upadhyaya
5	rishita_upadhyaya
6	kushagra_srivastava
7	vinay_upadhyaya
8	lavanya_srivastava
9	vidhu_upadhyaya
10	animesh_madaan

Search a player:

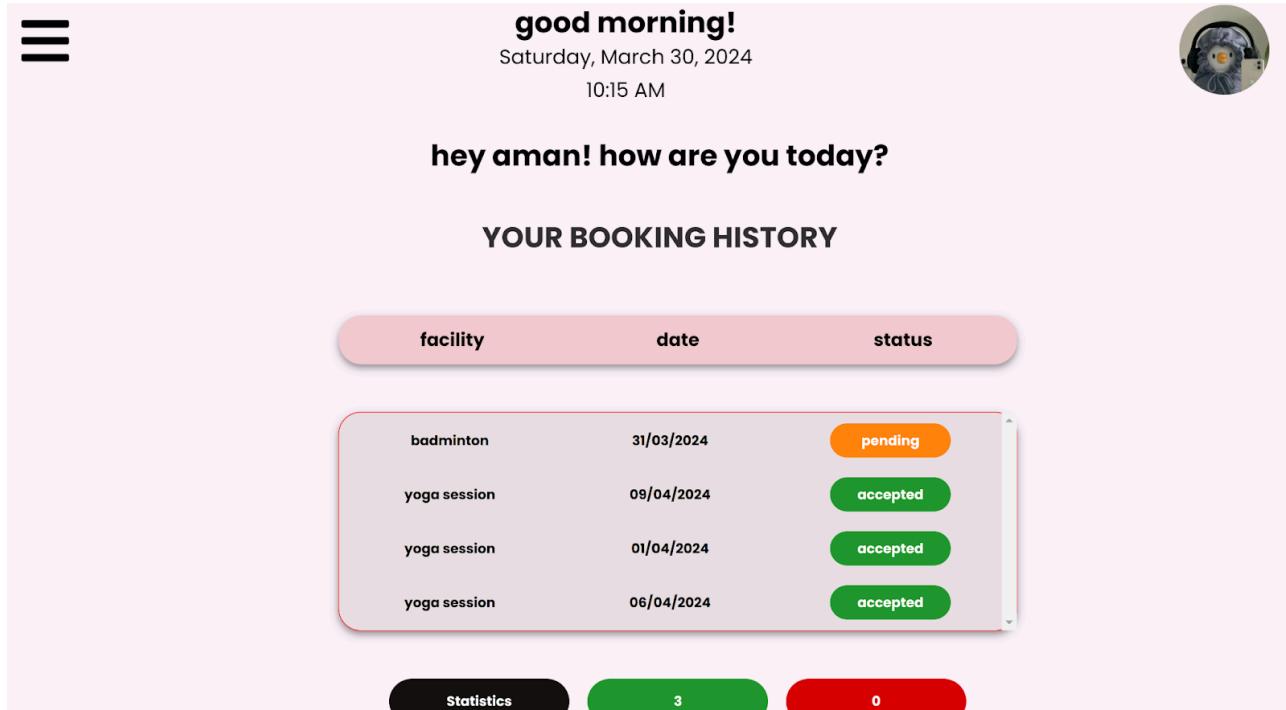
Search

Now, this section also takes the inputs properly and is secured to not accept wrong inputs and notifies the user as and when required.

If the booking is successful,



This is immediately displayed in the profile:



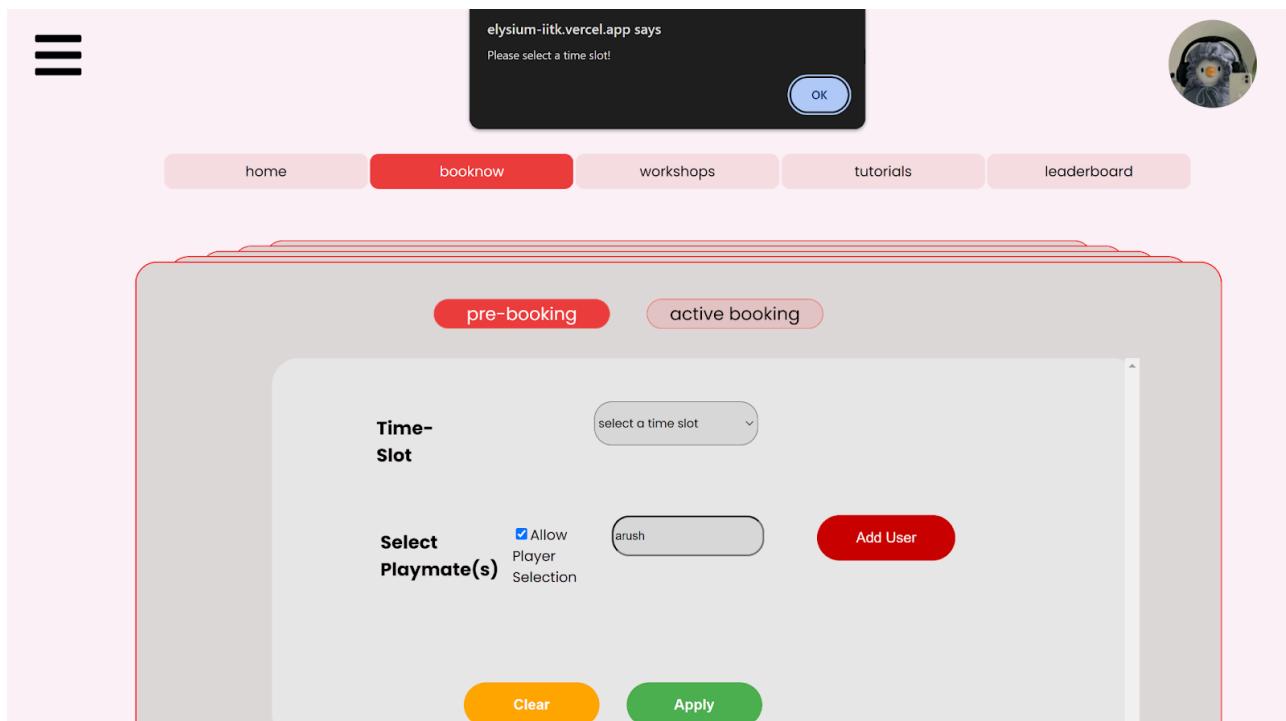
The add user functionality also works properly.

The image displays two screenshots of a mobile application interface, likely for a tennis court booking system.

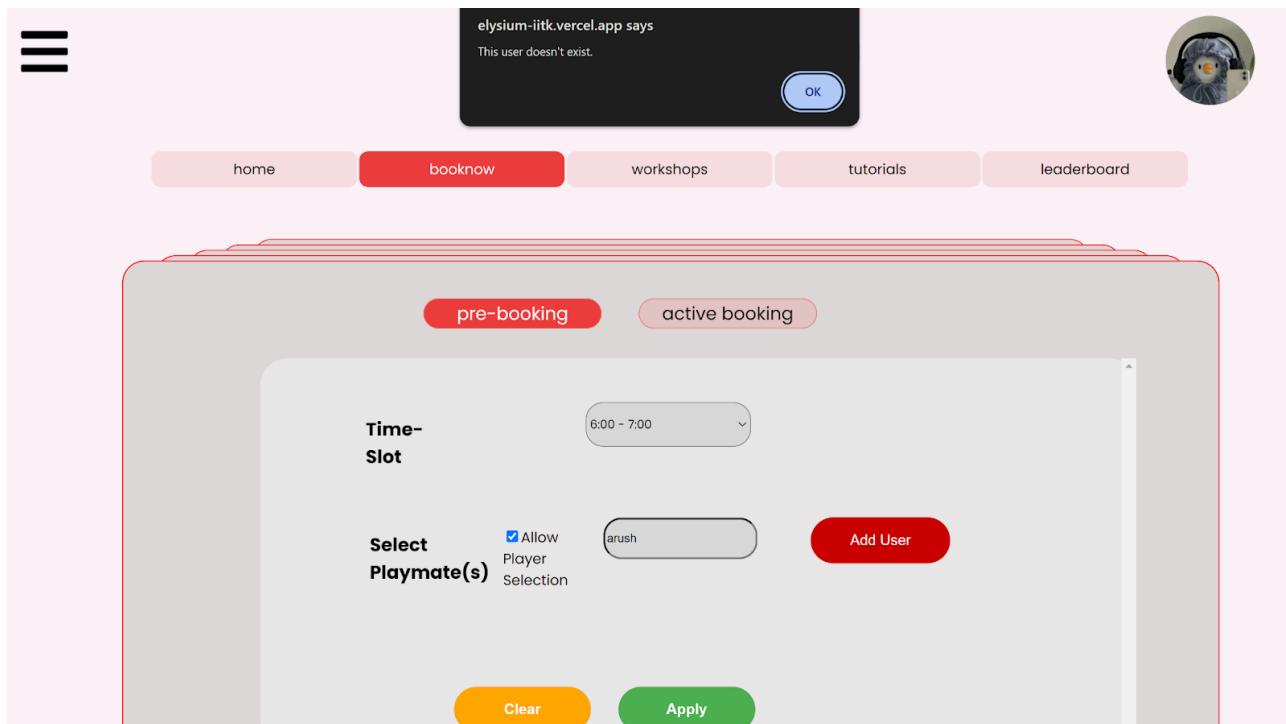
Screenshot 1: This screenshot shows the booking process for a specific time slot. At the top, it says "good morning!" and "Saturday, March 30, 2024, 9:55 AM". There is a profile picture of a person with glasses. Below the header, there are five navigation tabs: "home", "booknow" (which is highlighted in red), "workshops", "tutorials", and "leaderboard". A large central modal window is open, containing two tabs: "pre-booking" (highlighted in red) and "active booking". Inside the modal, there is a "Time-Slot" section with a dropdown menu showing "19:00 - 20:00". Below this, there is a "Select Playmate(s)" section with a checked checkbox labeled "Allow Player Selection". To the right of this is a text input field with "Enter username" placeholder text, which contains a radio button and the text "arush_upadhyaya". There are "Add User" and "Clear" buttons. At the bottom of the modal are "Apply" and "OK" buttons. The background of the app shows a blurred view of a tennis court.

Screenshot 2: This screenshot shows the same interface after a booking has been applied. It features the same top bar and navigation tabs. A black notification box is centered on the screen, displaying the message "elysium-iitk.vercel.app says You successfully applied for court booking." with an "OK" button at the bottom. The rest of the interface is identical to Screenshot 1, including the "Time-Slot" selection and "Select Playmate(s)" section.

If some data is incomplete, the app notifies the user regarding the same.



It can read through the user database and ensure that the user entered is existing or not. The app also ensures that one cannot add his own name into the playmate option.



The screenshot shows a booking interface with a modal window overlaid. The modal has a black background with white text. It displays the message "elysium-iitk.vercel.app says" followed by "Please add at least one playmate!". At the bottom right of the modal is a blue "OK" button.

The main interface below the modal includes a navigation bar with "home", "book", "tutorials", and "leaderboard" buttons. Below the navigation bar are two tabs: "pre-booking" and "active booking".

The booking form contains the following fields:

- Time-Slot:** A dropdown menu showing "16:00 - 17:00" with a downward arrow.
- Select Court:** A dropdown menu showing "Court_1_Old_SAC" with a downward arrow.
- Select Playmate(s):** A text input field containing "Enter username" and a red "Add User" button.

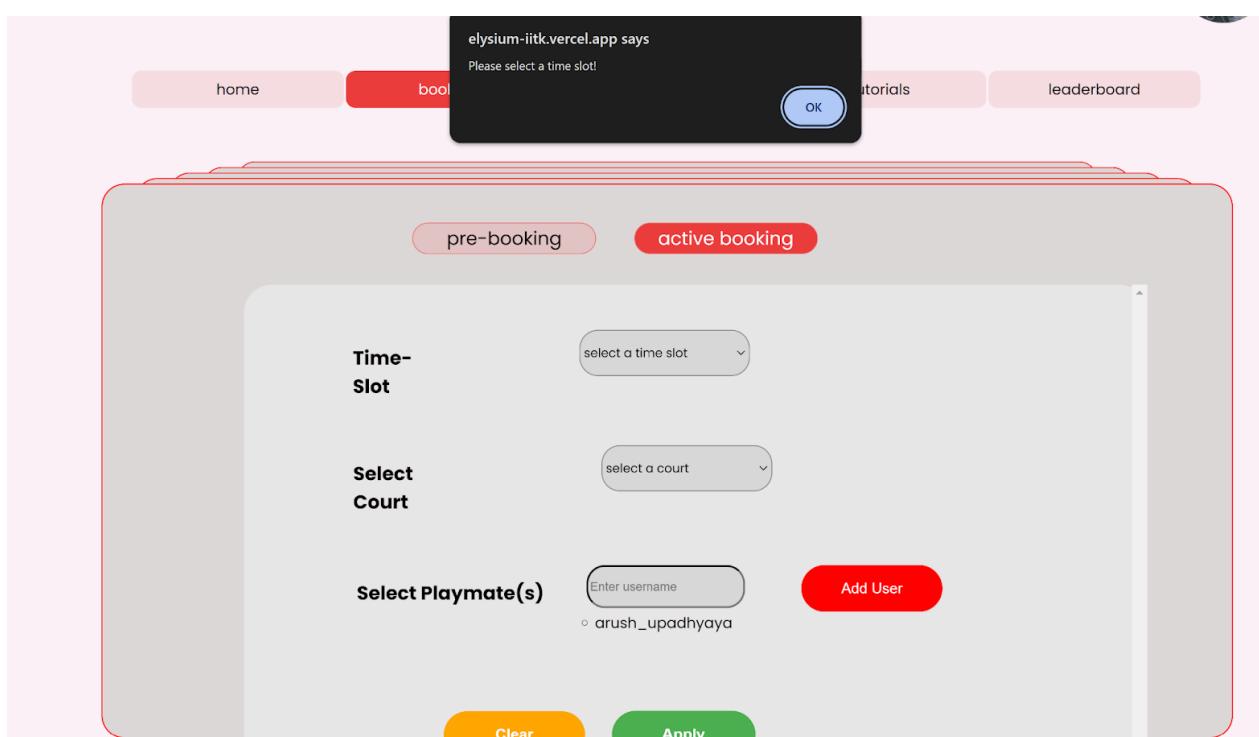
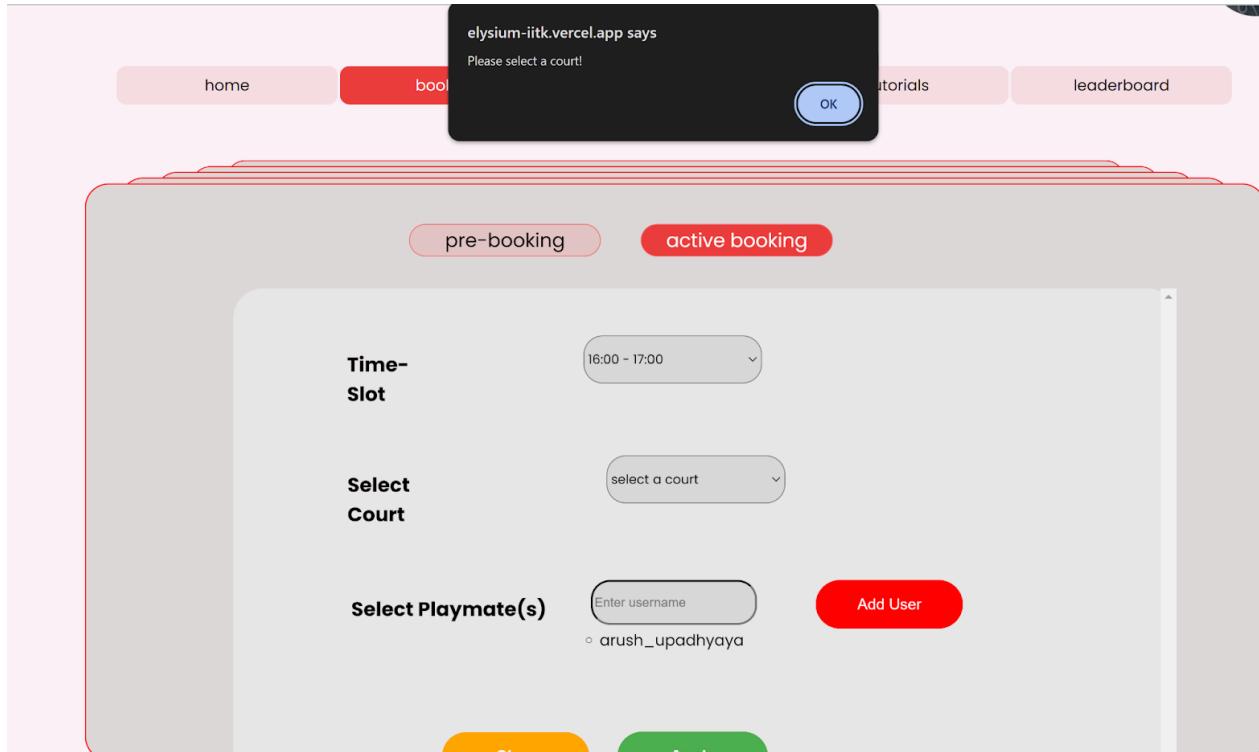
At the bottom of the booking form are two buttons: "Clear" (orange) and "Apply" (green).

The screenshot shows the same booking interface with a different modal window. This modal has a black background with white text. It displays the message "elysium-iitk.vercel.app says" followed by "You cannot add yourself to the list.". At the bottom right of the modal is a blue "OK" button.

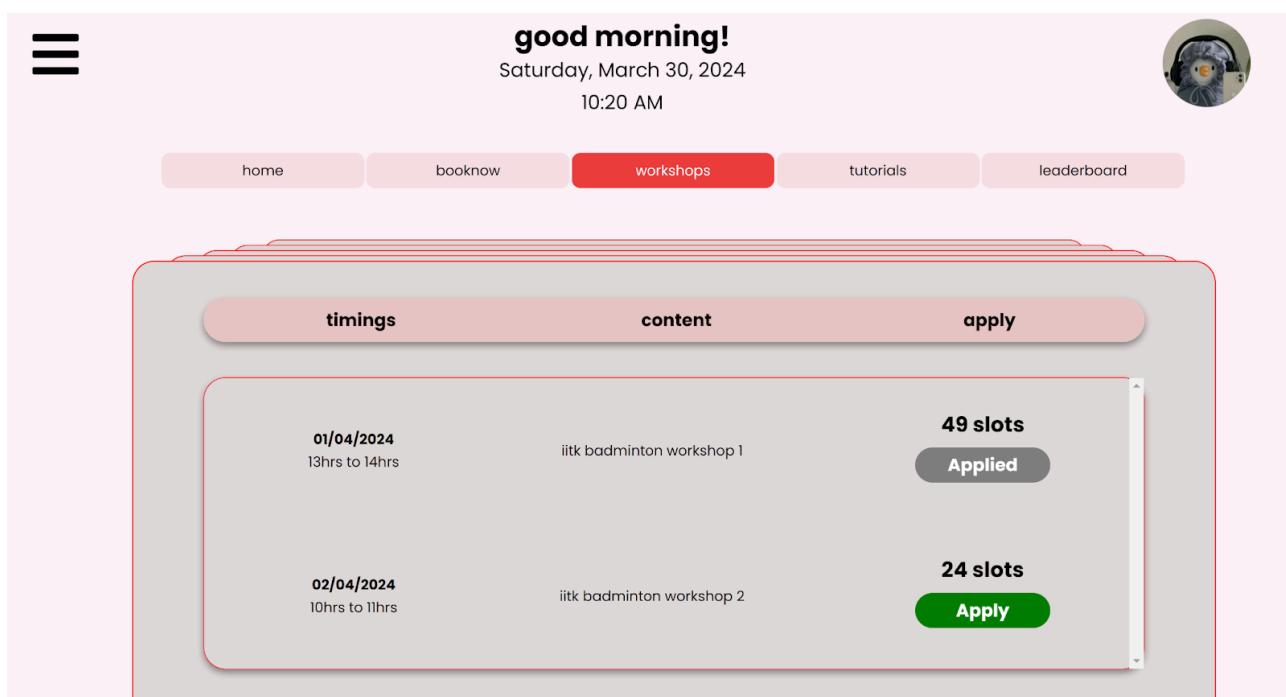
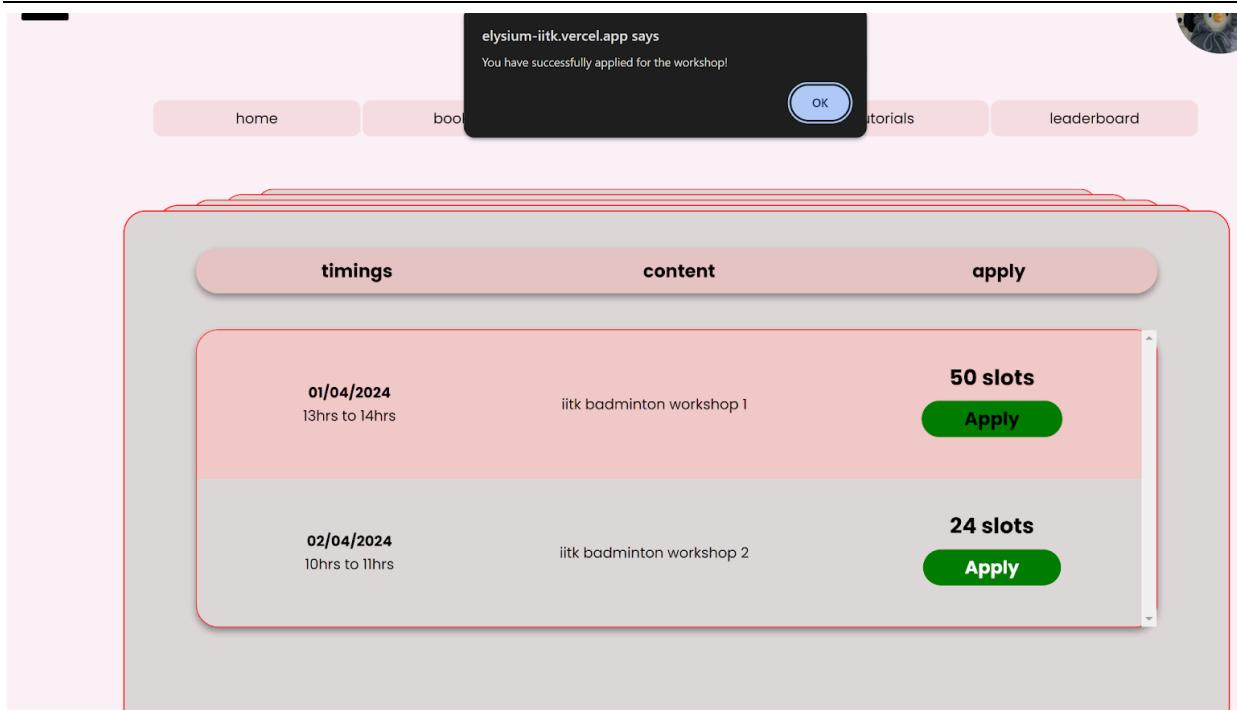
The main interface below the modal is identical to the first one, featuring the same navigation bar, tabs, and booking form fields.

The screenshot shows the booking interface with the "Apply" button highlighted in green. The booking form fields are the same as in the previous screenshots. The "Select Playmate(s)" input field now contains the text "aman".

At the bottom of the booking form are the "Clear" (orange) and "Apply" (green) buttons.



The workshop tab also functions as expected, the app notifies the user when the booking is successful and adds it to the profile of the user.



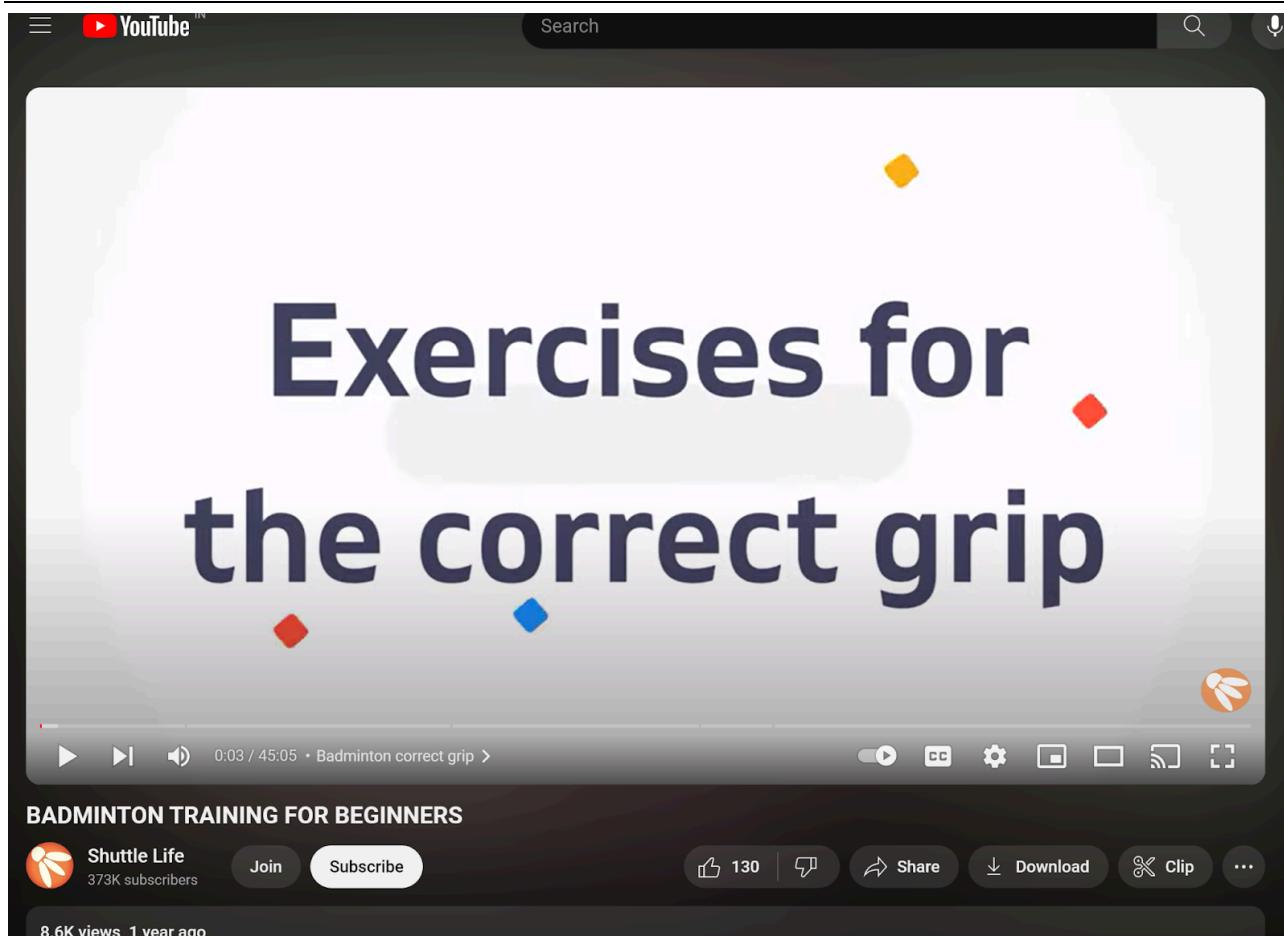
hey aman! how are you today?

YOUR BOOKING HISTORY

facility	date	status
badminton	31/03/2024	pending
badminton	31/03/2024	pending
yoga session	09/04/2024	accepted
yoga session	01/04/2024	accepted
yoga session	06/04/2024	accepted
badminton workshop	01/04/2024	accepted

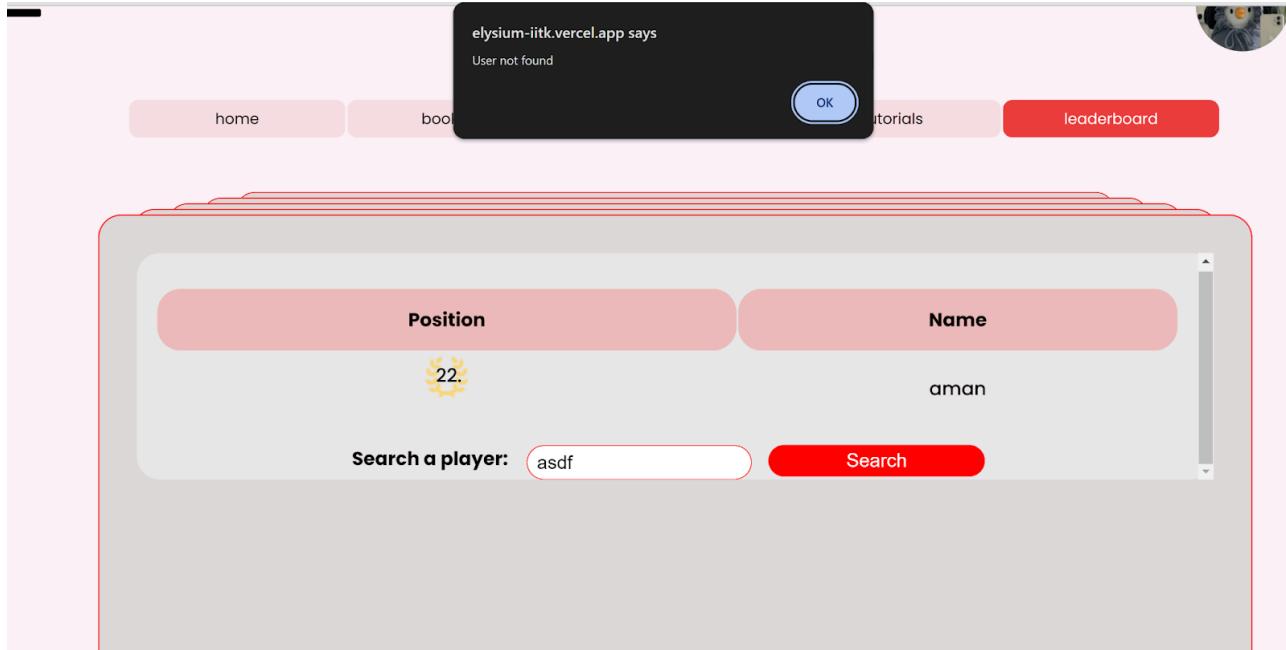
The tutorials also work smoothly with links working as intended.

topic	author	link
BADMINTON TRAINING FOR BEGINNERS	Shuttle Life	click here!
Badminton Tutorial	Tutorialspoint	click here!
12 Basic Badminton Techniques that you MUST Know – Introduction	BG Badminton Academy	click here!
4 Ways To Master Your Backhand In Badminton	Badminton Insight	click here!



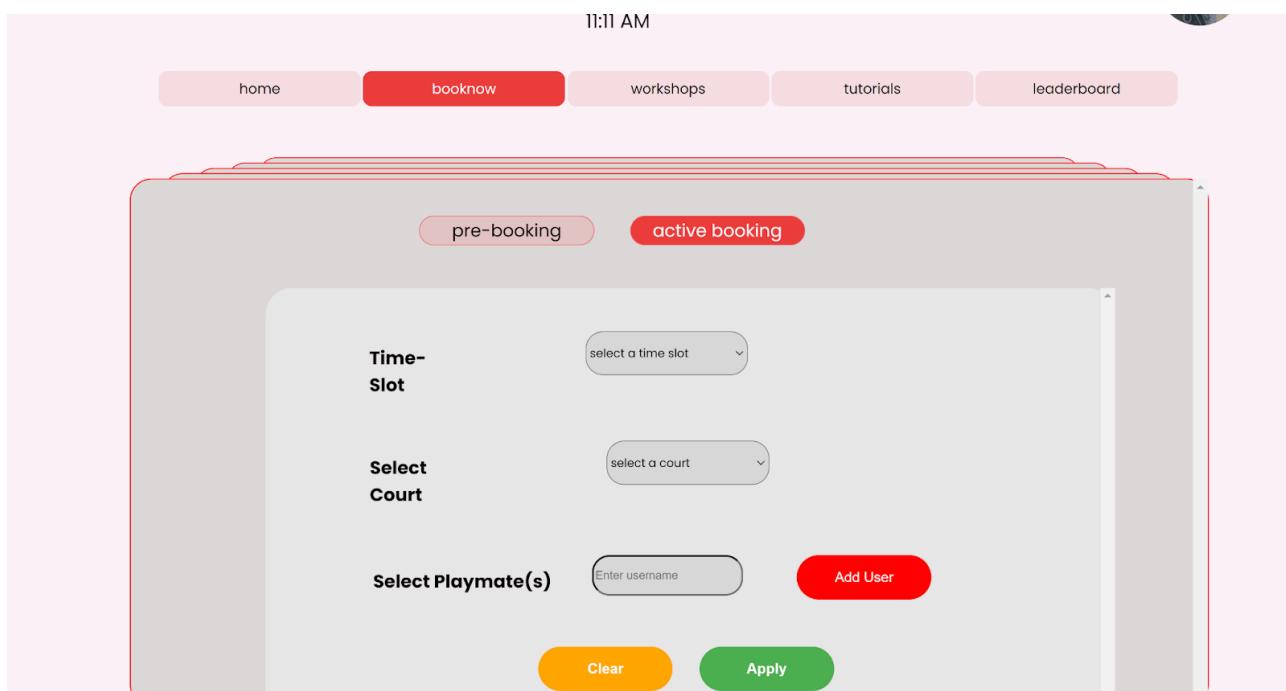
The leaderboard displays the top 10 players and notifies your position when searched for. It also notifies the user when we search for a user not in the database.

A user interface for a leaderboard. At the top, there is a navigation bar with buttons for 'home', 'booknow', 'workshops', 'tutorials', and 'leaderboard'. The 'leaderboard' button is highlighted with a red background. Below the navigation bar is a search interface. It features two input fields: 'Position' and 'Name'. In the 'Position' field, there is a yellow circular icon with the number '22.' In the 'Name' field, the text 'aman' is entered. Below these fields is a search bar with the placeholder 'Search a player:' and a red 'Search' button. The main area below the search interface is currently empty, showing a light gray background.



Structural Coverage: 100% coverage of all the cases.

Additional Comments: A visual bug was present in the badminton active booking section. It is fixed.



5. Coaches' dashboard

All features of the coach dashboard for all sports were checked. Here we list the test

results of the tennis dashboard only. Results for other sports were identical.

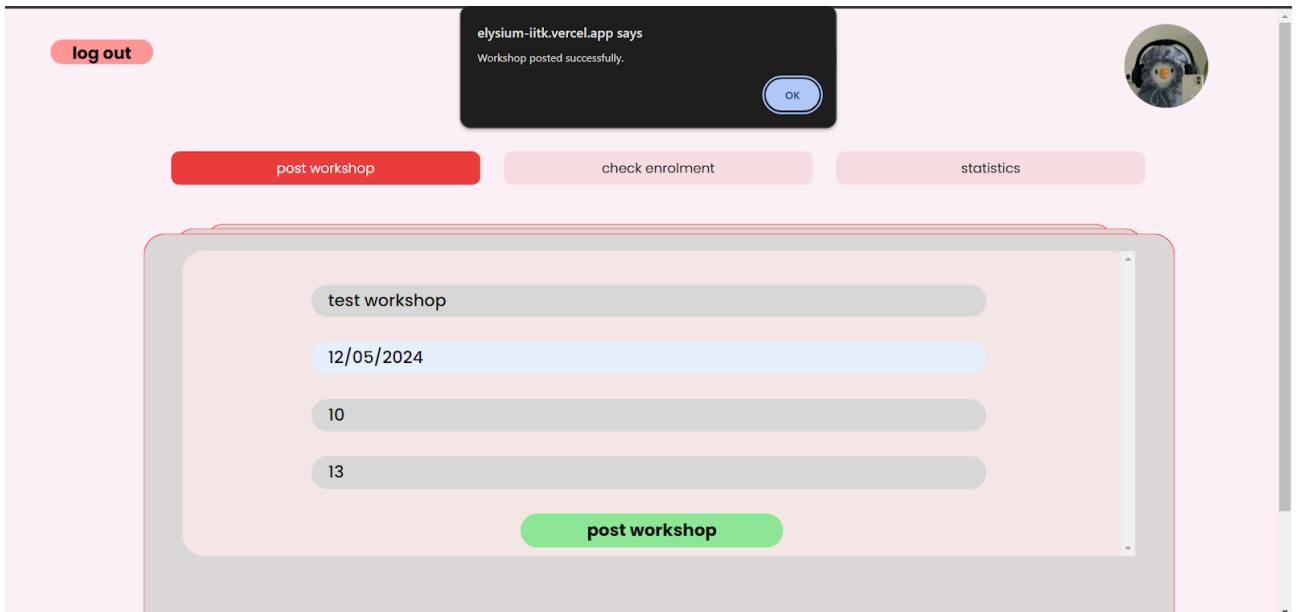
Unit Details: Coach pages.

Test Owner: Kushagra Srivastava

Test Date: 04/29/2024 - 04/29/2024

Test Results:

- Post workshop :



Entering the details of the workshop displayed the above alert. A corresponding entry in the workshop database was created.

```
_id: ObjectId('6607beb5f632aef9e38255a5')
time_slot_start: 13
time_slot_end: 14
content: "test workshop"
coach_user_id: ObjectId('6605933cd07a7de2cd93c2b7')
max_strength: 10
date_slot: "12/05/2024"
participants_id: Array (empty)
type_of_sport: "tennis"
__v: 0
```

In the check enrollment and statistics tab, details of the newly created workshop were added.

post workshop check enrolment statistics

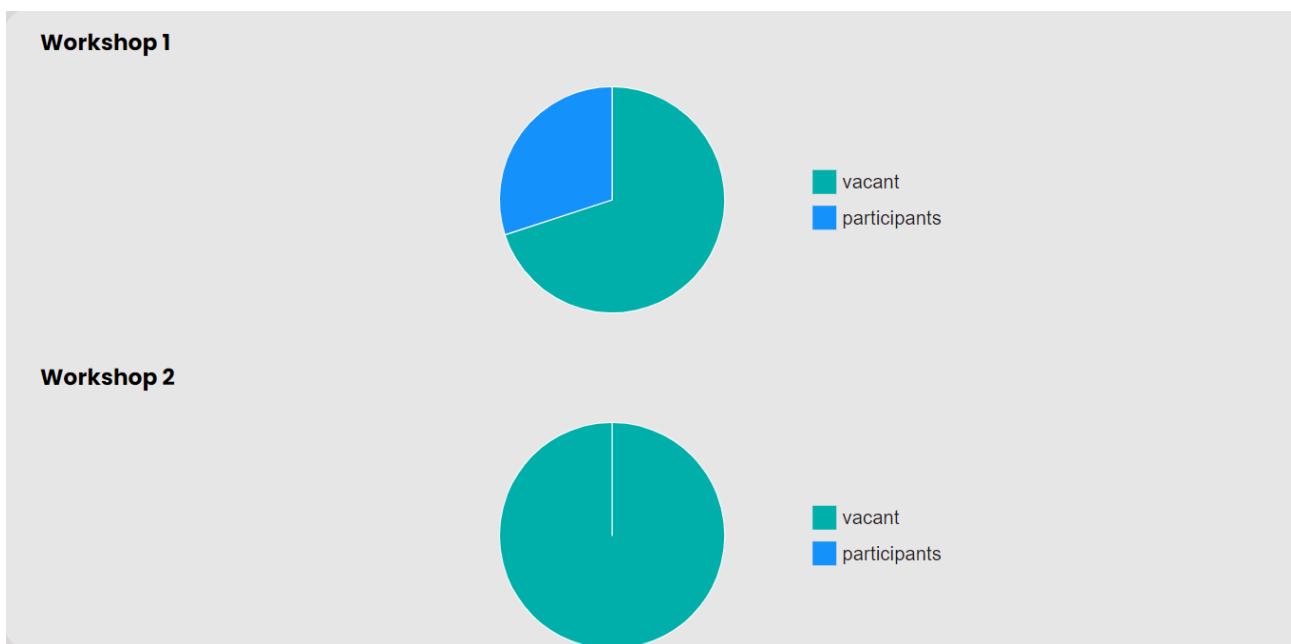
index	description	participants	vacancy
1	iitk tennis workshop 1	2	8
2	iitk tennis workshop 2	0	30
3	play	0	10
4	0	0	0
5	0	0	10
6	0	0	33
7	0	0	9
8	will	0	0
9	will	0	0
10	test workshop	0	10

enter index of workshop for a detailed description

status of workshops

Workshop	vacancies	participants	totalStrength
Workshop 1	7	3	10
Workshop 2	30	0	30

Here, workshop 2 refers to the newly created workshop. It has 100% vacancy as displayed above.



Structural Coverage: 100%

Small bugs were encountered while testing the workshop creation tab. Upon entering incomplete details an alert yelling this issue is generated but an entry in the workshop database was created with an empty description. Also a workshop of maximum capacity 0 was allowed which made no sense. These issues were solved. After solving these issues, all features worked as expected.

Additional Comments: Testing of coach dashboard was done successfully. Workshops were created successfully and invalid cases were warned of to the user.

4. Coaches' dashboard(non-team sports)

All features of the coach dashboard for all non-team sports were checked. Here we list the test results of the football dashboard only. Results for other sports were identical.

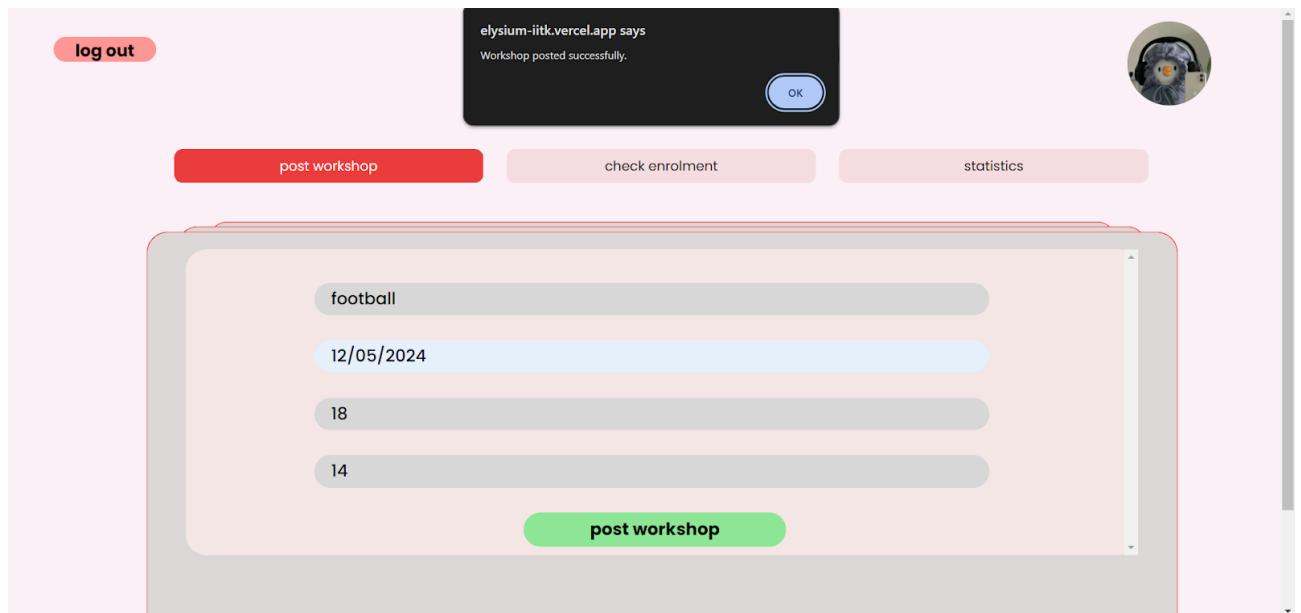
Unit Details: coach pages.

Test Owner: Arush Upadhyaya

Test Date: 04/29/2024 - 04/29/2024

Test Results:

Post workshop :



Entering the details of the workshop displayed the above warning. A corresponding entry in the workshop database was created.



A screenshot of a MongoDB interface showing a single document. The document contains the following fields and values:

- `_id: ObjectId('6607bfc8f632aef9e38255ae')`
- `time_slot_start: 14`
- `time_slot_end: 15` (highlighted in yellow)
- `content: "football"`
- `coach_user_id: ObjectId('6605939bd07a7de2cd93c2d6')`
- `max_strength: 18`
- `date_slot: "12/05/2024"`
- `participants_id: Array (empty)`
- `type_of_sport: "football"`
- `--v: 0`

At the top right of the interface, there are several icons: a play button, a pencil, a refresh, a copy, and a trash can.

In the check enrollment and statistics tab, details of the newly created workshop were added.

good afternoon!
Saturday, March 30, 2024
1:01 PM

log out

post workshop check enrolment statistics

index	description	participants	vacancy
1	iitk football workshop 1	0	19
2	iitk football workshop 2	0	20
3	football	0	18

enter index of workshop for a detailed description

post workshop check enrolment statistics

status of workshops

vacancies participants totalStrength

Workshop	Vacancies	Total Strength
Workshop 1	19	19
Workshop 2	20	20
Workshop 3	17	17

Workshop 1



Here, workshop 4 refers to the newly created workshop. It has 100% vacancy as displayed above.

Structural Coverage: 100%

Small bugs were encountered while testing the workshop creation tab. Upon entering incomplete details an alert yelling this issue is generated but an entry in the workshop database was created with an empty description. Also a workshop of maximum capacity 0 was allowed which made no sense. These issues were solved. After solving these issues, all features worked as expected.

Additional Comments: Testing of coach dashboard was done successfully. Workshops were created successfully and invalid cases were warned of to the user.

6. Coaches' dashboard (Swimming/Gym)

All features of the coach dashboard for swimming and gym were tested. Here we list the test results of the gym dashboard only. Results for swimming were identical.

Unit Details: swimming_instructor, gym_instructor pages.

Test Owner: Animesh Madaan

Test Date: 04/30/2024 - 04/30/2024

Test Results:

1. Check Enrollment :

On checking all the enrollments for the upcoming month the following table was displayed along with the corresponding database entries

swim_gym_memberships

_id	objectId	user_id	objectId	time_slot	Int32	type	Int32	year	Int32	month	Int32
1	ObjectId('6607c4dc7bd7b67..')	ObjectId('66058d9962062aa..')	6		0	0		2024	3		
2	ObjectId('6607dd8b836802c..')	ObjectId('66058d9962062aa..')	8		1	0		2024	3		
3	ObjectId('6607e250836802c..')	ObjectId('66058c4d62062aa..')	18		0	0		2024	3		
4	ObjectId('6607e447836802c..')	ObjectId('66058e5b62062aa..')	7		0	0		2024	3		
5	ObjectId('6607e55b836802c..')	ObjectId('66058c8c62062aa..')	8		0	0		2024	3		
6	ObjectId('6607e5a8836802c..')	ObjectId('66058d7562062aa..')	6		0	0		2024	3		

check enrollment
statistics

year **2024** month **march**

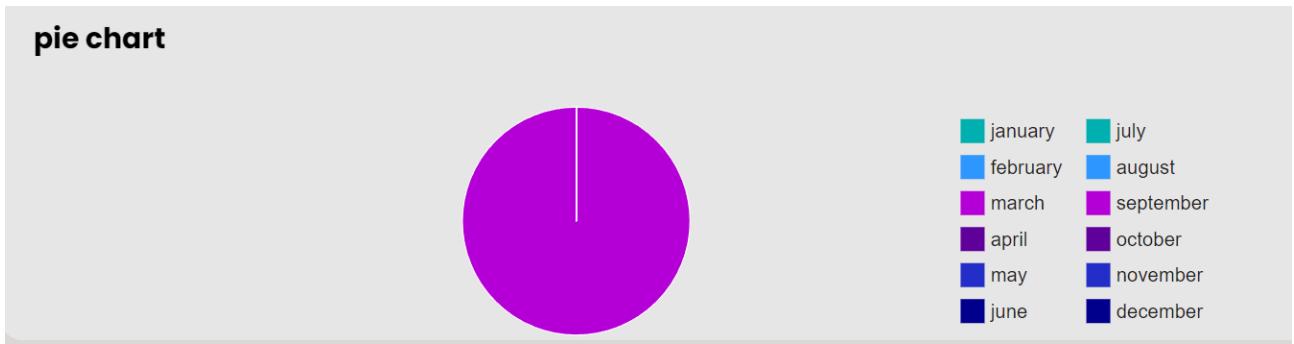
number of current enrollments : 5

username	year	month
sankalp_mittal	2024	march
aditya_khandelia	2024	march
akanksha_wattamwar	2024	march
monica_khandelia	2024	march
animesh_madaan	2024	march

2. Statistics

In the statistics tab, details of the number of people who have registered each month are shown





Structural Coverage: 100%

All features worked as expected

Additional Comments: Testing of Swimming and Gym coach dashboard was done successfully. The enrollment details and statistics were shown successfully to the coach.

7. Counsellor

The counsellor's sub-section in the mental wellness section was tested.

Unit Details: Counsellor section pages.

Test Owner: Akanksha Wattamwar

Test Date: 04/26/2024 - 04/26/2024

Test Results:

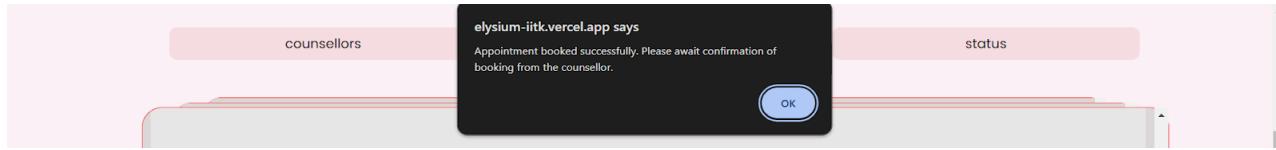
The user could view the time slots of availability for each counsellor, both date-wise and day-wise

counsellors	book appointments	status
counsellor username	day/date	timing
iitk_counsellor_2	11/04/2024	8am-9am, 9am-10am
iitk_counsellor_3	20/04/2024	3pm-4pm, 4pm-5pm
iitk_counsellor_3	MTW	7am-8am, 6pm-7pm
iitk_counsellor_1	04/04/2024	7am-8am, 5pm-6pm
iitk_counsellor_1	MTW	6am-7am, 7am-8am
iitk_counsellor_2	MTW	6am-7am, 7am-8am

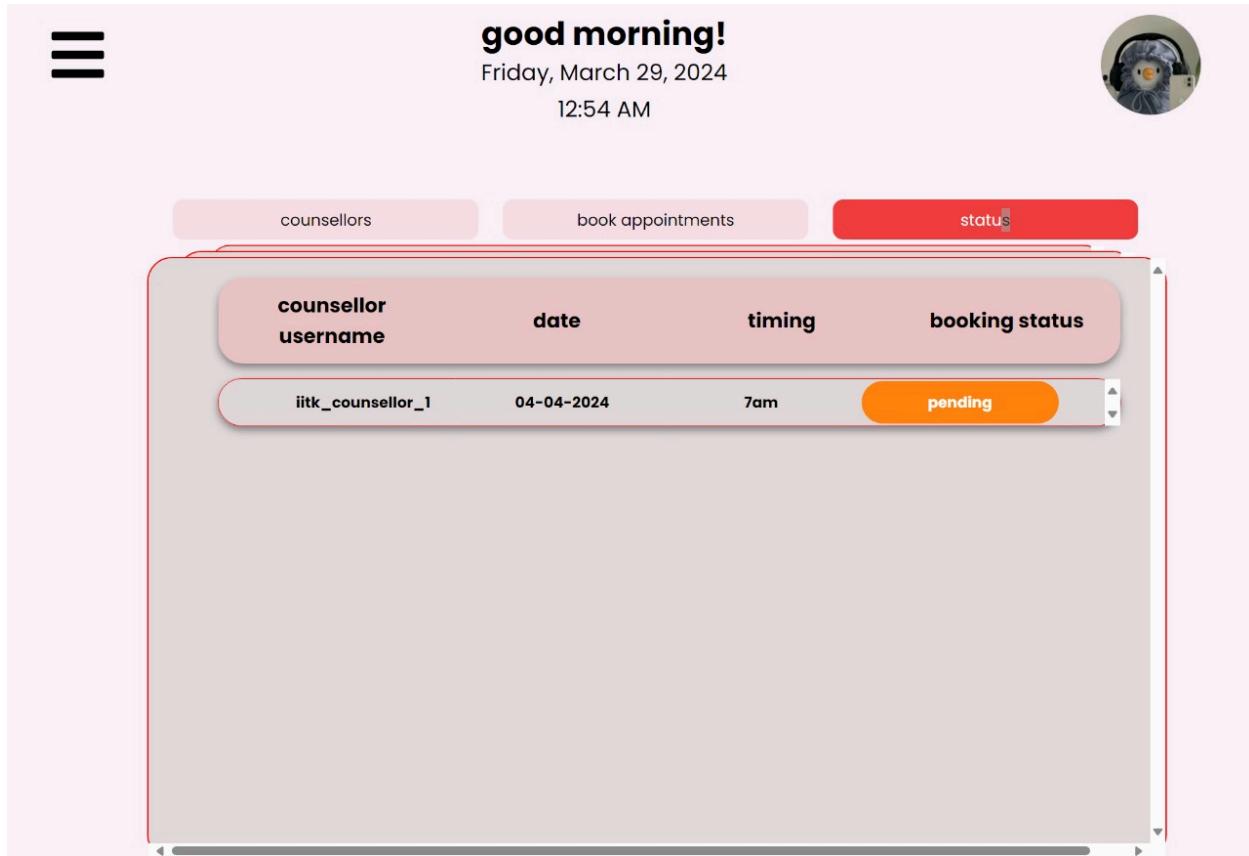
Users can schedule a new counsellor appointment by navigating to the book appointments tab and then filling appropriate details. Upon making an appointment as such, then an appropriate alert is generated.

counsellors	book appointments	status
counsellor	iitk_counsellor_1	
date/day of appointment	04/04/2024	
preferred time	7	
hall:	2	
contact number	9464256717	
book		

Alert :



The status of the appointment is set to pending by default.



The appointment is created corresponding to the user who has the following as user data:
Upon registering for an appointment, the following entry is created in the counsellor appointments database.

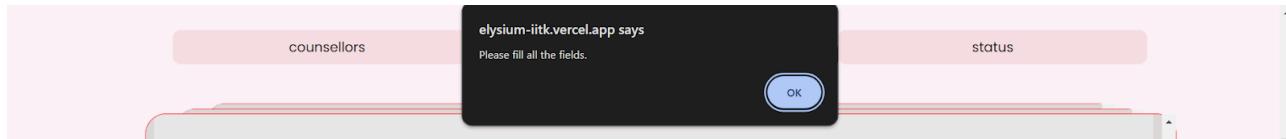
```

_id: ObjectId('6605c3f128a449ebede63f96')
user_id : ObjectId('66058c4d62062aa40dd09150')
time_slot : 7
date_slot : "04-04-2024"
counsellor_user_id : ObjectId('660597c3d07a7de2cd93c344')
booking_status : 0
time_of_booking : 2024-03-28T19:24:33.780+00:00
program : "BTech"
department : "Physics"
hall : 14
contact_number : "1234567890"
__v : 0

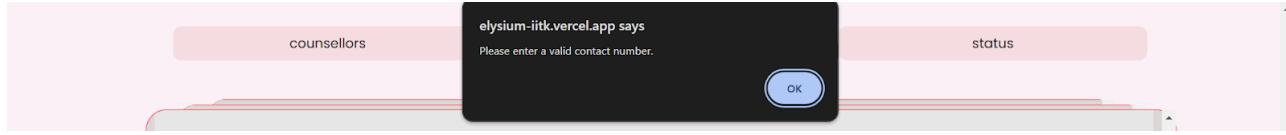
```

Structural Coverage: 100%.

All possible cases were tested and appropriate results were obtained. Eg. when any entry is left unfilled:



When an invalid contact number is entered:



Additional Comments: Testing for the unit counsellor was done successfully and the appropriate results were generated. Upon filling inappropriate input expected alerts were generated.

8. Superuser

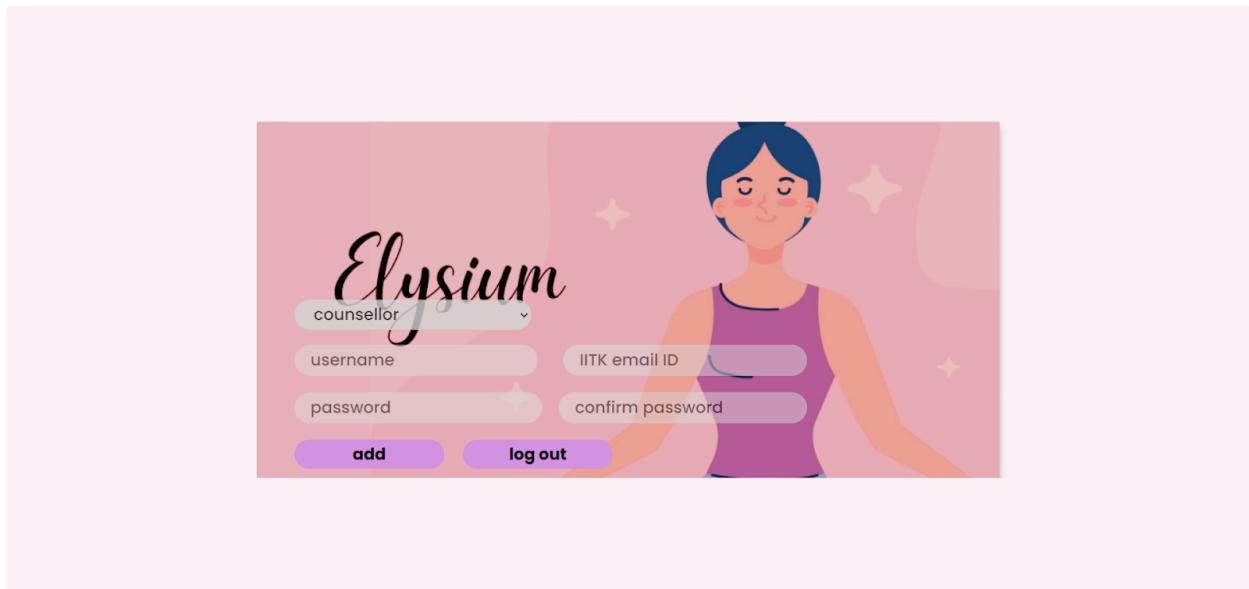
The functionalities of the superuser page were verified, as are listed below.

Module Details: Super_admin section pages.

Test Owner: Ritesh Baviskar

Test Date: 04/26/2024 - 04/26/2024

Test Results:



Using the page displayed above, new accounts of the coach(of badminton), counsellor, gym/swim instructor, yoga instructor and admin were created. The following entries were created in the user database.



Using the page displayed above, new accounts of the coach(of badminton), counsellor, gym/swim instructor, yoga instructor and admin were created. The following entries were created in the user database.

```
_id: ObjectId('6607dd11836802c354cbc92d')
username : "super_badminton"
email_id : "superbadminton@iitk.ac.in"
user_category : 3
password : "$2a$10$X8G8IUjnTJGEjy5HLoAf.Ot/uU07bdwII7PaATR5rK6ICKzeEAsLu"
profile_pic : ""
type_of_sport : "badminton"
__v : 0
```

```
_id: ObjectId('6607ddce836802c354cbc952')
username : "super_counsellor"
email_id : "super_counsellor@iitk.ac.in"
user_category : 2
password : "$2a$10$q1JeqV/ly7ep43RftLFZ0.0bKl4n0IJNioG4vK.obWH7Z/D5518i."
profile_pic : ""
type_of_sport : ""
__v : 0
```

```

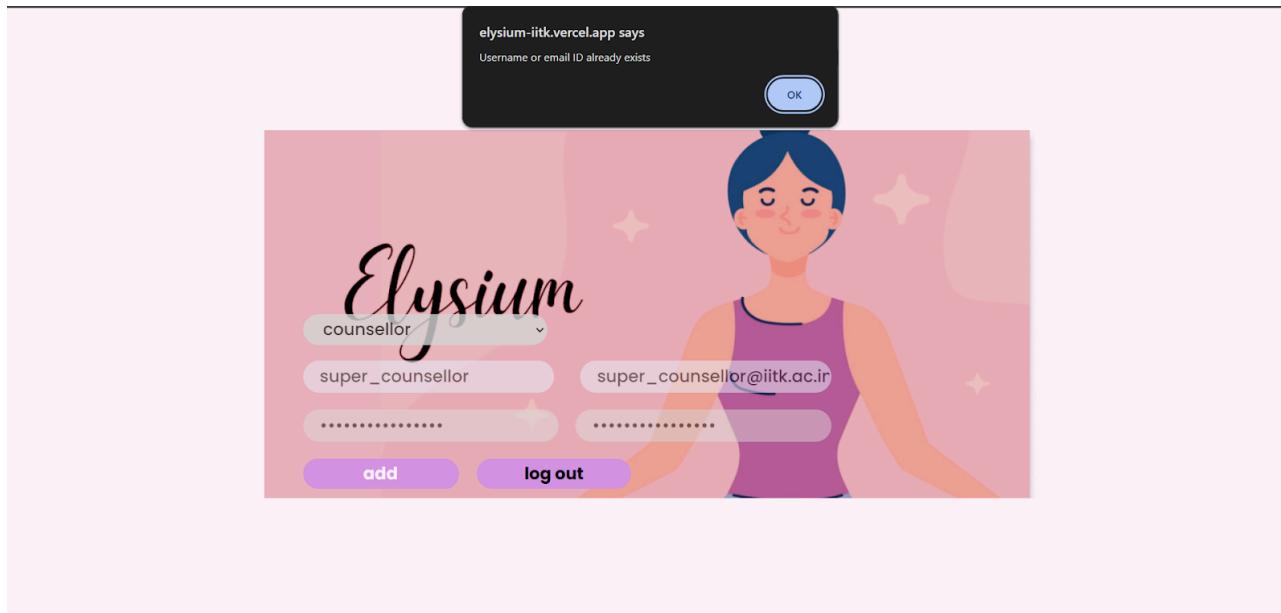
_id: ObjectId('6607deb7836802c354cbc95a')
username : "super_yoga"
email_id : "super_yoga@iitk.ac.in"
user_category : 4
password : "$2a$10$/C2yb2R8Vd85csV0E1NPdeT3c5HtMJ7BX.8Yi5f9nqQ0DX5j1HWS"
profile_pic : ""
type_of_sport : ""
__v : 0

_id: ObjectId('6607df38836802c354cbc95e')
username : "super_gym"
email_id : "super_gym@iitk.ac.in"
user_category : 5
password : "$2a$10$BN47T6Ac7eeT/4djFGNRqepH5Sk.IzUWkn4NCQGujRTfARYLs$qm2"
profile_pic : ""
type_of_sport : ""
__v : 0

_id: ObjectId('6607dfe2836802c354cbc964')
username : "super_admin"
email_id : "super_admin@iitk.ac.in"
user_category : 6
password : "$2a$10$D4.16f5lIAS3xN9qDg1EU05u9CCZq5QLHBgwPXd/NTpR2Fd78zV1"
profile_pic : ""
type_of_sport : "badminton"
__v : 0

```

The user name and user IITK email has to be unique for each account. If not done so the following alert is generated:



Additional Comments:

The superuser functionality worked as expected and new user entries of coaches and instructors were created successfully in the database.

9. User gym page

Booking of gym membership and tutorials page were tested.

During testing, the user gym page section demonstrated successful functionality in the following areas:

1. Booking of gym slots
2. Viewing tutorials

3. Displaying the current gym pass
- All these actions were verified and found to be working as intended.

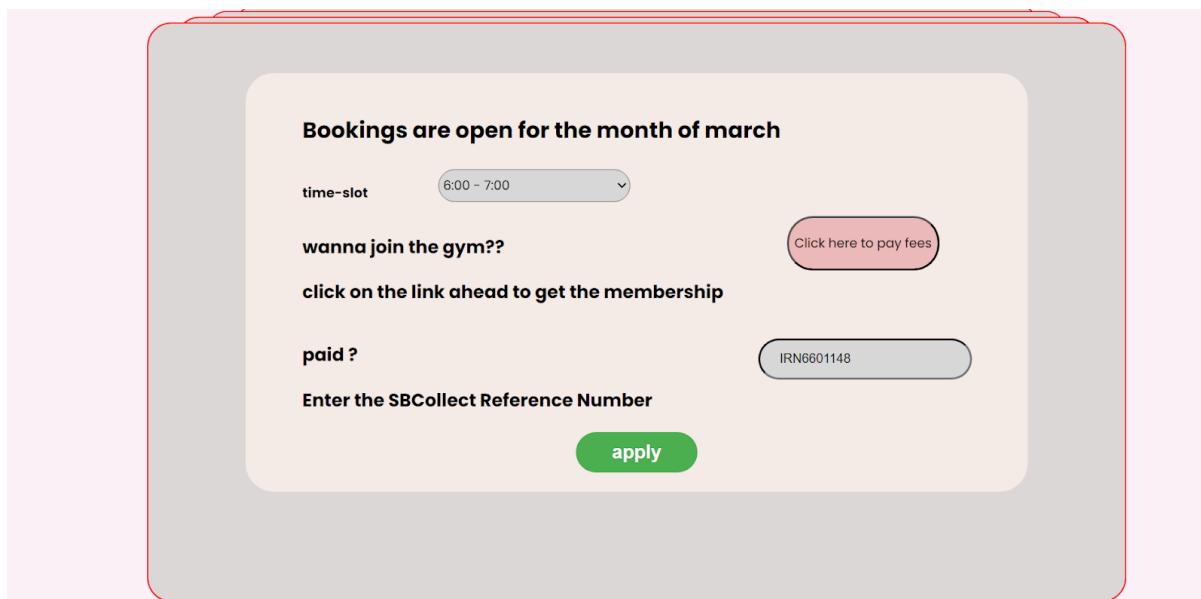
Unit Details: Gym section pages

Test Owner: Aditya Jagdale

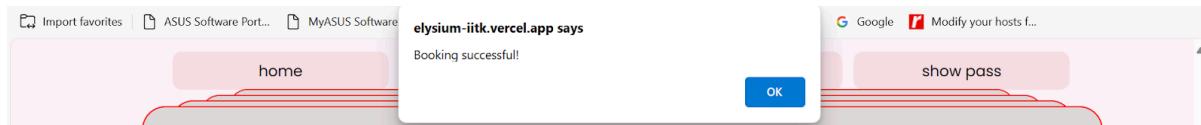
Test Date: 04/27/2024 - 04/27/2024

Test Results:

1. Gym membership: When applied for a membership with valid details, an appropriate alert was generated and the correct membership details were shown in the show pass page.



Alert upon applying:



Updated membership details:

Gym Membership Details

Name: aditya_khandelia

Valid for the month: March 2024

Time-Slots: 6:00 - 7:00

```
_id: ObjectId('66058c4d62062aa40dd09150')
username : "aditya_khandelia"
email_id : "khandeliaaditya@iitk.ac.in"
user_category : 1
password : "$2a$10$GpGay5W7vzSPbQo2L7E/c0Nh.myRUFNGrDjYmGmLIGmA7DciVQPKq"
profile_pic : ""
type_of_sport : ""
__v : 0
```

Upon registering for membership, the following entry is created in the sym_gym_membership database.

```
_id: ObjectId('6607cb9b7bd7b67ea6cd2d90')
user_id : ObjectId('66058c4d62062aa40dd09150')
time_slot : 6
type : 0
year : 2024
month : 3
booking_status : 1
time_of_booking : 2024-03-30T08:21:46.307+00:00
__v : 0
```

If any entry is left unfilled:

elysium-iitk.vercel.app says

Please enter the correct reference number.

OK

Bookings are open for the month of march

time-slot select a time slot

wanna join the gym?? Click here to pay fees

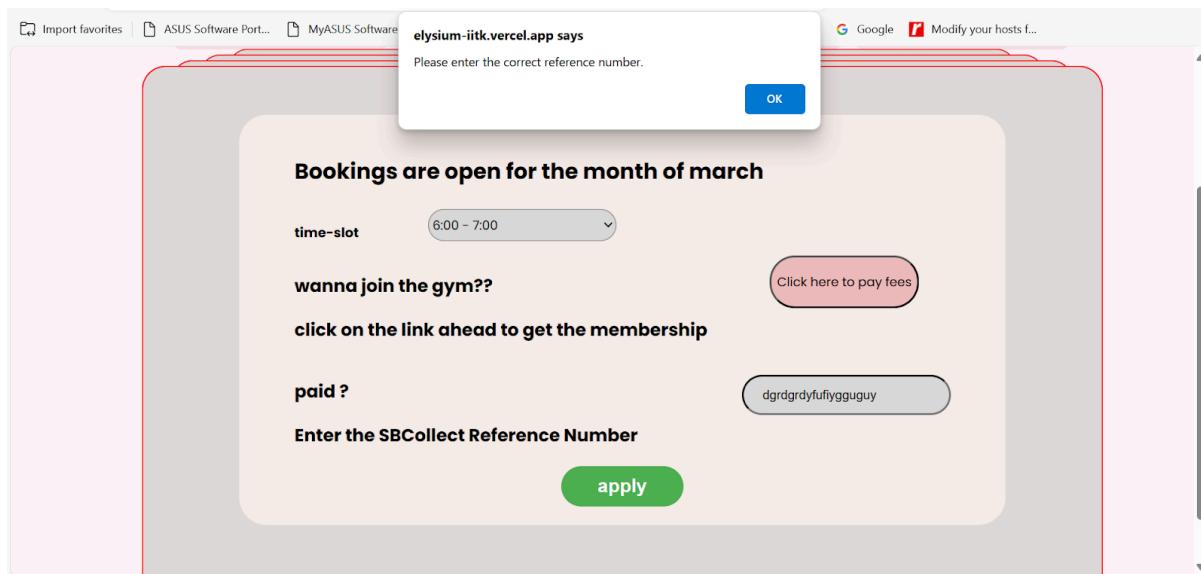
click on the link ahead to get the membership

paid? Reference Number

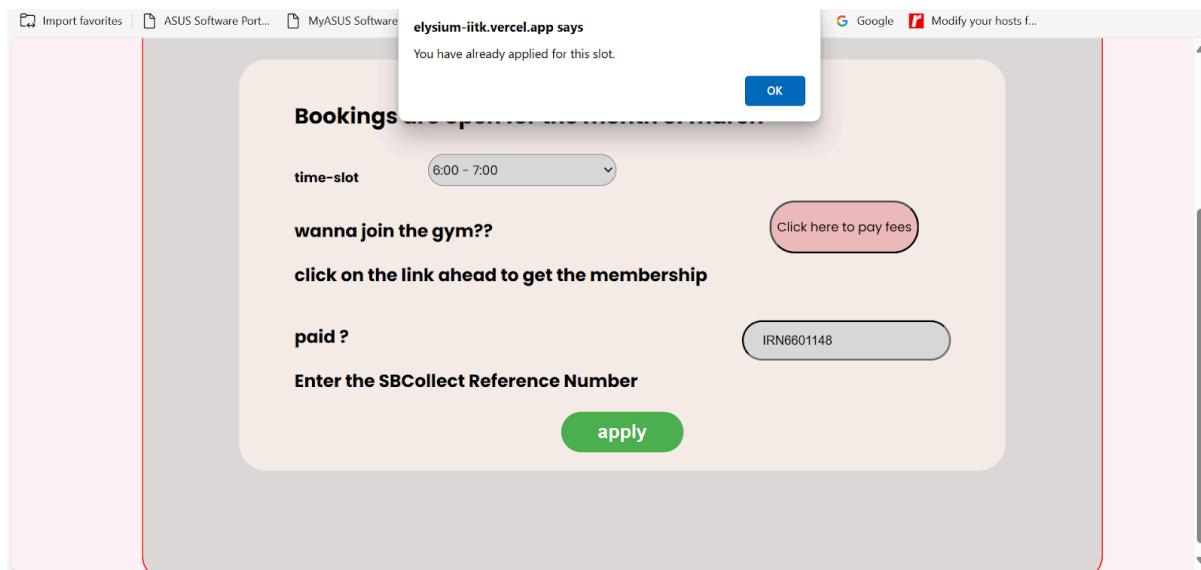
Enter the SBCollect Reference Number

apply

When an invalid reference number is entered:



When re-applied for a slot:



2. Tutorials: Working of the *click here* button was tested and was found to redirect correctly to the expected webpage.

topic	author	link
Gym workouts for beginners	Nuffield Health	click here!
6 Beginner Gym Workouts: How To Work Out In A Gym The Right Way!	Nerd Fitness	click here!
Beginner Full Body Gym Workout	Naomi Kong	click here!
Beginner's Guide to the Gym DO's and DON'Ts	Magnus Method	click here!
How To Start Calisthenics	Browney	click here!

After clicking *click here*:

The screenshot shows a web browser window with the following details:

- Title Bar:** Gym workouts for beginners | Nuffield Health
- Address Bar:** https://www.nuffieldhealth.com/article/gym-workouts-for-beginners
- Toolbar:** Includes standard browser icons like back, forward, search, and refresh.
- Header:**
 - Nuffield Health logo
 - Search bar: What would you like to do today?
 - Login button
- Navigation:** Hospitals, Gyms, Services, Advice
- Page Content:**
 - Home > Health and wellbeing articles > Gym workouts for beginners
 - # Gym workouts for beginners
 - Overview:**
 - [Beginner gym workout for females](#)
 - [Beginner gym workout for males](#)
 - [Beginner gym workout for strength](#)
 - [Beginner gym workout for fat loss](#)
 - [Beginner gym workouts for flexibility](#)
 - [Beginner video session](#)
- System Tray:** Shows battery level, signal strength, and date/time (30-03-2024, 14:15).

Reference: [Gym workouts for beginners | Nuffield Health](#)

Structural Coverage: 100%

Small bugs were encountered while booking for the same slot again. The booking was shown to be successful when re-booked the slot again. These issues were solved. After solving these issues, all features worked as expected.

Additional Comments: Testing of the user gym page was done successfully. The slot was booked successfully, the tutorial page worked as required, the show pass page was being updated according to the booked user slot and invalid cases were warned to the user.

10. User swim page

Booking of swim membership and tutorials page were tested.

During testing, the user swim page section demonstrated successful functionality in the following areas:

4. Booking of pool slots
5. Viewing tutorials
6. Displaying the current pool pass

All these actions were verified and found to be working as intended.

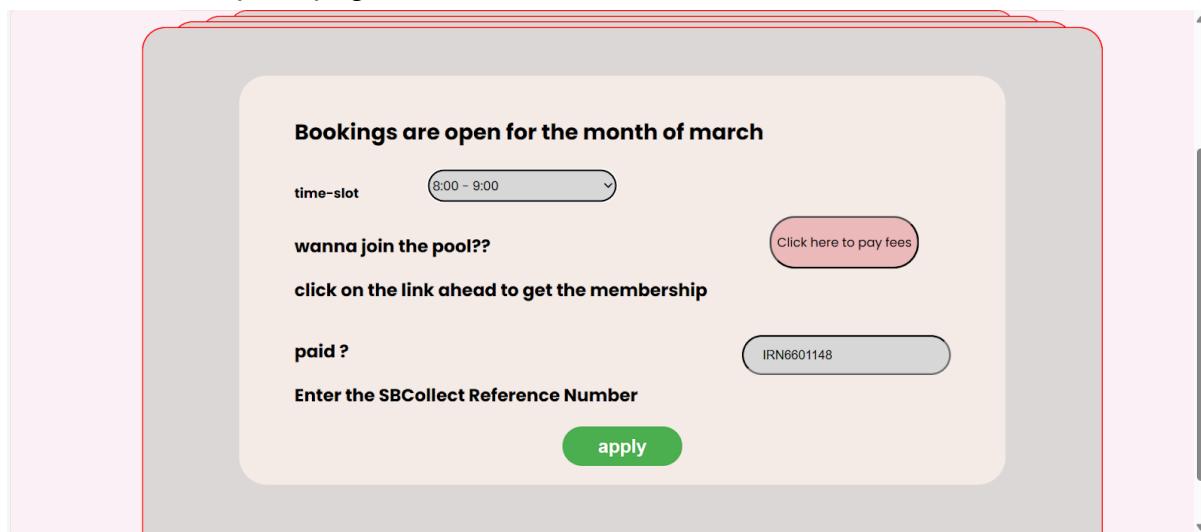
Unit Details: Swim section pages

Test Owner: Aditya Jagdale

Test Date: 04/27/2024 - 04/27/2024

Test Results:

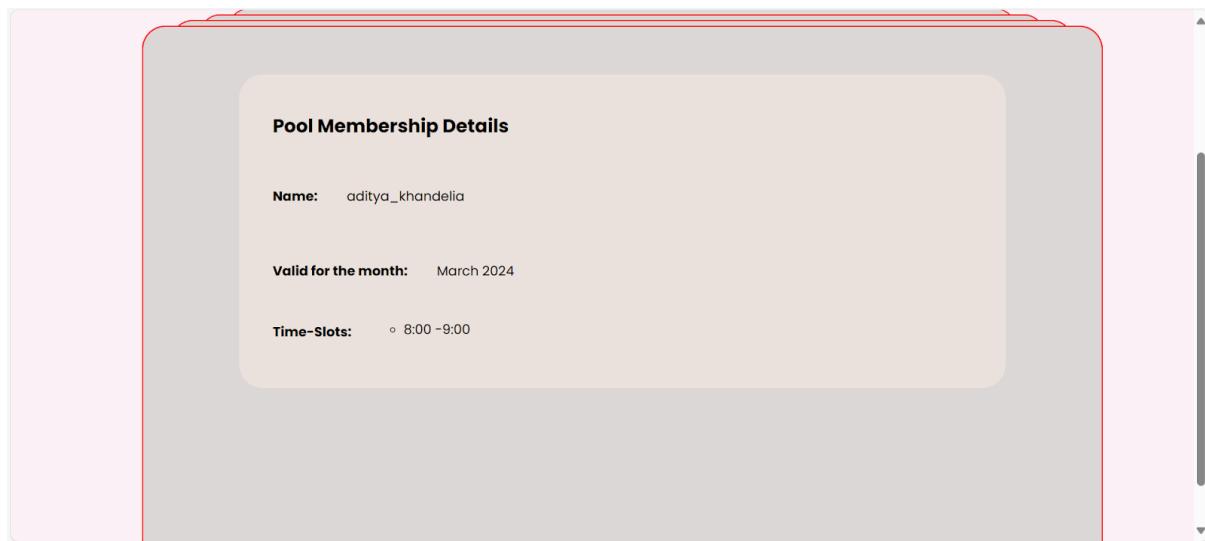
Swim membership: When applied for a membership with valid details, an appropriate alert was generated and the correct membership details were shown on the show pass page.



Alert upon applying:



Updated membership details:



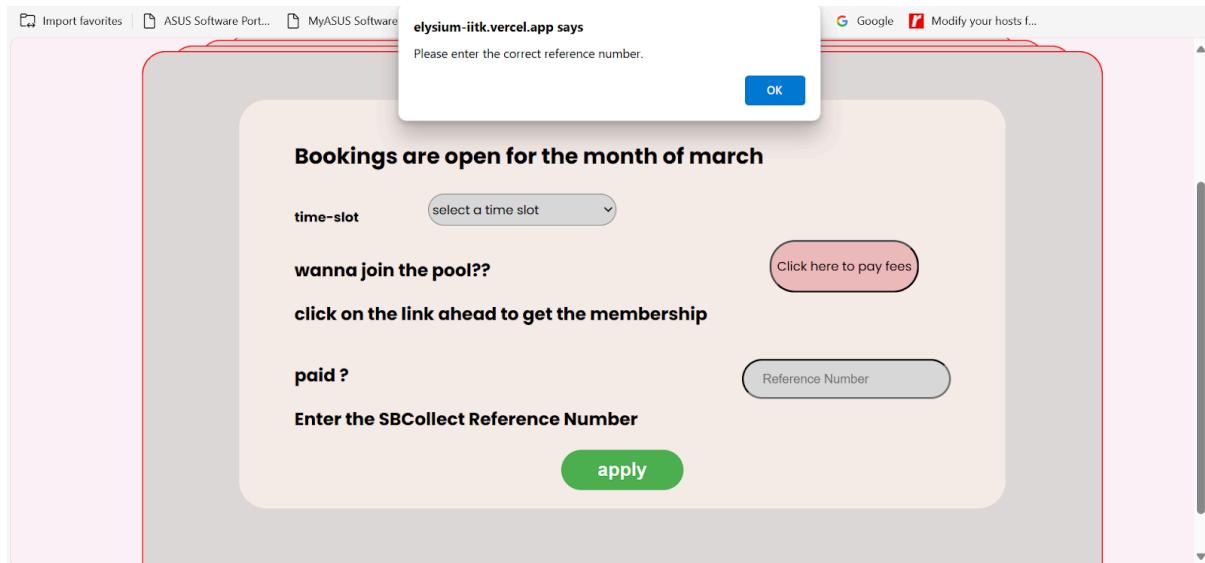
```
_id: ObjectId('66058c4d62062aa40dd09150')
username : "aditya_khandelia"
email_id : "khandeliaaditya@iitk.ac.in"
user_category : 1
password : "$2a$10$GpGay5W7vzSPbQo2L7E/c0Nh.myRUFNGrDjYmGmLIGmA7DciVQPKq"
profile_pic : ""
type_of_sport : ""
__v : 0
```

Upon registering for membership, the following entry is created in the sym_gym_membership database.

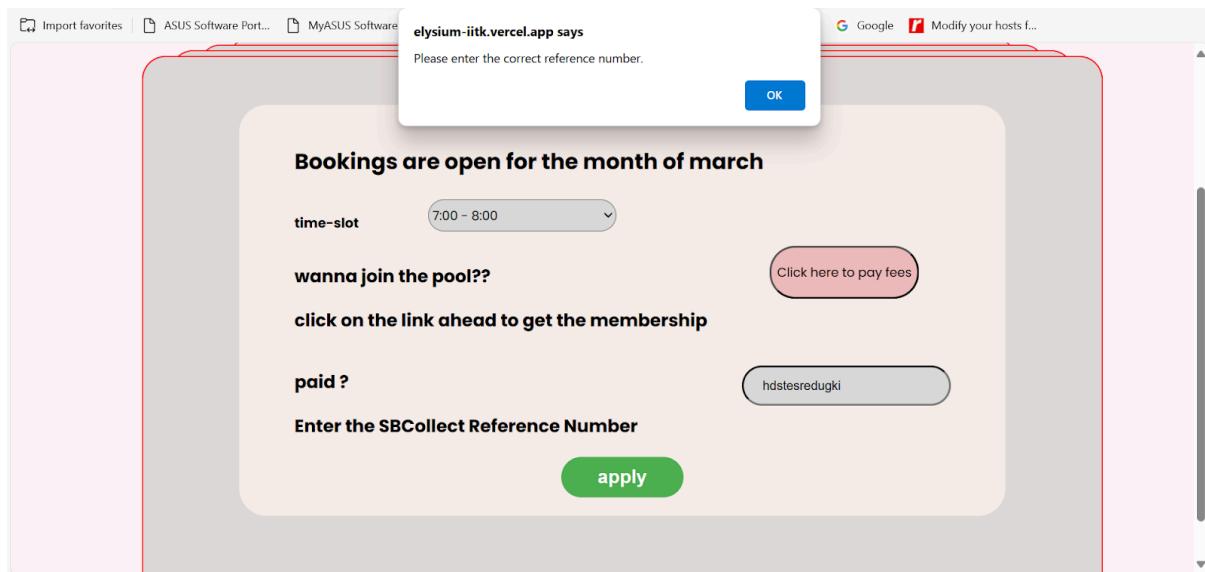
```
_id: ObjectId('66080b15194faf060a43e00e')
user_id : ObjectId('66058c4d62062aa40dd09150')
time_slot : 8
type : 1
year : 2024
month : 3
booking_status : 1
time_of_booking : 2024-03-30T12:52:36.711+00:00
__v : 0
```

Structural Coverage: 100%.

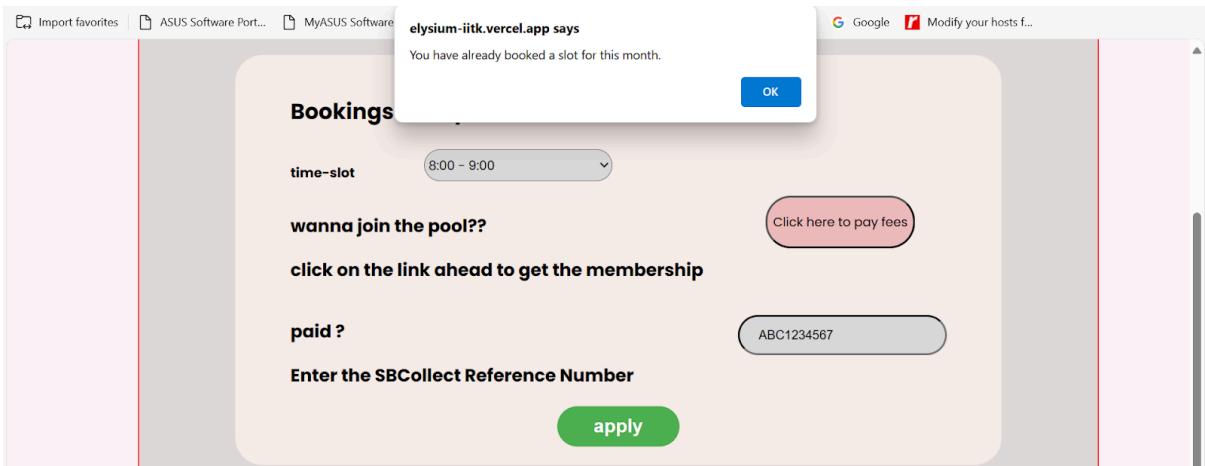
All possible cases were tested and appropriate results were obtained.
If any entry is left unfilled:



When an invalid reference number is entered:



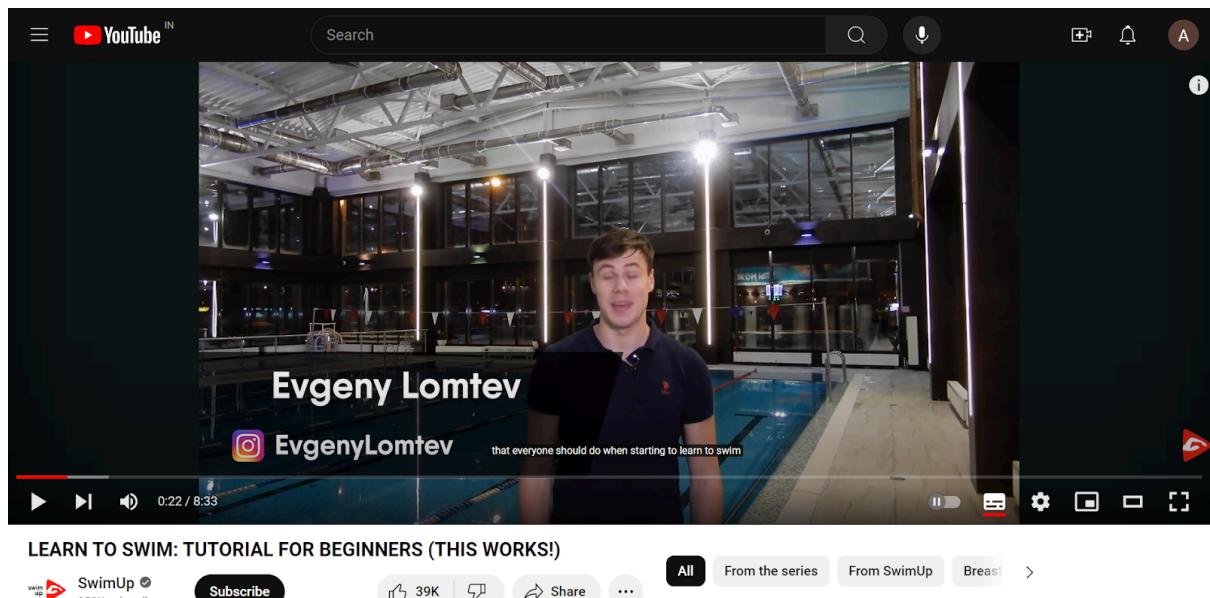
When re-applied for a slot:



Tutorials: Working of the *click here* button was tested and was found to redirect correctly to the expected webpage.

topic	author	link
LEARN TO SWIM: TUTORIAL FOR BEGINNERS	SwimUp	click here!
Swimming Tutorial for Beginners	Rocket Swimming	click here!
How to Swim: Instructions and Tips for Kids and Adults	Kirsten Nunez	click here!
Freestyle Tutorials	Skills N' Talents	click here!

After clicking *click here*:



Reference: LEARN TO SWIM: TUTORIAL FOR BEGINNERS (THIS WORKS!)

Structural Coverage: 100%

Small bugs were encountered while booking for the same slot again. The booking was shown to be successful when re-booked the slot again. These issues were solved. After solving these issues, all features worked as expected.

Additional Comments: Testing of the user swim user page was done successfully. The slot was booked successfully, the tutorial page worked as required, the show pass page was being updated according to the booked user slot and invalid cases were warned to the user.

11. Counsellor Dashboard

Elysium empowers counsellors with the capability to create availability slots, accept or reject appointments and post blog entries.

All these actions were verified and found to be working as intended.

The counsellor dashboard section was successfully tested for the following functionalities:

1. Creation of availability slots
2. Acceptance and rejection of appointments
3. Posting of blog entries

Unit Details: Counsellor Dashboard pages.

Test Owner: Aditi Khandelia

Test Date: 04/26/2024 - 04/26/2024

Test Results:

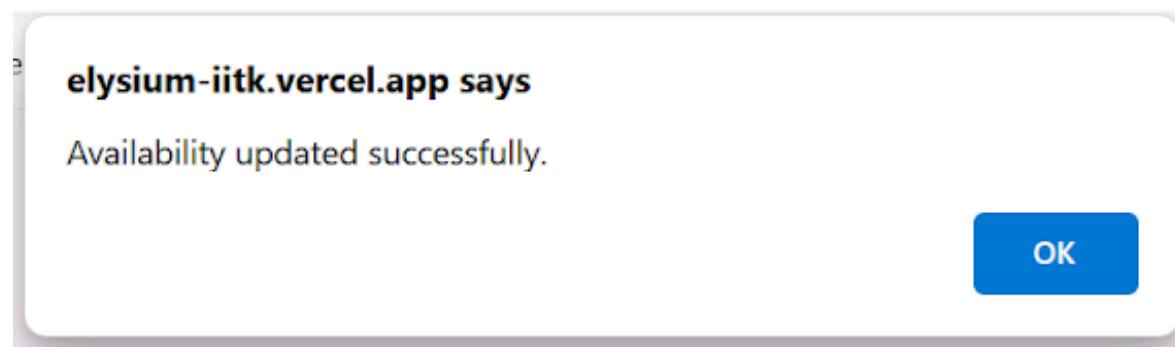
The counsellor can inform users of their availability by navigating to the 'Availability' tab and filling in either a day of the week with a time slot or a specific date with a time slot.

The screenshot shows the 'availability' tab selected in the top navigation bar. Below it, there's a form for setting availability. It includes fields for 'day(s)' (with checkboxes for Monday, Tuesday, Wednesday) and 'date' (set to 12/04/2024). There are two sets of dropdowns for 'time': one for the day and one for the date. Each set has three options: 6:00 am - 7:00 am, 7:00 am - 8:00 am, and 8:00 am - 9:00 am. To the right of each time dropdown is a red button labeled '+ add selected range'. At the bottom, there's a section for 'added date(s)' showing 'date/day' (04/04/2024) and 'time slots' (7 am to 8 am, 5 pm to 6 pm).

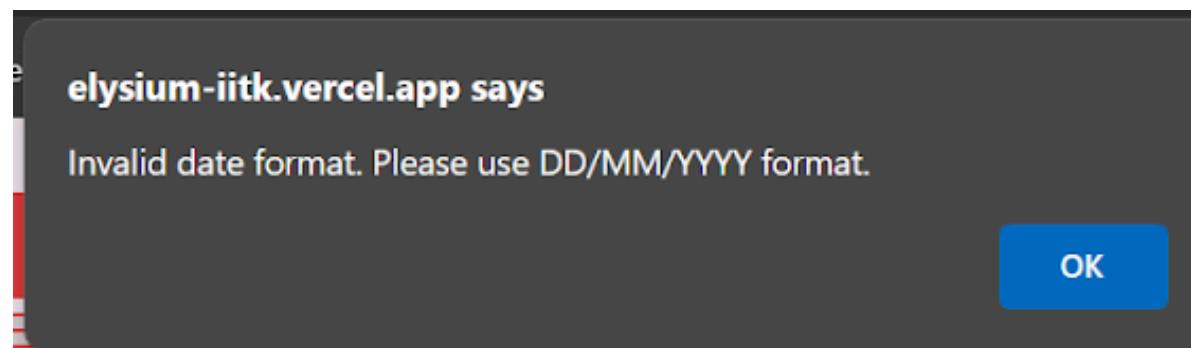
Upon creating an availability slot, the following entry is created in the time_slot_by_counsellor database.

```
_id: ObjectId('6605dc7ac26a7112916dfccc')
  ▶ day_vector: Array (7)
  ▶ hour_vector: Array (24)
  counsellor_user_id: ObjectId('660597c3d07a7de2cd93c344')
  date_slot: "12/12/1212"
  ▶ date_slot_time_vector: Array (24)
  __v: 0
```

After notifying availability, an alert message is generated.



If an invalid date format is provided the following alert message pops up:

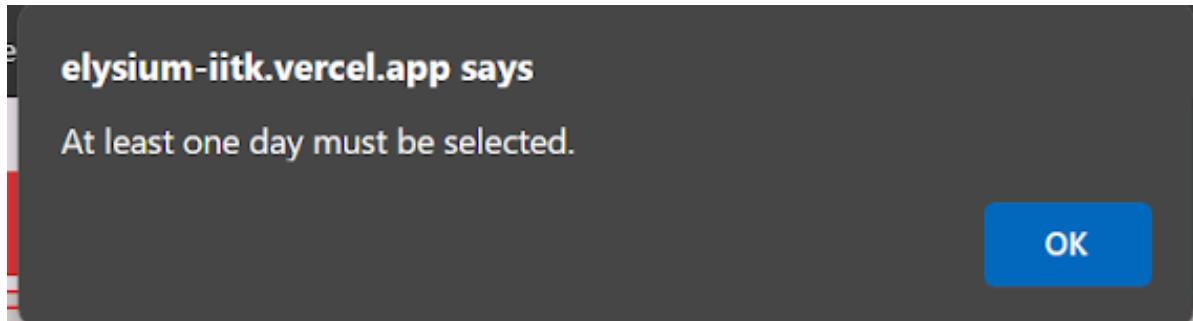


If no data is provided:

1. In day(s) option:



2. In date option:



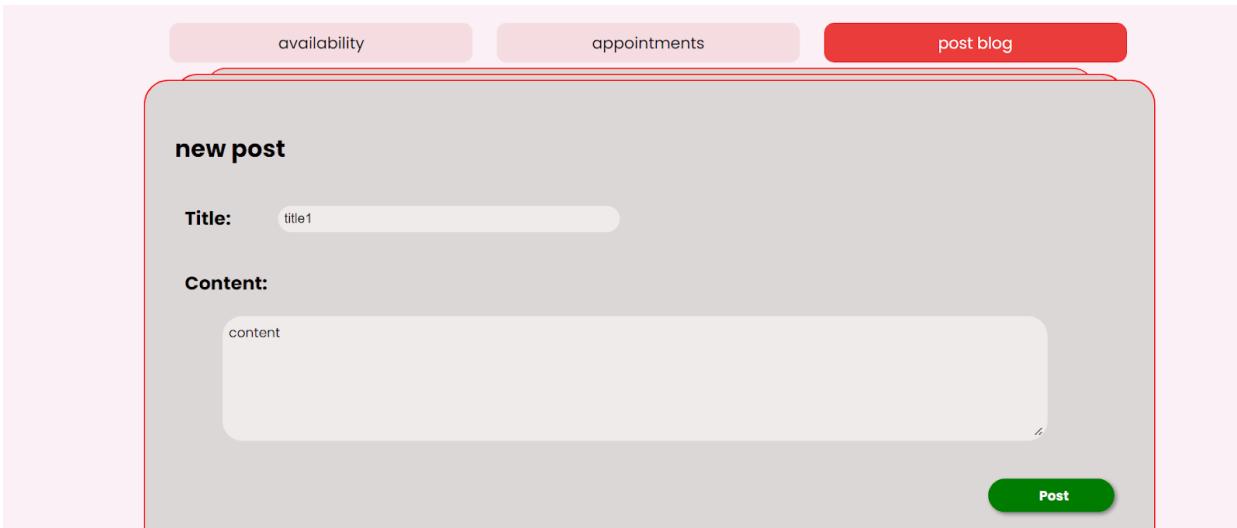
The added availability slot is displayed in the “**Added Date(s)**” table.



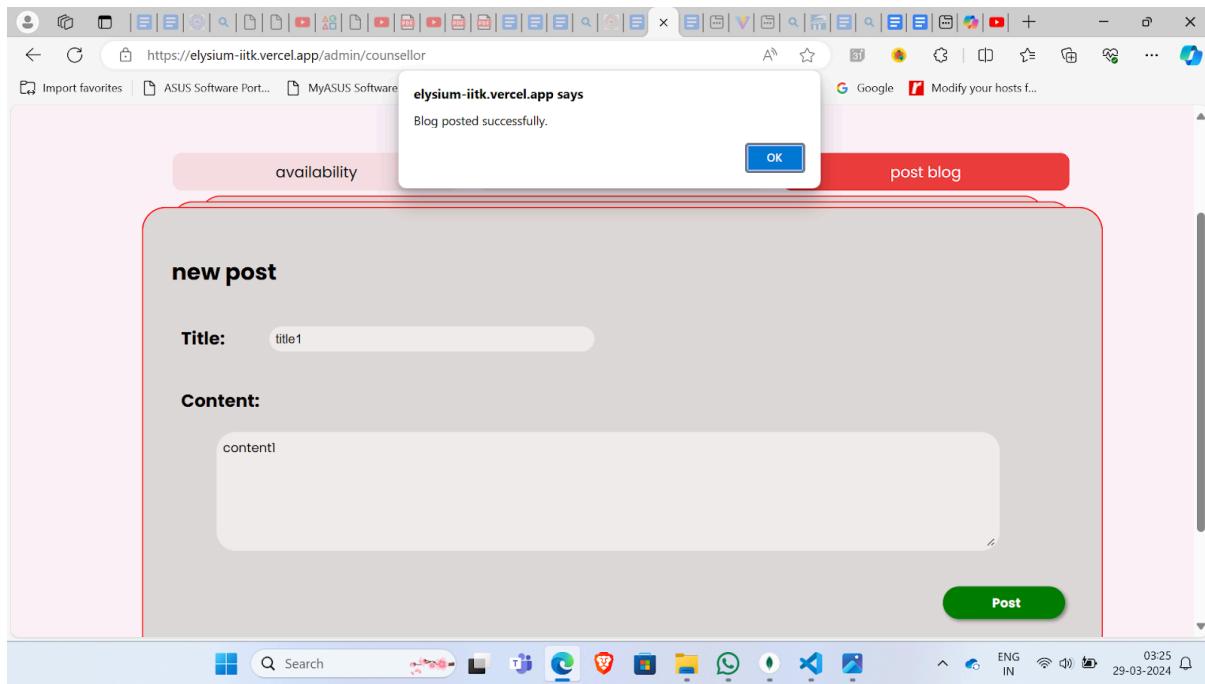
Upon creating an availability slot, the following entry is created in the `time_slot_by_counsellor` database.

```
_id: ObjectId('6605dc7ac26a7112916dfccc')
▶ day_vector: Array (7)
▶ hour_vector: Array (24)
counsellor_user_id: ObjectId('660597c3d07a7de2cd93c344')
date_slot: "12/12/1212"
▶ date_slot_time_vector: Array (24)
__v: 0
```

2. The counsellor can post blogs for other users to read by navigating to the post blog tab and filling in the title and content of the blog as follows



After posting a blog, an alert message is generated.



Upon posting a blog, the following entry is created in the blogs_posted_by_counsellors database.

```
_id: ObjectId('6605e749b15602d8050c1e8e')
content : "content1"
title : "title1"
counselor_username : "iitk_counselor_1"
__v : 0
```

3. Appointments: The counsellor can accept and reject appointments according to their convenience by navigating to the appointments tab by accepting/rejecting the request as follows.

User id data :



Before accepting the request:

```

_id: ObjectId('6605ade5dfbcfeb90d28e2de')
user_id: ObjectId('6605908562062aa40dd0925b')
time_slot: 17
date_slot: "03/04/2024"
counsellor_user_id: ObjectId('660597c3d07a7de2cd93c344')
booking_status: 0
time_of_booking: 2024-03-28T17:50:29.301+00:00
program: "BTech"
department: "CSE"
hall: 10
contact_number: "9334269922"
__v: 0

```

After accepting the request:

```

_id: ObjectId('6605ade5dfbcfeb90d28e2de')
user_id: ObjectId('6605908562062aa40dd0925b')
time_slot: 17
date_slot: "03/04/2024"
counsellor_user_id: ObjectId('660597c3d07a7de2cd93c344')
booking_status: 1
time_of_booking: 2024-03-28T17:50:29.301+00:00
program: "BTech"
department: "CSE"
hall: 10
contact_number: "9334269922"
__v: 0

```

name	time	date	action
aditi_khandelia	6 pm to 7 pm	03/04/2024	<button>Accept</button> <button>Reject</button>
Anonymous	8 am to 9 am	04-04-2024	<button>Accept</button> <button>Reject</button>

name	time	date
aditi_khandelia	6 pm to 7 pm	03/04/2024
kushagra_srivastava	7 am to 8 am	12/02/2024

Before rejecting the request:

name	time	date	action	
aditya_khandelia	8 am to 9 am	04-04-2024	<button>Accept</button>	<button>Reject</button>
monica_khandelia	8 pm to 9 pm	01/04/2024	<button>Accept</button>	<button>Reject</button>
<hr/>				
name	time	date		
aditi_khandelia	6 pm to 7 pm	03/04/2024		
Anonymous	8 am to 9 am	04-04-2024		
Anonymous	8 am to 9 am	04-04-2024		
aditya_khandelia	9 am to 10 am	01/04/2024		
kushagra_srivastava	7 am to 8 am	12/02/2024		

User id to be rejected:

```
_id: ObjectId('66058c4d62062aa40dd09150')
username : "aditya_khandelia"
email_id : "khandeliaaditya@iitk.ac.in"
user_category : 1
password : "$2a$10$GpGay5W7vzSPbQo2L7E/c0Nh.myRUFNGrDjYmGmLIGmA7DciVQPKq"
profile_pic : ""
type_of_sport : ""
__v : 0
```

Appointment database before rejecting user:

<input type="button" value="▶"/>	<input type="button" value="✎"/>	<input type="button" value="📄"/>	<input type="button" value="📁"/>	<input type="button" value="trash"/>
_id: ObjectId('6605cc2e28a449ebede64078')	user_id : ObjectId('66058c4d62062aa40dd09150')	time_slot : 7	date_slot : "04-04-2024"	counsellor_user_id : ObjectId('660597c3d07a7de2cd93c344')

Appointment database after rejecting user:

availability	appointments	post blog	
<hr/>			
name	time	date	action
<hr/>			
monica_khandelia	8 pm to 9 pm	01/04/2024	<button>Accept</button>
<hr/>			
name	time	date	
aditi_khandelia	6 pm to 7 pm	03/04/2024	
Anonymous	8 am to 9 am	04-04-2024	
Anonymous	8 am to 9 am	04-04-2024	
aditya_khandelia	9 am to 10 am	01/04/2024	
kushagra_srivastava	7 am to 8 am	12/02/2024	



```

_id: ObjectId('6605cc2e28a449ebede64078')
user_id: ObjectId('66058c4d62062aa40dd09150')
time_slot: 7
date_slot: "04-04-2024"
counsellor_user_id: ObjectId('660597c3d07a7de2cd93c344')
booking_status: -1
time_of_booking: 2024-03-28T19:59:42.016+00:00
program: "BSc"
department: "Design"
hall: 13
contact_number: "1234567890"
__v: 0

```

Structural Coverage: 100%

Small bugs were encountered while testing.

1. Appointment Slot Rebooking: When an availability slot is rebooked, the corresponding entry is displayed again.
2. Counsellor Booking Past Dates: Counsellors were able to book appointments for dates that have already passed.
3. Missing Appointments on the Appointments Page: Despite being present in the database, some appointments do not appear on the appointments page.
4. Blog Posts with No Content: Even if no content is provided, blog posts are still posted to the database.

Additional Comments: Testing of the counsellors dashboard was done successfully.

Blogs were created successfully, appointments were accepted/rejected and invalid cases were warned of to the counsellor(user).

12. User Yoga dashboard

Elysium provides the user of the application the ability to book yoga sessions whenever the yoga instructor posts a session. In addition, the user can also go through tutorials posted in the tutorials tab of the dashboard to learn yoga on his own.

This is supplemented by the fact that the user can check his bookings as a whole via the profile button which shows the user all his bookings.

Unit Details: Yoga section pages.

Test Owner: Animesh Madaan

Test Date: 03/27/2024 - 03/30/2024

Test Results:

The user can view all the sessions and apply to them whenever the user desires. If the instructor adds a new session to the existing list of sessions, the new one is displayed when the user refreshes the existing page. In addition, when the user applies for a

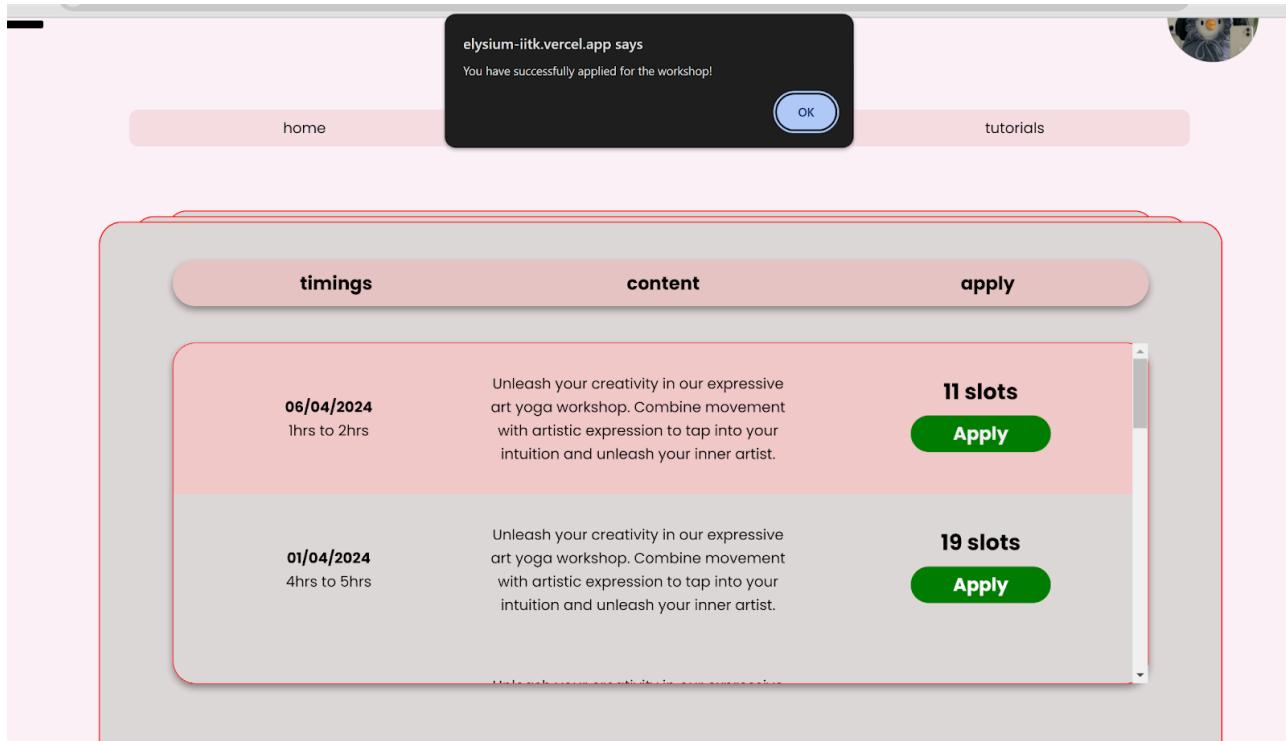
session, the “Apply” button is replaced by the “Applied” button which prevents the user from booking a seat in the session multiple times. Also, the tutorials have links to external videos which work as expected.

The image displays two screenshots of a mobile application interface, likely for a yoga studio. Both screenshots show a top navigation bar with a menu icon, the text "good morning!", the date "Saturday, March 30, 2024", the time "9:01 AM", and a profile picture of a person wearing headphones.

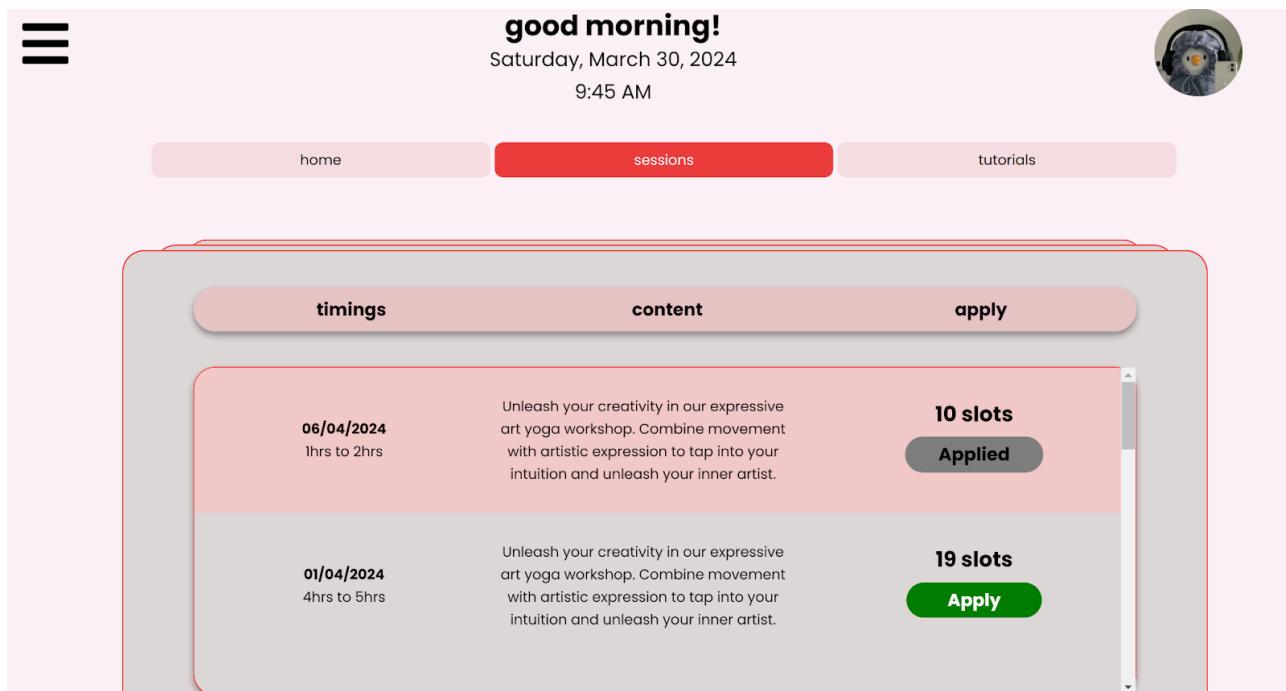
Screenshot 1 (Top): This screenshot shows a promotional banner for a session. It features two images: one of a group doing a warrior pose and another of a person in a pink shirt performing a stretch. Text overlays include "avail all facilities!", "instructors teach! sessions", and "tutorials you can learn too!". A circular icon with a purple lotus flower is centered over the images.

Screenshot 2 (Bottom): This screenshot shows a booking interface for a workshop. It has tabs for "timings", "content", and "apply". Under "timings", there are two options: "06/04/2024 1hrs to 2hrs" and "01/04/2024 4hrs to 5hrs". Under "content", there is a description of the workshop: "Unleash your creativity in our expressive art yoga workshop. Combine movement with artistic expression to tap into your intuition and unleash your inner artist." To the right, under "apply", there are two buttons: "11 slots" with an "Apply" button, and "19 slots" with an "Apply" button. The "Apply" button is green with white text.

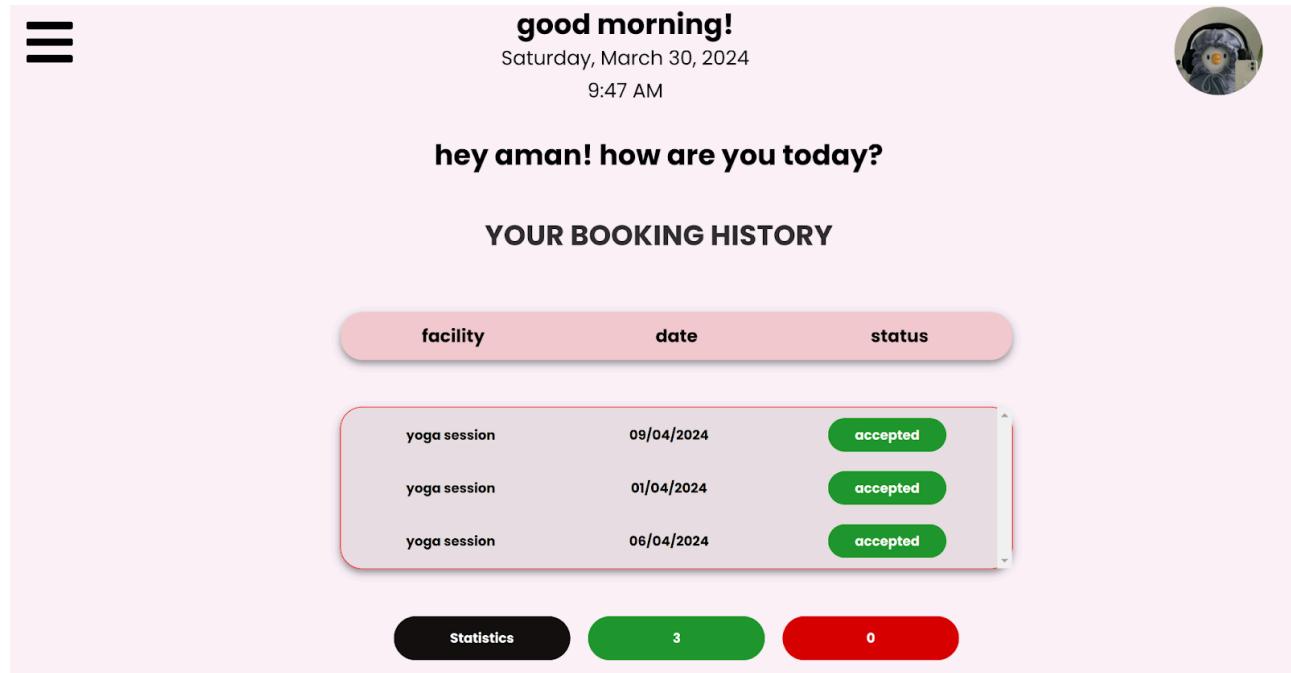
When the user has clicked on the Apply of a particular session and the process is successful, the user is notified as follow:



The Apply button then gets changed to applied after an auto-refresh.



That particular session is then added to the user profile as well.

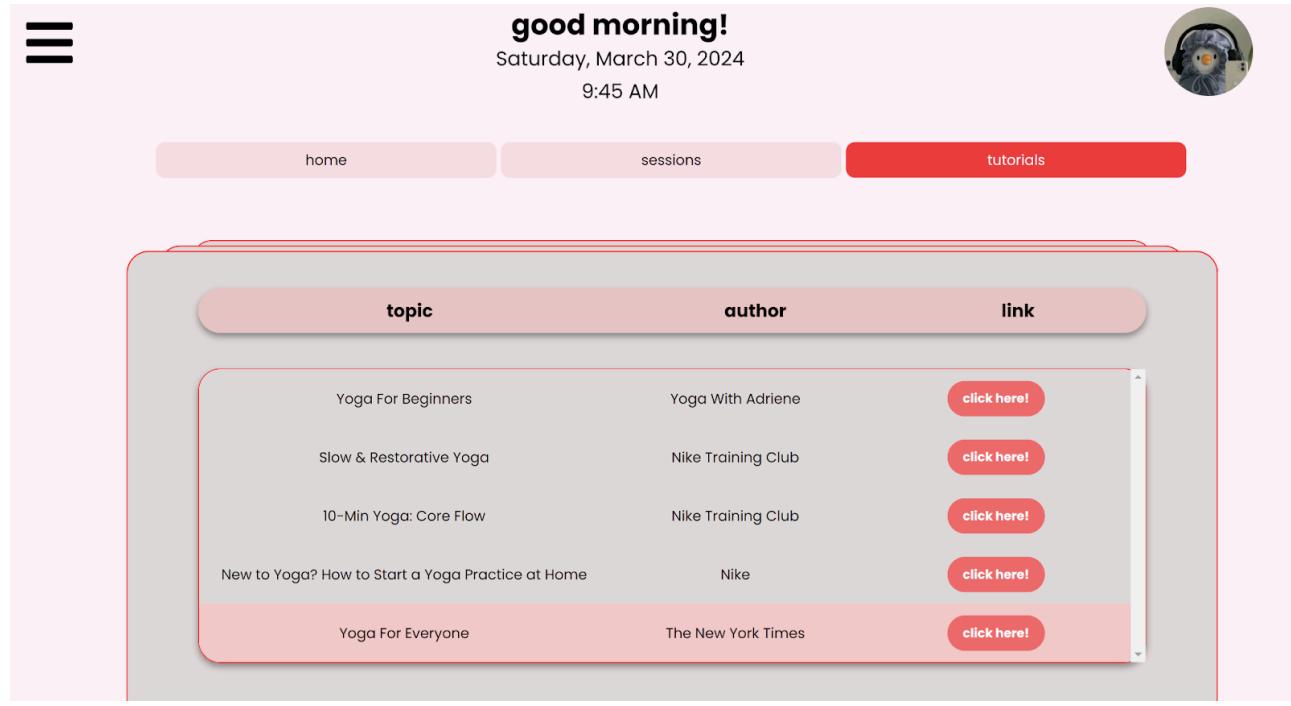


The screenshot shows a mobile application interface. At the top, there is a header with the text "good morning!" and the date "Saturday, March 30, 2024" and time "9:47 AM". On the right is a circular profile picture of a person. Below the header, the text "hey aman! how are you today?" is displayed. The main section is titled "YOUR BOOKING HISTORY" and contains a table with three rows of booking information. The columns are labeled "facility", "date", and "status". The data is as follows:

facility	date	status
yoga session	09/04/2024	accepted
yoga session	01/04/2024	accepted
yoga session	06/04/2024	accepted

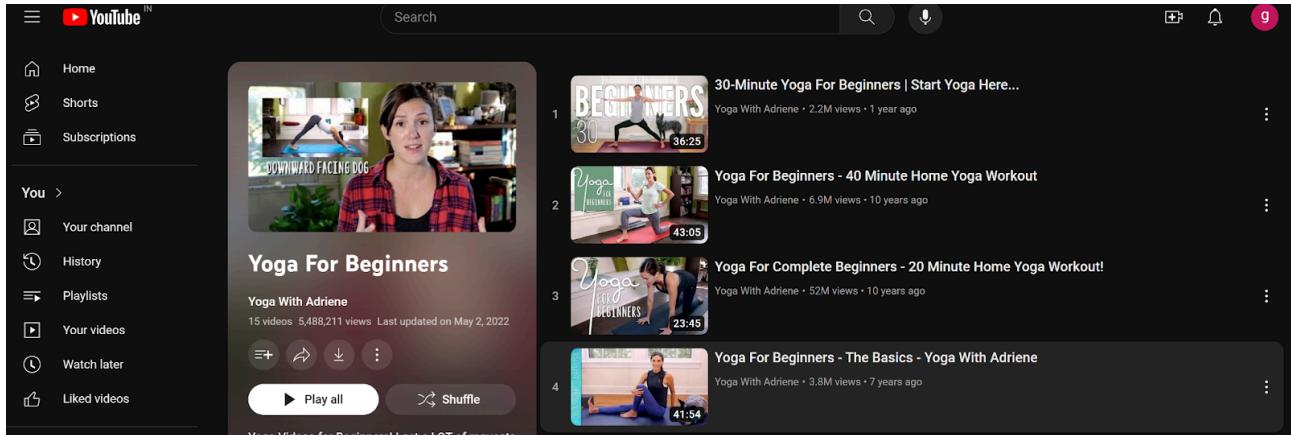
Below the table are three buttons: "Statistics" (black), "3" (green), and "0" (red).

In the case of tutorials, the links are working as expected.



The screenshot shows a mobile application interface. At the top, there is a header with the text "good morning!", the date "Saturday, March 30, 2024", and the time "9:45 AM". On the right is a circular profile picture of a person. Below the header, there is a navigation bar with three items: "home" (pink), "sessions" (pink), and "tutorials" (red). The main content area displays a table with five rows of tutorial information. The columns are labeled "topic", "author", and "link". The data is as follows:

topic	author	link
Yoga For Beginners	Yoga With Adriene	click here!
Slow & Restorative Yoga	Nike Training Club	click here!
10-Min Yoga: Core Flow	Nike Training Club	click here!
New to Yoga? How to Start a Yoga Practice at Home	Nike	click here!
Yoga For Everyone	The New York Times	click here!



The screenshot shows a YouTube search results page for "Yoga For Beginners". The search bar at the top has the query "Yoga For Beginners". The results list includes the following videos:

1. **30-Minute Yoga For Beginners | Start Yoga Here...** - Yoga With Adriene • 2.2M views • 1 year ago
2. **Yoga For Beginners - 40 Minute Home Yoga Workout** - Yoga With Adriene • 6.9M views • 10 years ago
3. **Yoga For Complete Beginners - 20 Minute Home Yoga Workout!** - Yoga With Adriene • 52M views • 10 years ago
4. **Yoga For Beginners - The Basics - Yoga With Adriene** - Yoga With Adriene • 3.8M views • 7 years ago

The left sidebar shows the user's channel navigation and video history.

Structural Coverage: All possible cases have been explored and hence the coverage is 100%.

Additional Comments: None.

13. Yoga Instructor

Elysium provides the yoga instructor with the power to post new sessions and monitor the number of slots filled and vacant. The instructor can get a bird's eye view of all the statistics and also can dive deep into the individual workshops and monitor them.

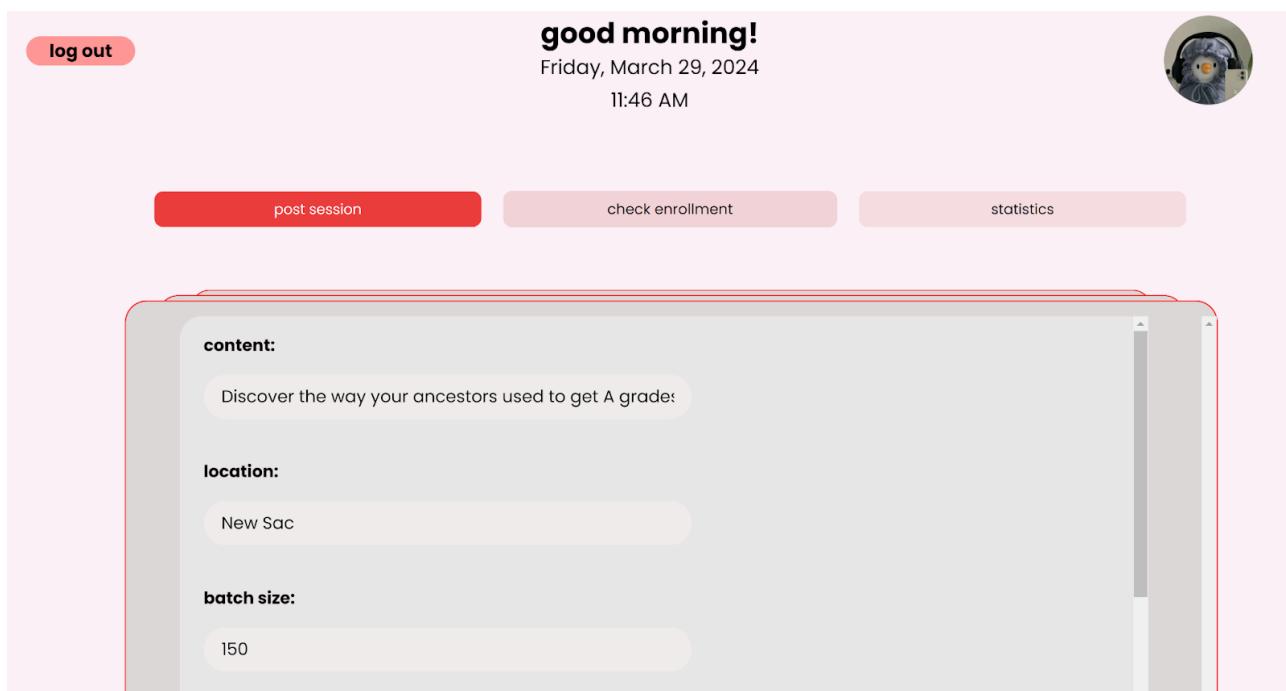
Unit Details: Yoga_instructor pages.

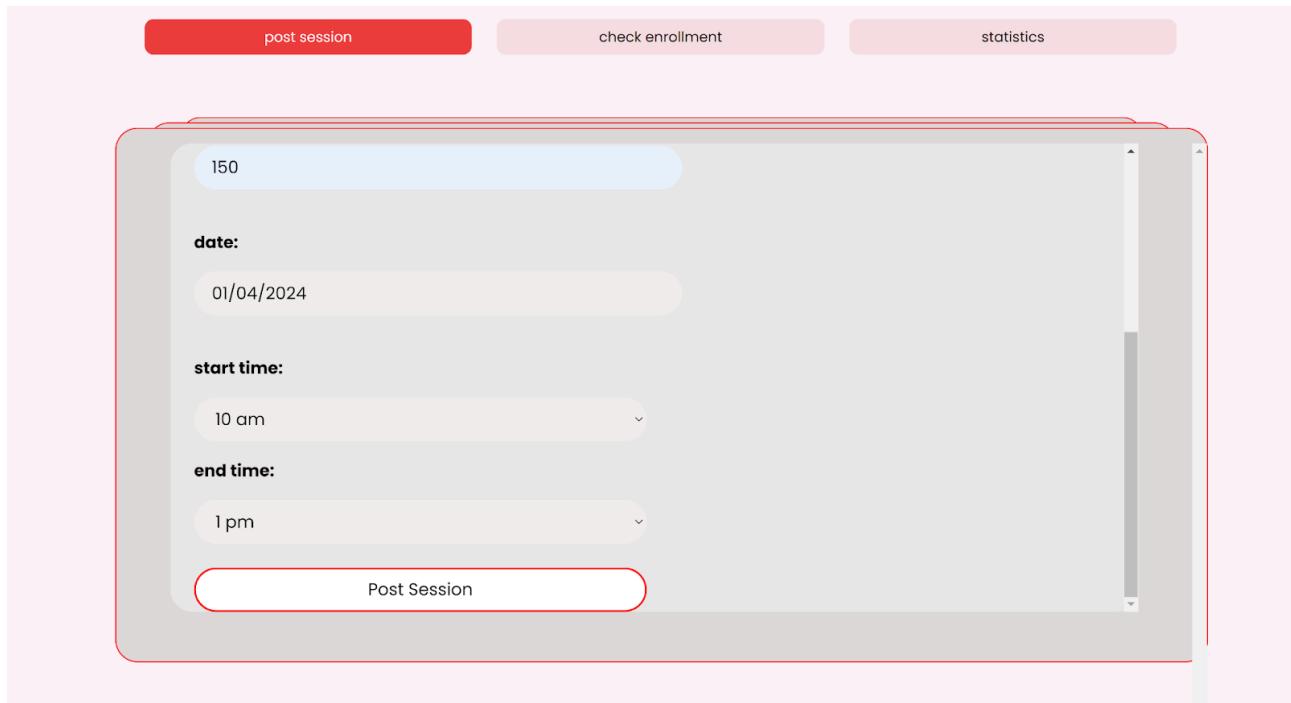
Test Owner: Arush Upadhyaya

Test Date: 03/25/2024 - 03/28/24

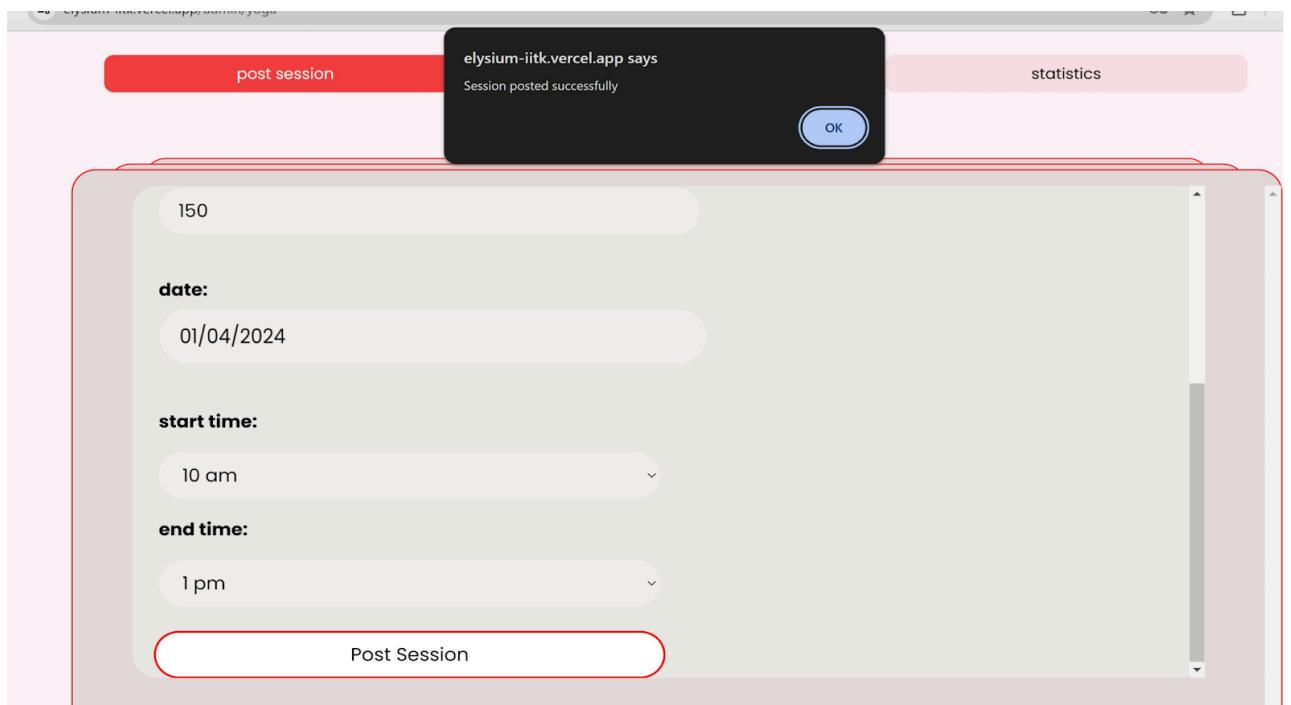
Test Results:

The yoga instructor can seamlessly post all the sessions. The session stats are updated on a refresh of the page and displayed as expected. The stats are updated as and when the users opt for the sessions and are displayed both in the condensed view as well the detailed view.





On Posting the session, the instructor is notified with the message as shown:



Once the session is posted, the details of the session are updated in the databases as well as the statistics and enrollment tabs of the instructor which demonstrates that the data is being properly delivered to and retrieved from the databases.

`_id: ObjectId('6605aae390a83ae4b24670c1')
max_strength : 95
content : "discover the ancient way of Indian life."
date_slot : "10/04/2024"
participants_id : Array (5)
yoga_instructor_user_id : ObjectId('660597cd07a7de2cd93c353')
time_slot_start : 7
time_slot_end : 11
location : "yoga hall "
__v : 0`

`_id: ObjectId('66065ed12a14bf66af3ef8f2')
max_strength : 150
content : "Discover the way your ancestors used to get A grades in all their cour..."
date_slot : "01/04/2024"
participants_id : Array (empty)
yoga_instructor_user_id : ObjectId('66059749d07a7de2cd93c326')
time_slot_start : 10
time_slot_end : 13
location : "New Sac"
__v : 0`

	and unleash your inner artist.	Unleash your creativity in our expressive art yoga workshop.	1	19
2	Combine movement with artistic expression to tap into your intuition and unleash your inner artist.			
3	Unleash your creativity in our expressive art yoga workshop.	Combine movement with artistic expression to tap into your intuition and unleash your inner artist.	0	20
4	yoga is a way of life, a way of life you should adopt.		5	5
5	yoga is a way of life. discover this new way of life.		0	10
6	discover the ancient way of Indian life.		4	14
7	discover the ancient way of Indian life.		4	96
8	Discover the way your ancestors used to get A grades in all their courses		0	150

enter index of workshop for a detailed description

enter index of workshop for a detailed description

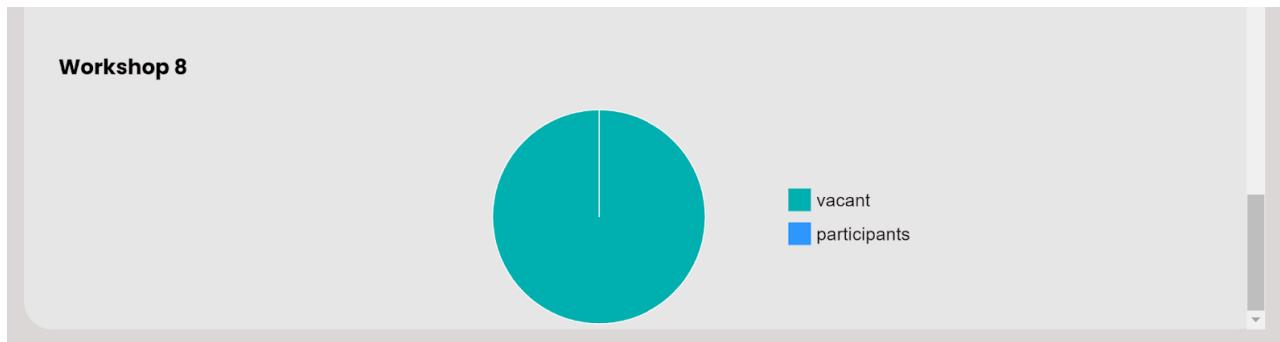
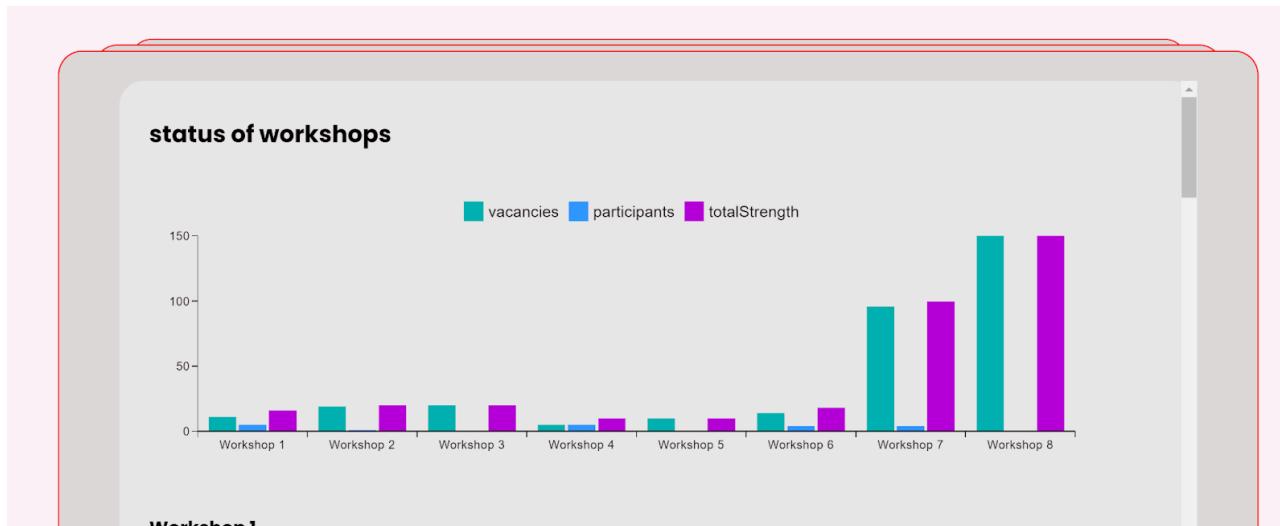
Workshop Details

start time :10

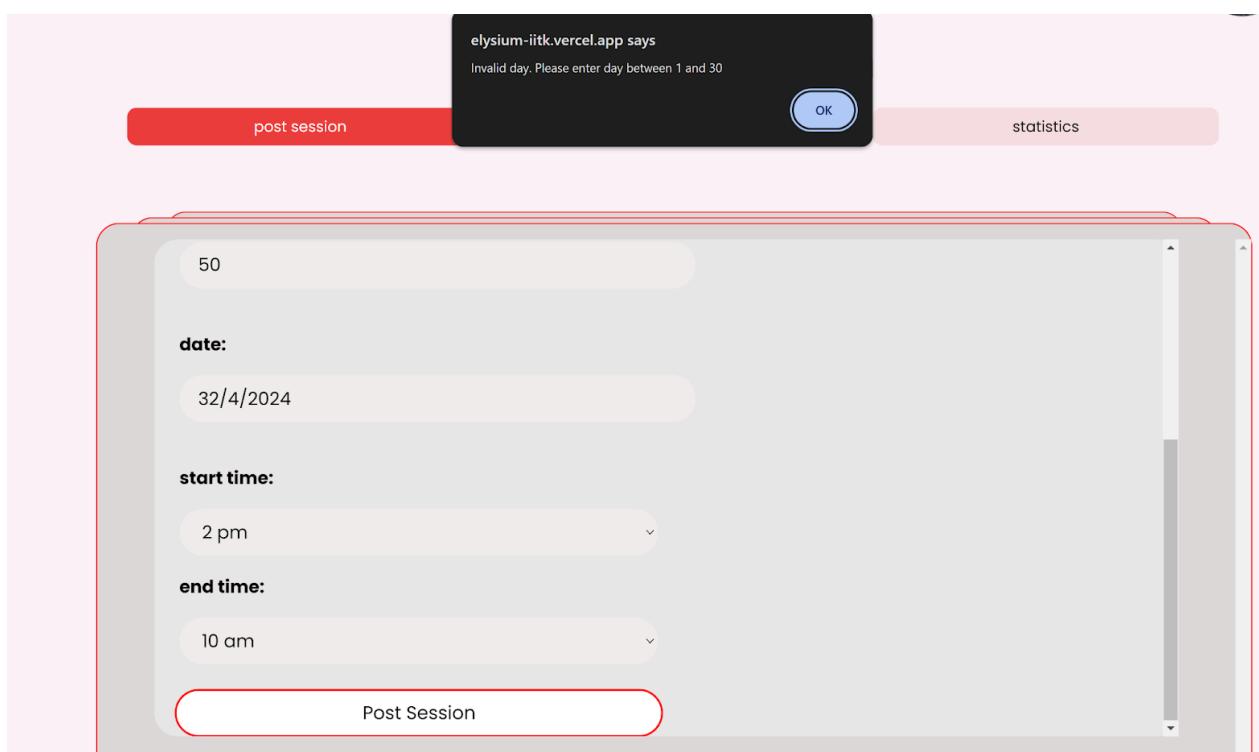
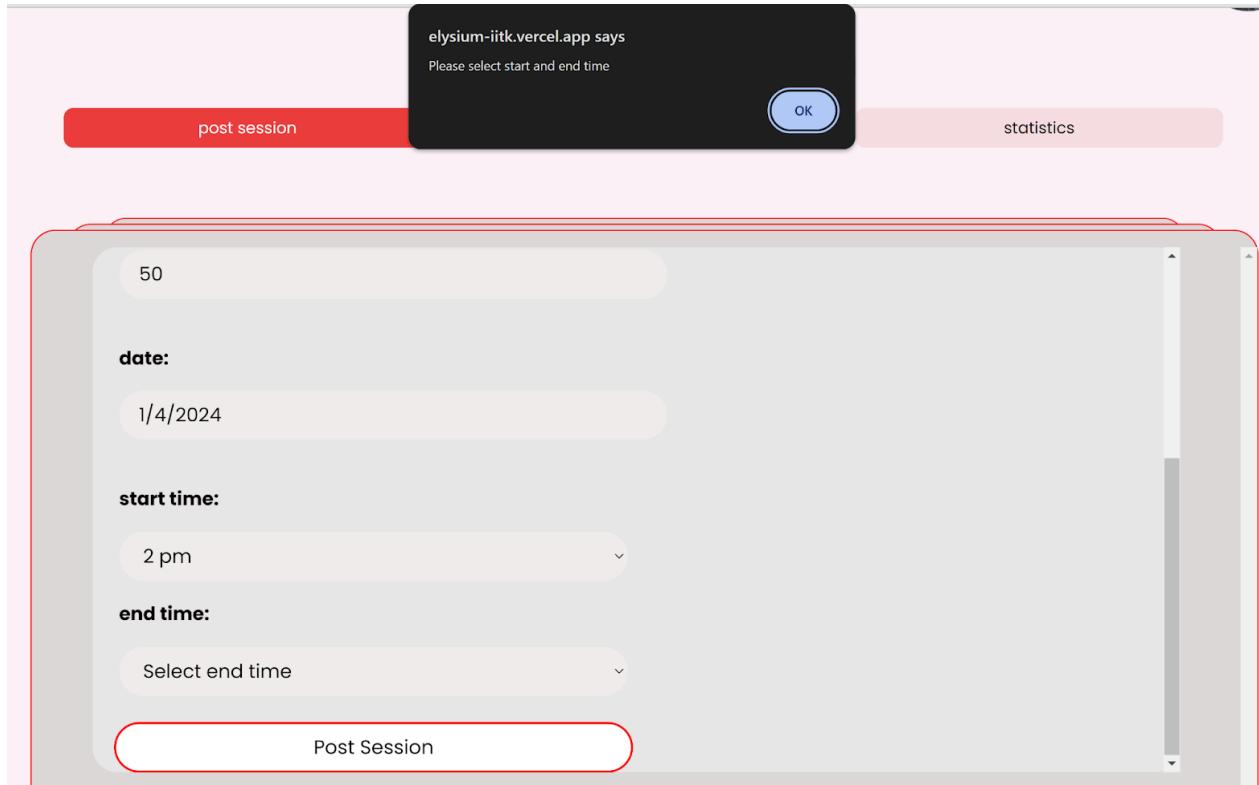
end time :13

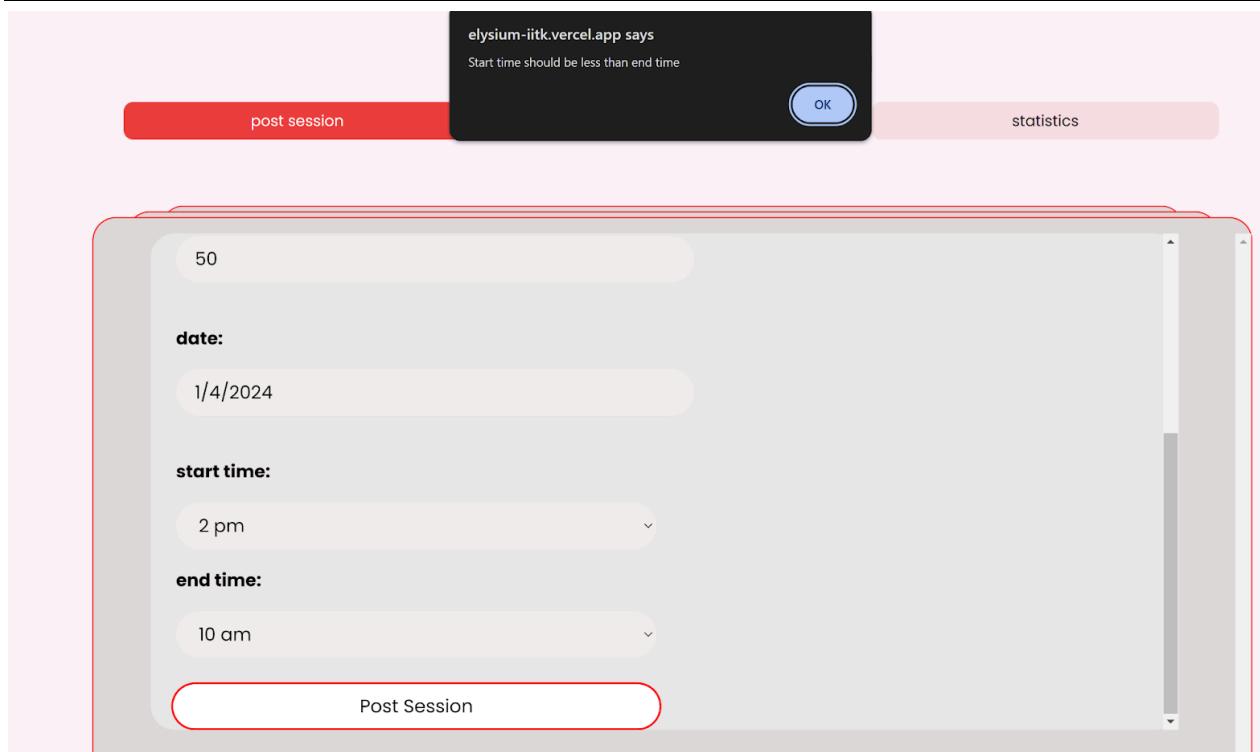
location : New Sac

index	participants
-------	--------------

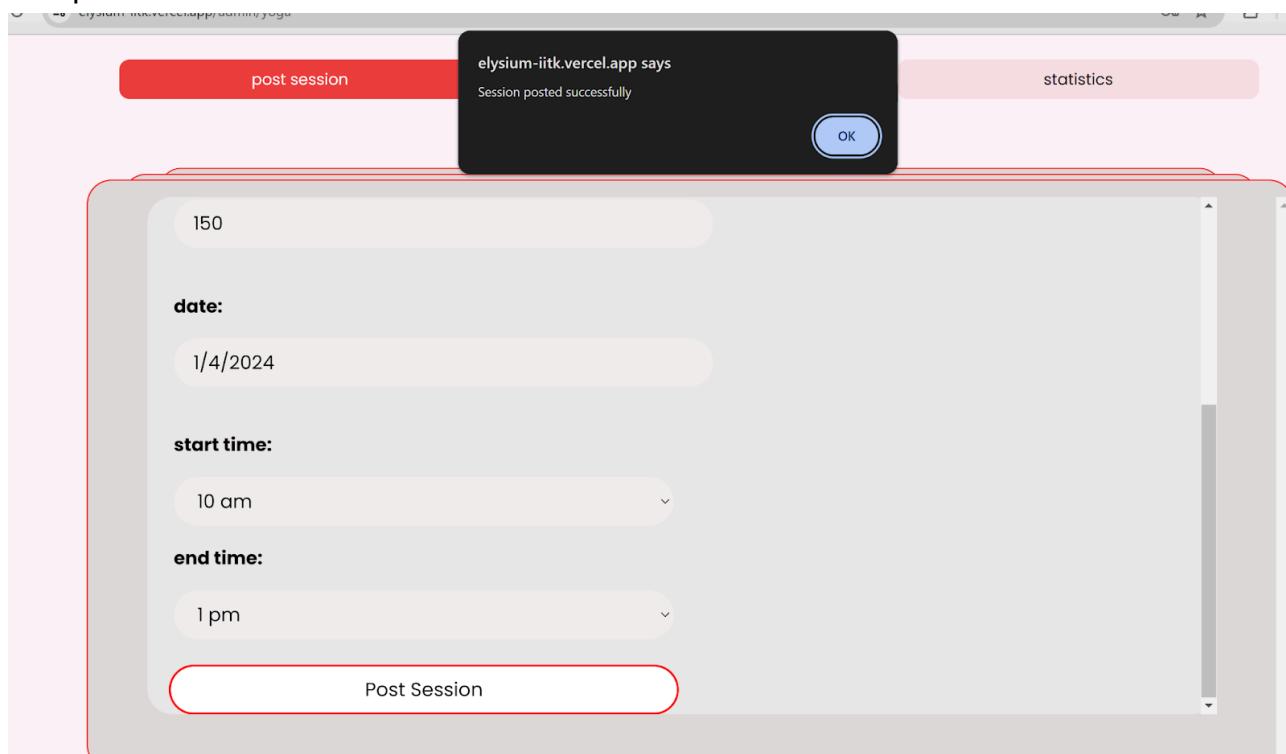


Now, there is always a possibility of wrong information being entered into the system due to human error. However, Elysium is built to notify the instructor if any data entered is an error by checking the start and end times, date of the session etc. It also checks the data for incomplete fields and notifies the instructor as and when required.

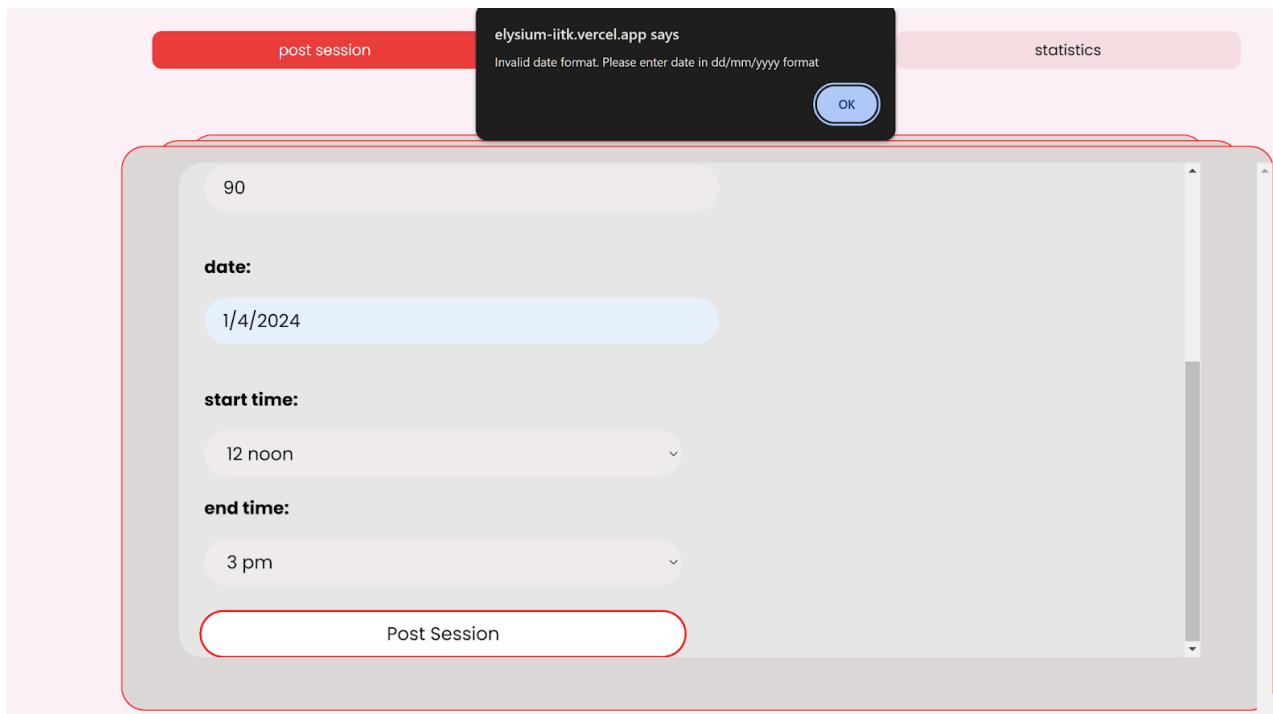




Originally, there existed a bug wherein after the instructor posts the date of the session in single digits (eg 1/4/2024) instead of the expected dd/mm/yy format, the app used to accept the session but didn't show it in the sessions of the student dashboard.



The date in the above image is flawed, but the app accepted it. However, this bug was fixed to ensure that it doesn't accept this input.



Structural Coverage: 100% coverage of all the cases.

Additional Comments: A bug was discovered during testing which was fixed immediately.

3 Integration Testing

1. Bookings

Component Testing: Bookings were made for pre-booking for badminton, tennis, squash and table-tennis and the bookings were recorded in the database.

Test Owner: Sankalp Mittal

Test Date: 03/31/2024-03/31/2024

Test Results:

The screenshot shows a user interface for booking sports activities. At the top, there are two buttons: "pre-booking" (red) and "active booking" (light blue). Below this is a search bar with placeholder text "Search by sport or date". A dropdown menu labeled "Time-Slot" shows a range from "18:00 - 19:00".

The main area contains a table of bookings:

ID	Object ID	Date	Time	Sport	Action
8	ObjectId('660852f69844c44...')	2024-03-30	17:00 - 18:00	"badminton"	<i>edit</i> <i>cancel</i> <i>trash</i>
9	ObjectId('660853159844c44...')	2024-03-30	17:00 - 18:00	"badminton"	<i>edit</i> <i>cancel</i> <i>trash</i>
10	ObjectId('660853399844c44...')	2024-03-30	17:00 - 18:00	"squash"	<i>edit</i> <i>cancel</i> <i>trash</i>
11	ObjectId('6608535e9844c44...')	2024-03-30	17:00 - 18:00	"squash"	<i>edit</i> <i>cancel</i> <i>trash</i>
12	ObjectId('660853879844c44...')	2024-03-30	17:00 - 18:00	"tennis"	<i>edit</i> <i>cancel</i> <i>trash</i>
13	ObjectId('660853a79844c44...')	2024-03-30	17:00 - 18:00	"tennis"	<i>edit</i> <i>cancel</i> <i>trash</i>
14	ObjectId('660853ce9844c44...')	2024-03-30	17:00 - 18:00	"table_tennis"	<i>edit</i> <i>cancel</i> <i>trash</i>

Below the table is a form for creating a new booking:

Time-Slot: 18:00 - 19:00

Select Playmate(s): Allow Player Selection

Enter username:

Add User:

Buttons: Clear (orange), Apply (green)

2. Workshops

Component Testing: Combined testing of various units was done. Initially, a coach creates a new workshop. A user applies for the workshop. This accepted request is then viewed in the coach dashboard.

Test Owner: Ritesh Baviskar

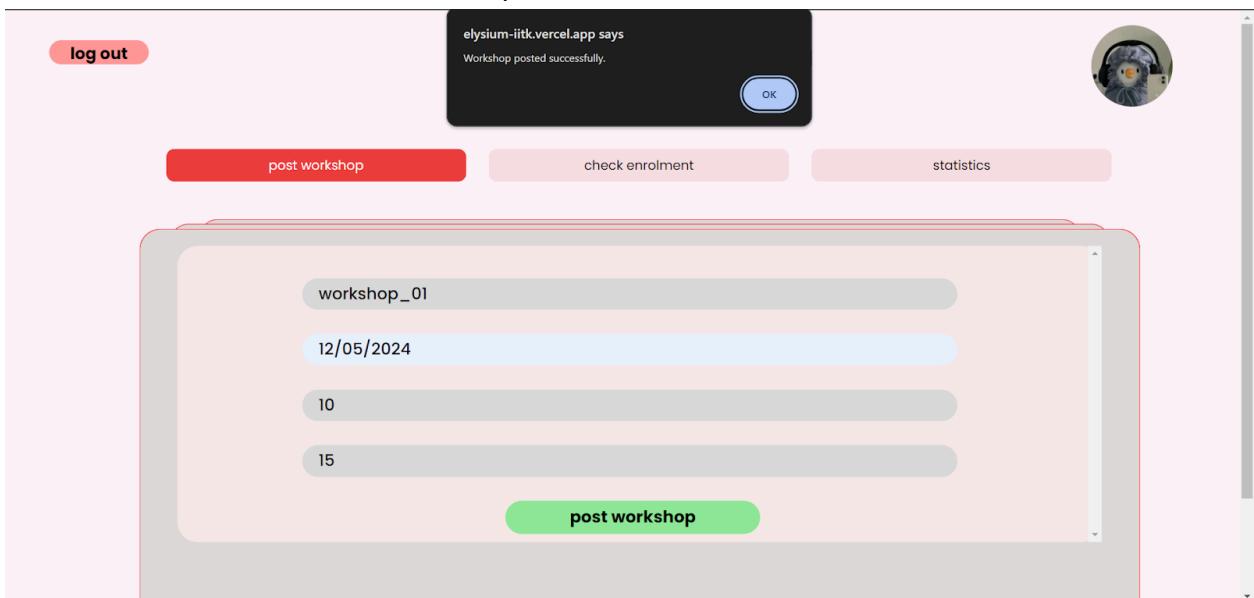
Test Date: 03/31/2024-03/31/2024

Test Results:

For portrayal purposes, we have worked out this example for a badminton workshop only. identical features were tested for other sports too.

1. Creation of a workshop:

From the coach dashboard, a workshop was created.



In the *check enrollment* section, the newly made workshop is vacant initially.

The corresponding entry in sports workshop db:

```
_id: ObjectId('660871020842a9dce80e14ec')
time_slot_start: 15
time_slot_end: 16
content: "workshop_01"
coach_user_id: ObjectId('66059551d07a7de2cd93c2f5')
max_strength: 10
date_slot: "12/05/2024"
participants_id: Array (empty)
type_of_sport: "badminton"
__v: 0
```

Now all normal users can view and apply for this workshop in the badminton section.

The image consists of two vertically stacked screenshots of a software application interface.

Screenshot 1 (Top): Application Page

This screenshot shows a page for applying to workshops. At the top, there is a navigation bar with tabs: "home", "booknow", "workshops" (which is highlighted in red), "tutorials", and "leaderboard". Below the navigation bar is a large, rounded rectangular container divided into three horizontal sections: "timings", "content", and "apply".

The "timings" section contains two entries:

- 02/04/2024**
10hrs to 11hrs
iitk badminton workshop 2
- 12/05/2024**
15hrs to 16hrs
workshop_01

The "content" section shows "25 slots" next to a green "Apply" button for the first workshop, and "10 slots" next to a green "Apply" button for the second workshop.

Screenshot 2 (Bottom): Confirmation Overlay

A black confirmation overlay box is displayed in the center of the screen, containing the text "elysium-iitk.vercel.app says" and "You have successfully applied for the workshop!". It features a small "OK" button at the bottom right.

The underlying application interface is identical to Screenshot 1, showing the same workshops and apply buttons.

After the user has applied for the workshop, the coach can verify if the user has applied for a workshop in the enrollments and statistics section.

The interface consists of two main sections:

- Top Section:** Displays a table of workshops. The columns are labeled: **index**, **description**, **participants**, and **vacancy**. The data is as follows:

index	description	participants	vacancy
1	iitk badminton workshop 1	0	50
2	iitk badminton workshop 2	0	25
3	workshop_01	1	9

Below the table is a dropdown menu labeled "enter index of workshop for a detailed description" with the value set to 3.

- Bottom Section:** Displays a bar chart titled "status of workshops". The chart compares three workshops (Workshop 1, Workshop 2, Workshop 3) across three metrics: **vacancies** (teal bars), **participants** (blue bars), and **totalStrength** (purple bars). The y-axis ranges from 0 to 50. A legend at the top identifies the colors for each metric. A tooltip for Workshop 3 provides the following data:

Metric	Value
vacancies	9
participants	1
totalStrength	10

Structural Coverage: 100%.

Additional Comments: All features worked as expected. Consistency between various units was seen.

3. Gym booking

Component Details: A user applies for a gym booking and the corresponding booking is made in the gym booking database and also viewed by the gym instructor(via the gym instructor dashboard).

Test Owner: Aditya Jagdale

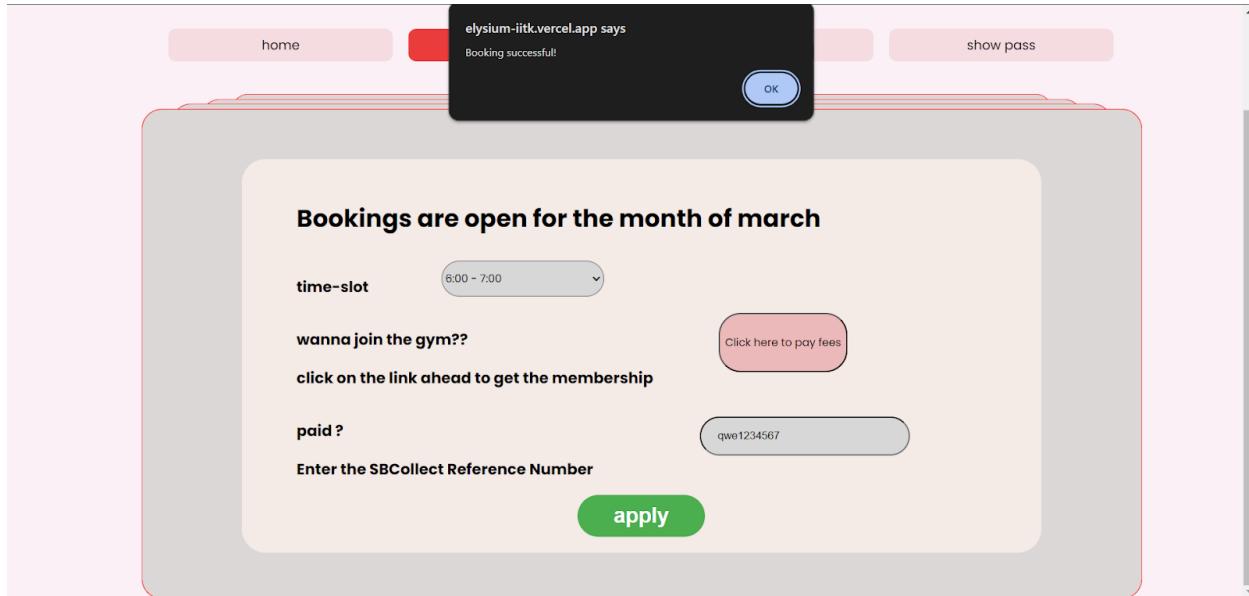
Test Date: 04/31/2024-04/31/2024

Test Results:

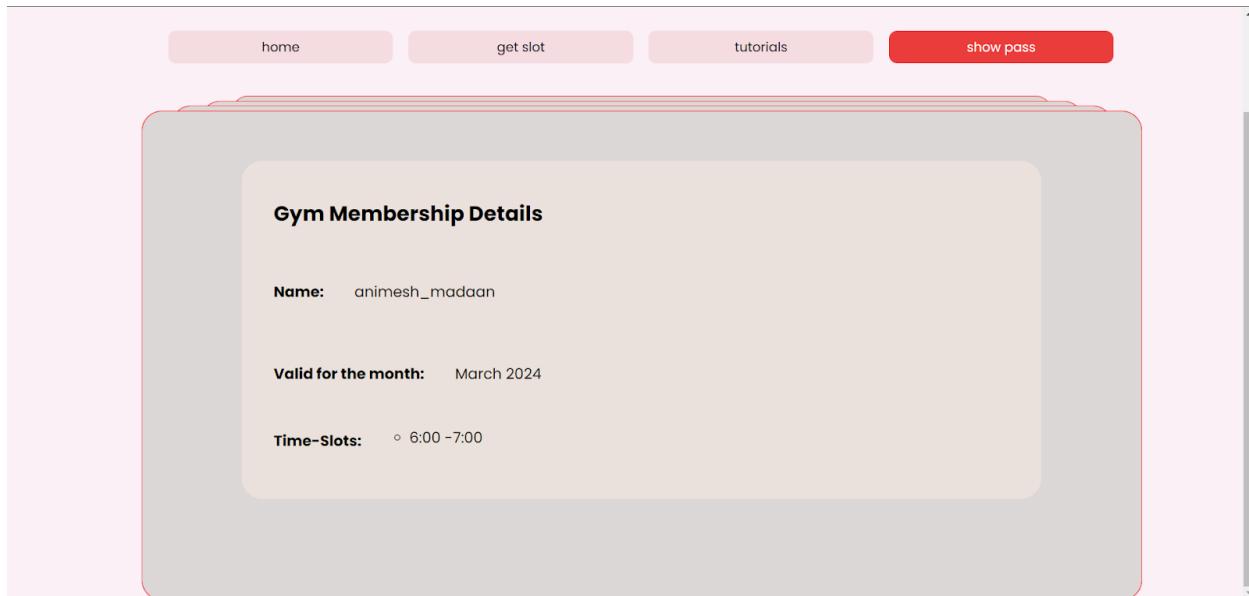
This is the user entry in the user database with which the testing was done:

```
_id: ObjectId('66058d7562062aa40dd091dc')
username : "animesh_madaan"
email_id : "madaananimesh@iitk.ac.in"
user_category : 1
password : "$2a$10$EaZFwW4GixCLjiiaF9Wdb.DlyMG91vfw.XLFcA6Km13yIqz2CQkEO"
profile_pic : ""
type_of_sport : ""
--v : 0
```

Upon booking a slot the following warning is generated.



The following pass was generated corresponding to the booking slot:



Corresponding to the booking the following entry was made in the gym booking database:

```

_id: ObjectId('6607e5a8836802c354cbca15')
user_id: ObjectId('66058d7562062aa40dd091dc')
time_slot: 6
type: 0
year: 2024
month: 3
booking_status: 1
time_of_booking: 2024-03-30T10:12:55.815+00:00
__v: 0

```

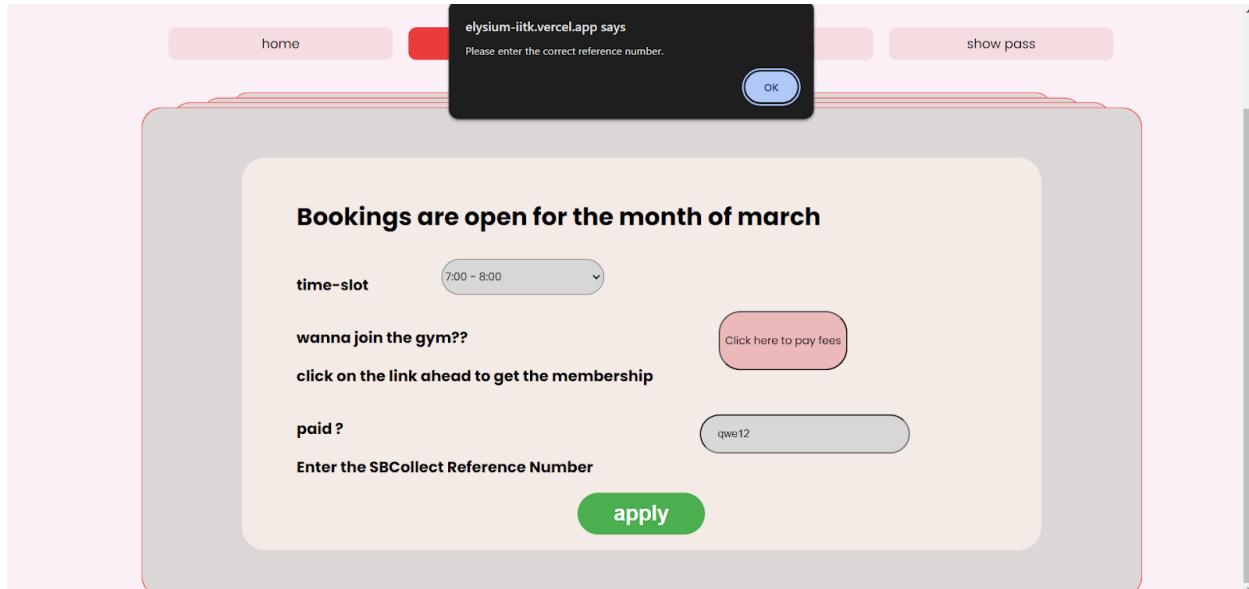
In the gym instructor dashboard, the newly made registration was updated:
Here username *animesh_madaan* is the new entry made.

The screenshot shows a dashboard interface with a pink header bar containing 'check enrollment' and 'statistics' buttons. Below the header is a search bar with dropdown menus for 'year' (set to 2024) and 'month' (set to march). A table titled 'number of current enrollments : 12' displays user information. The table has columns for 'username', 'year', and 'month'. The data shows 12 entries, all from the year 2024 and month march. One entry, 'animesh_madaan', is highlighted with a red border. The table is enclosed in a light gray rounded rectangle.

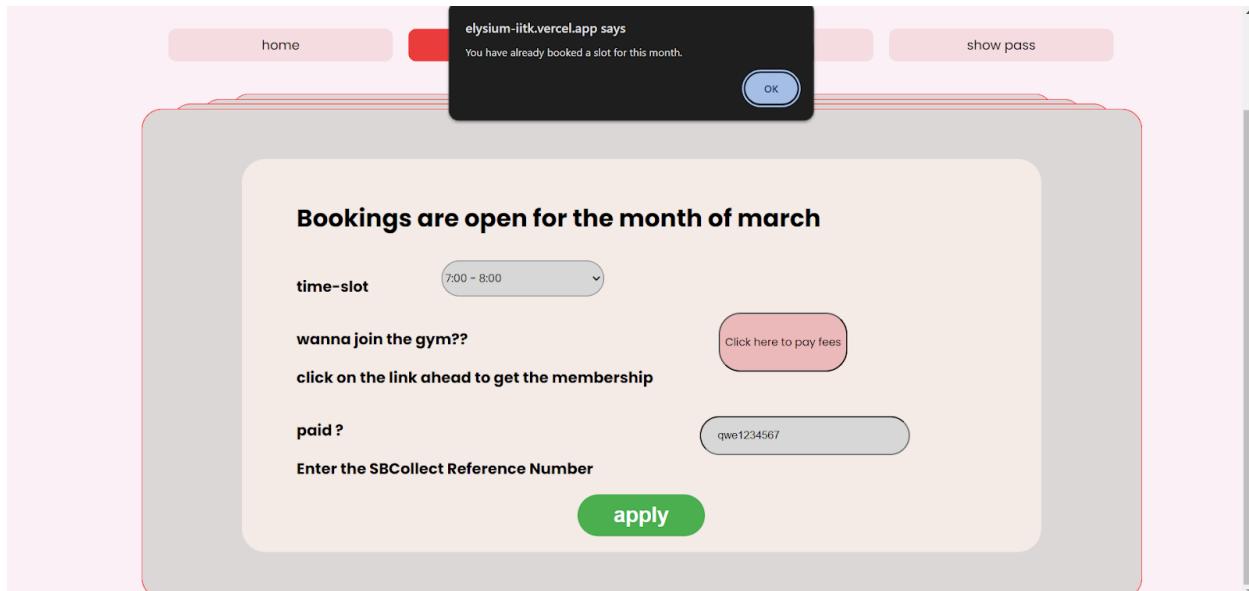
username	year	month
sankalp_mittal	2024	march
aditya_khandelia	2024	march
sankalp_mittal	2024	march
aditya_khandelia	2024	march
aditya_khandelia	2024	march
aditya_khandelia	2024	march
akanksha_wattamwar	2024	march
monica_khandelia	2024	march
monica_khandelia	2024	march
monica_khandelia	2024	march
animesh_madaan	2024	march

The screenshot shows a dashboard interface with a pink header bar containing 'check enrollment' and 'statistics' buttons. Below the header is a search bar with a dropdown menu for 'year' (set to 2024). A chart titled 'bar chart' displays monthly registrations. The x-axis lists months from january to december. The y-axis ranges from 0 to 12. A single teal bar for march reaches a height of 12, labeled 'registrations' with a value of 12. An info box over the bar indicates 'march' and 'registrations 12'. The chart is enclosed in a light gray rounded rectangle.

When an invalid reference number is entered the following alert is popped:



When an user tries to apply for more than one slot in a day, the following alert is popped:



Structural Coverage: 100%

Additional Comments: The gym booking feature was tested successfully and all features worked as expected. Proper alerts were popped wherever required. Consistency in gym booking from the normal user side and gym instructor side was seen.

4. Yoga Sessions

Component Details: Combined testing of various units was done. Initially, the Yoga instructor posted a new session. A user applies for the session. This accepted request is then viewed in the coach dashboard. Also, this is reflected in the statistics section

Test Owner: G.V. Aman

Test Date: 03/31/2024-03/31/2024

Test Results:

Creation of a workshop:

From the coach dashboard, a session was created.

content:
Suryanamaskar

location:
Yoga Hall, New Sports Complex

batch size:
20

date:
14/04/2024

start time:
6 am

end time:
8 am

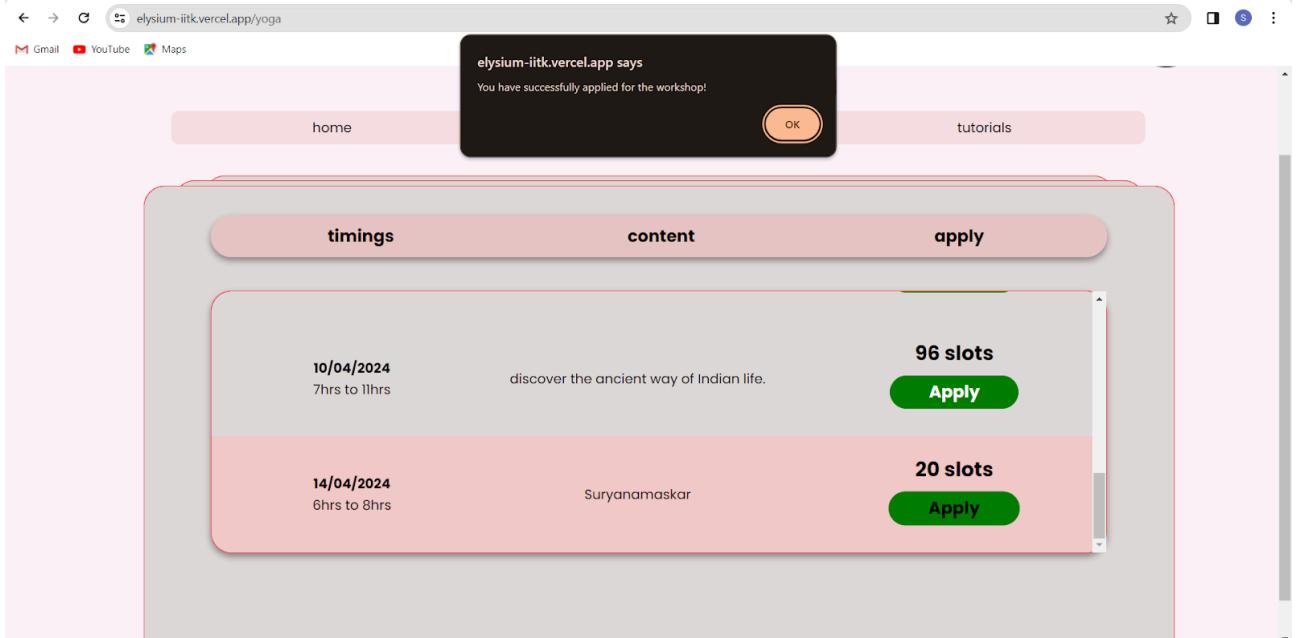
Post Session

In the *check enrollment* section, the newly made workshop is vacant initially.

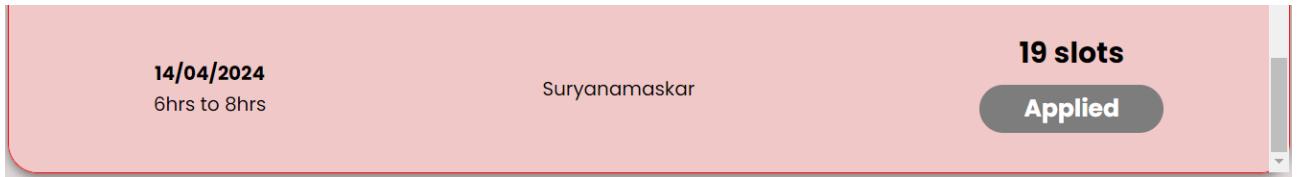
The corresponding entry in *yoga_sessions* db:

```
_id: ObjectId('6608dbc9c2debd6070ca131e')
max_strength : 20
content : "Suryanamaskar"
date_slot : "14/04/2024"
participants_id : Array (empty)
yoga_instructor_user_id : ObjectId('66059749d07a7de2cd93c326')
time_slot_start : 6
time_slot_end : 8
location : "Yoga Hall, New Sports Complex"
__v : 0
```

Now all normal users can view and apply for this session in the yoga section.



After applying the button shows applied



This is also reflected in the page of the yoga instructor and in the statistics, this can be used for verification purposes

post session	check enrollment	statistics	
index	description	participants	vacancy
2	Unleash your creativity in our expressive art yoga workshop. Combine movement with artistic expression to tap into your intuition and unleash your inner artist.	1	19
3	Unleash your creativity in our expressive art yoga workshop. Combine movement with artistic expression to tap into your intuition and unleash your inner artist.	0	20
4	yoga is a way of life, a way of life you should adopt.	5	5
5	yoga is a way of life. discover this new way of life.	0	10
6	discover the ancient way of Indian life.	4	14
7	discover the ancient way of Indian life.	4	96
8	Suryanamaskar	1	19

enter index of workshop for a detailed description 8

Workshop Details

start time : 6
end time : 8
location : Yoga Hall, New Sports Complex

index	participants
1	sankalp_mittal

status of workshops

Workshop	vacancies	participants	totalStrength
Workshop 1	12	5	17
Workshop 2	20	1	21
Workshop 3	22	5	27
Workshop 4	5	5	15
Workshop 5	10	5	15
Workshop 6	15	5	20
Workshop 7	95	5	100
Workshop 8	20	1	21

Workshop 8

Category	Percentage
vacant	99%
participants	1%

After the user has applied for the workshop, the coach can verify if the user has applied for a workshop in the enrollments and statistics section.

Structural Coverage: 100%.

Additional Comments: All features worked as expected. Consistency between various units was seen.

5. Active booking

On this page, users have the opportunity to reserve time slots that remain available after the algorithm has allocated previously booked slots.

The bookings were made for badminton, tennis, squash, and table tennis, and all the reservations were meticulously recorded in the database.

Component Details: The functionalities regarding active booking were tested, including showing empty slots and courts

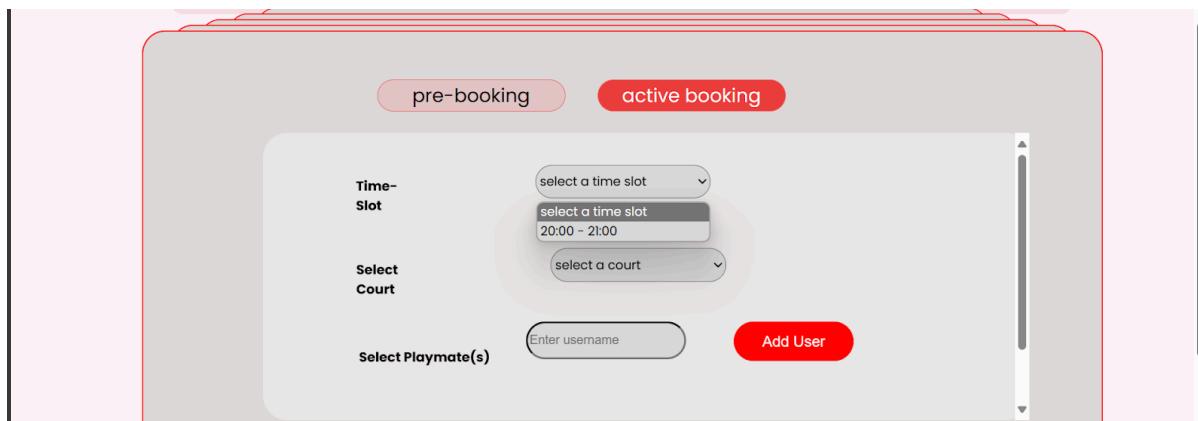
Test Owner: Akanksha Wattamwar

Test Date: 03/31/2024-03/31/2024

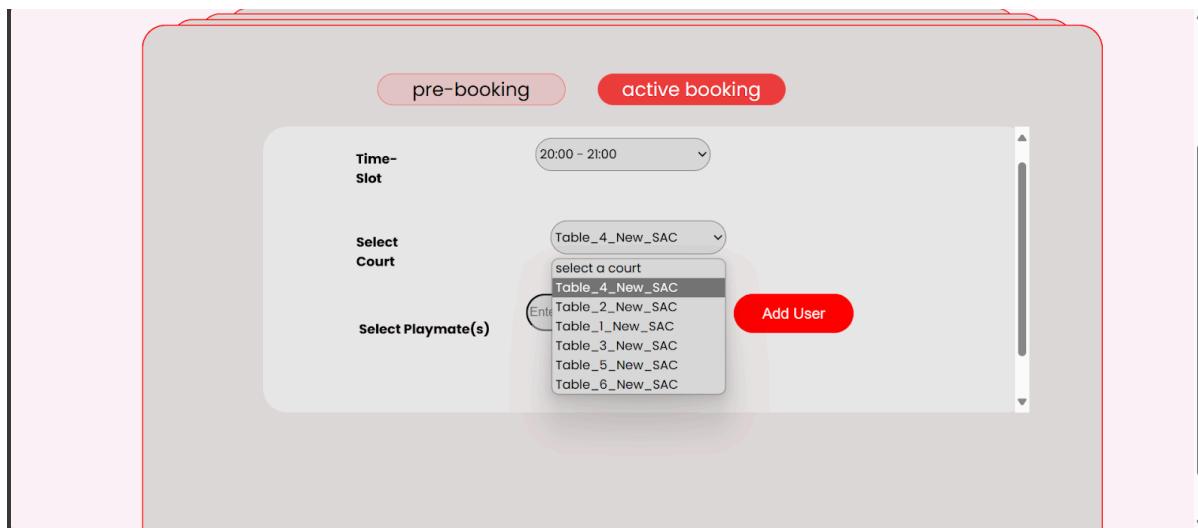
Test Results:

1. Active booking of slot:

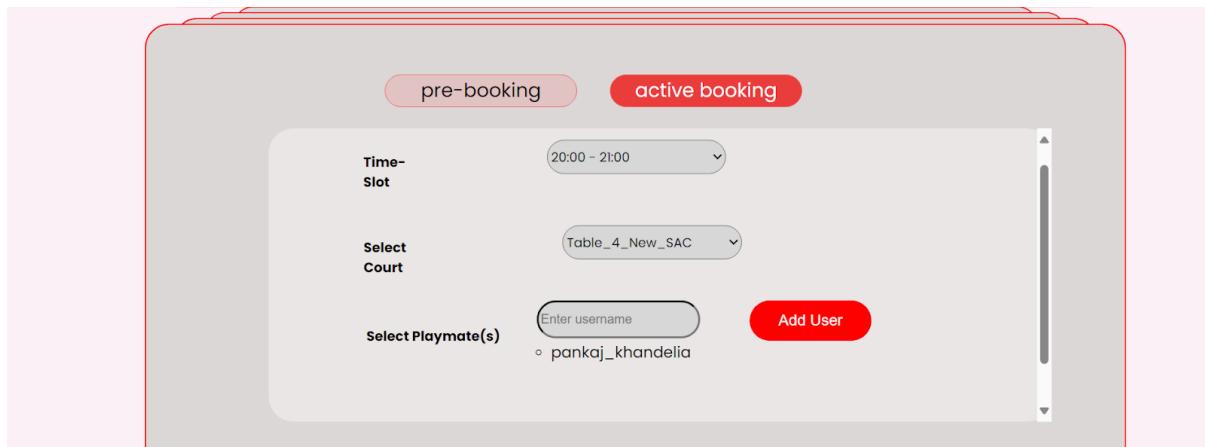
Users are not able to book pre-booked slots, hence only available slots are shown to them



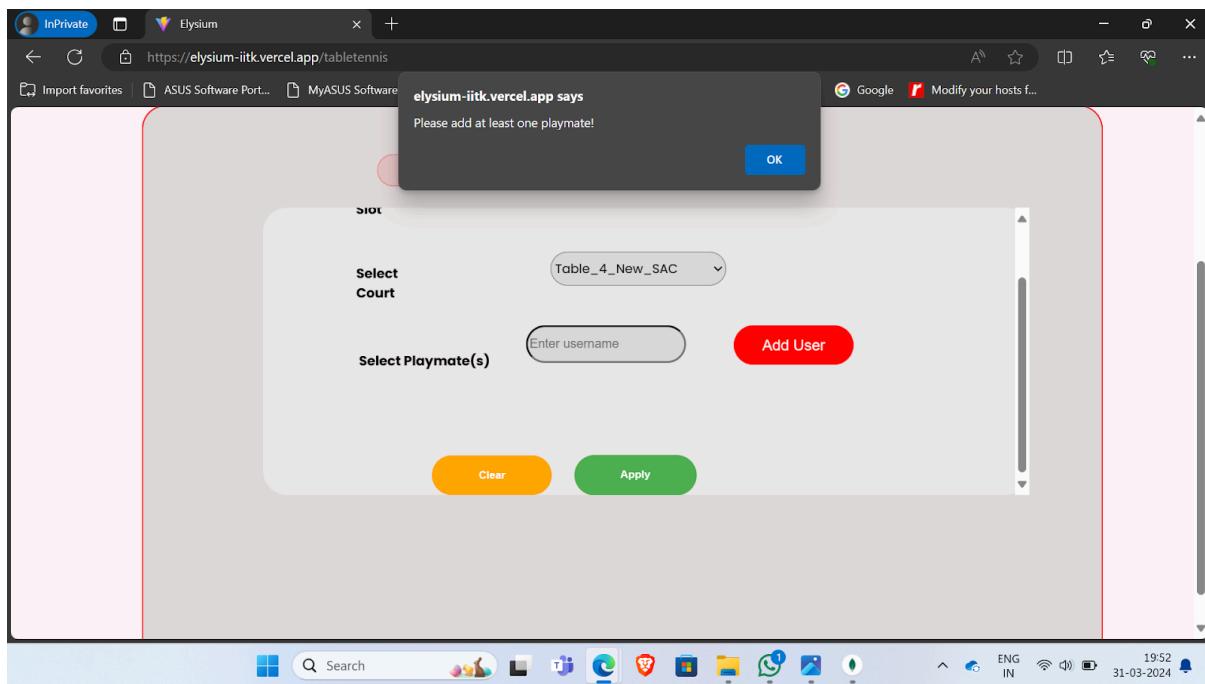
Similarly only available courts are shown to the user



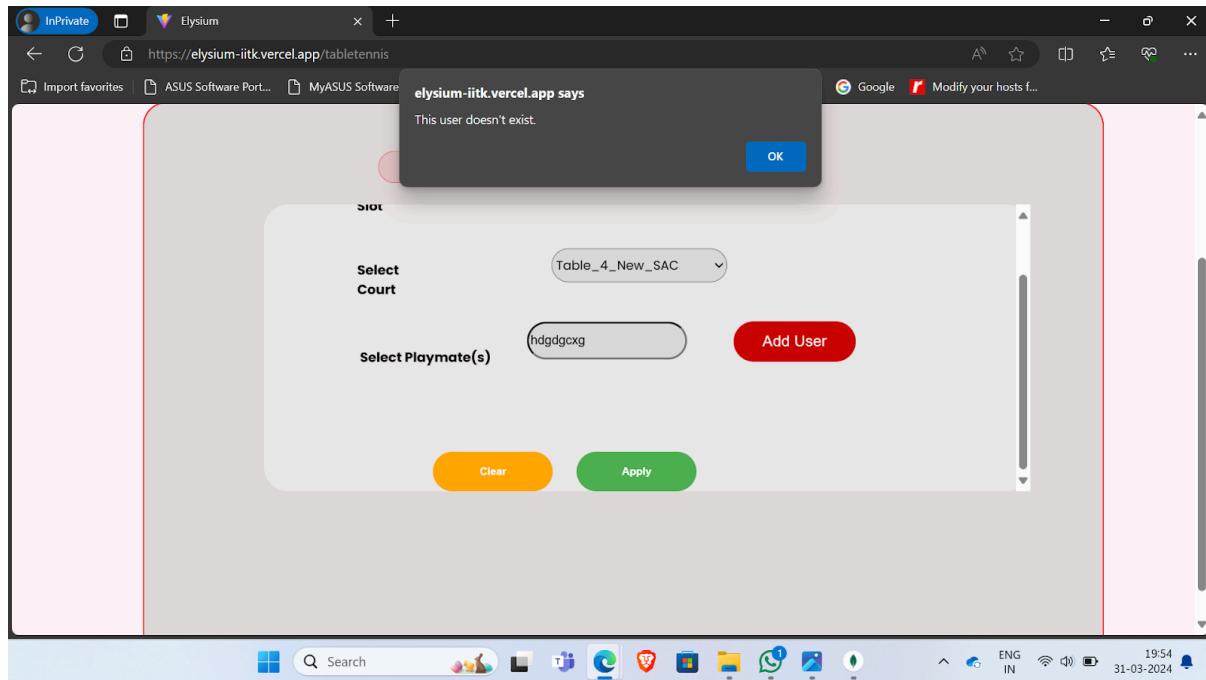
Then select other players



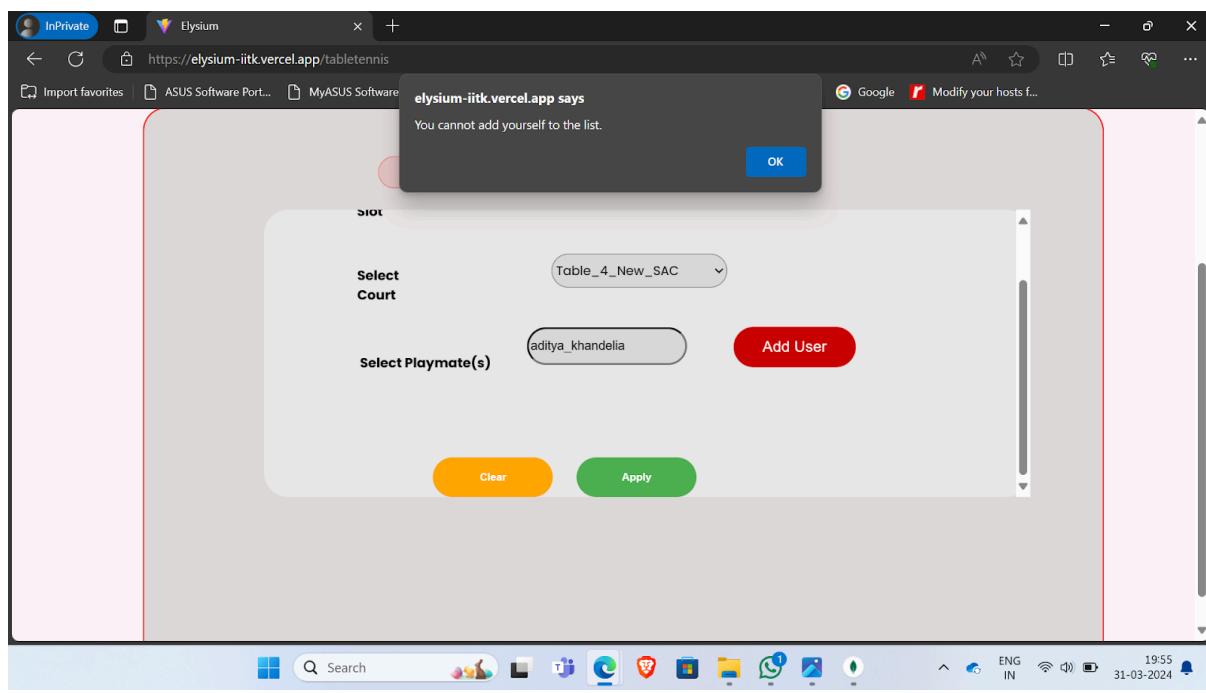
If no player is selected



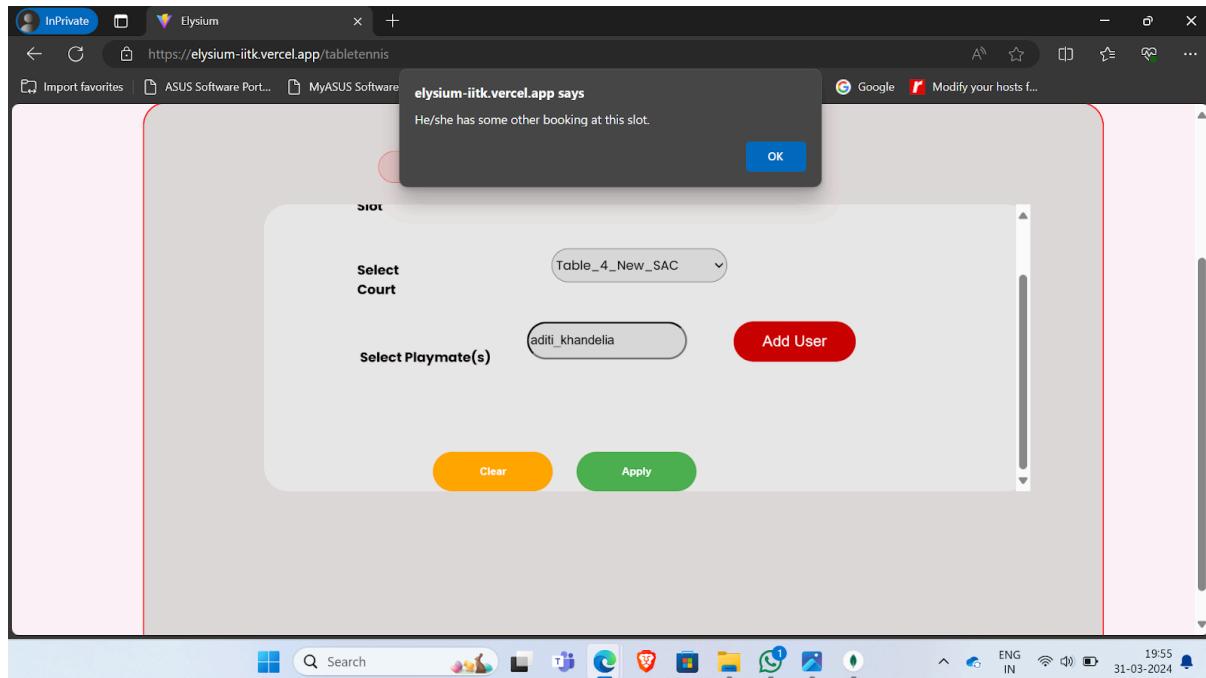
If invalid player name is given



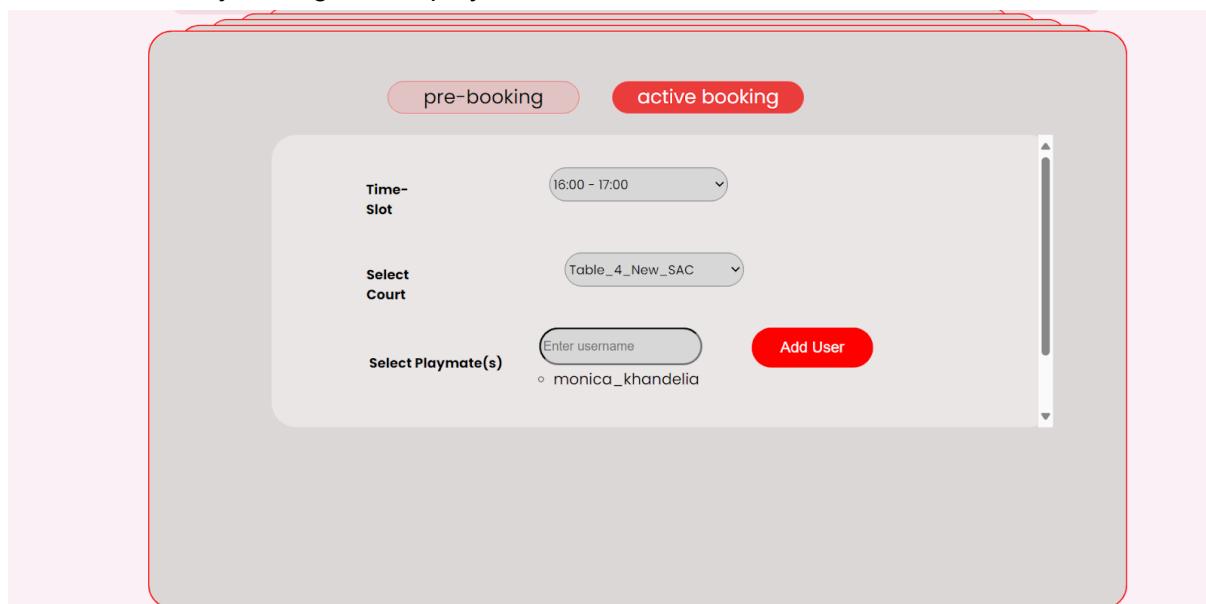
If own name is selected



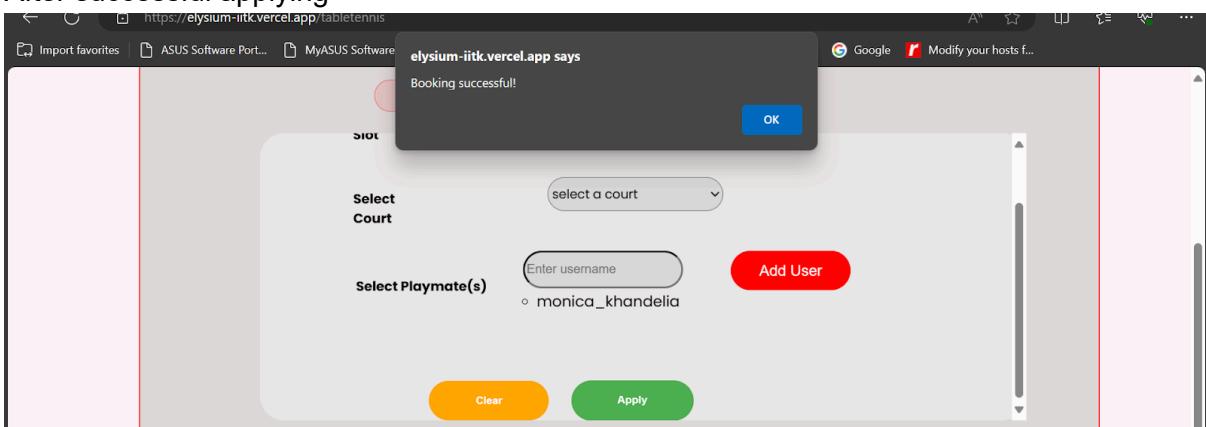
If a selected player has another booking at that time



After successfully adding a valid player



After successful applying



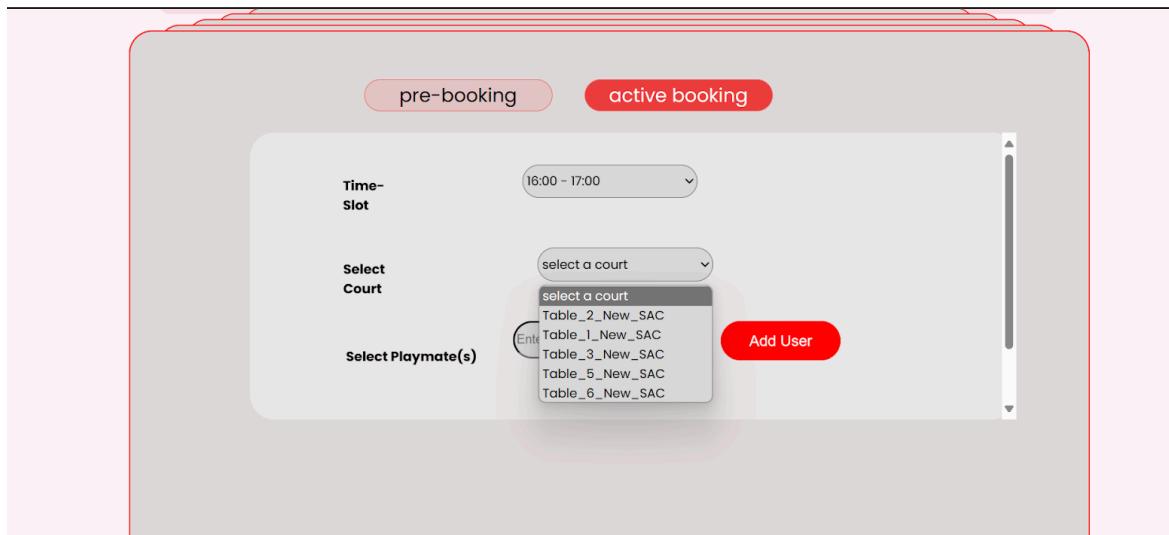
Upon booking for court, the following entry is created in the sport_booking database.

```

_id: ObjectId('660a3e5f7ab0ff2e2aeb48bd')
show_up_status : 0
user_id : ObjectId('66058dd362062aa40dd09206')
time_slot : 16
type_of_sport : "table_tennis"
time_of_booking : 2024-04-01T04:55:59.558+00:00
booking_status : 1
type_of_booking : 1
date_slot : "01/04/2024"
partners_id : Array (3)
no_partners : 1
court_id : ObjectId('65ec9699615f93471e4ea5aa')
__v : 0

```

After booking court Table_4_New_SAC court at 16:00- 17:00 slot. The court Table_4_New_SAC is not available for further booking at the 16:00- 17:00 slot, but the rest of the available courts can be booked at 16:00- 17:00.



Structural Coverage: 100%.

Additional Comments: All features worked as expected. Consistency between various units was seen.

6. Counsellor Post Blogs

Combined testing of various units was done. Initially, a counsellor posts a new blog. A user will see this blog from the list of all available blogs that are displayed in a random order

Component Details: The functionalities regarding the blog posts by the counsellors were tested, including posting blogs and those showing up to the user

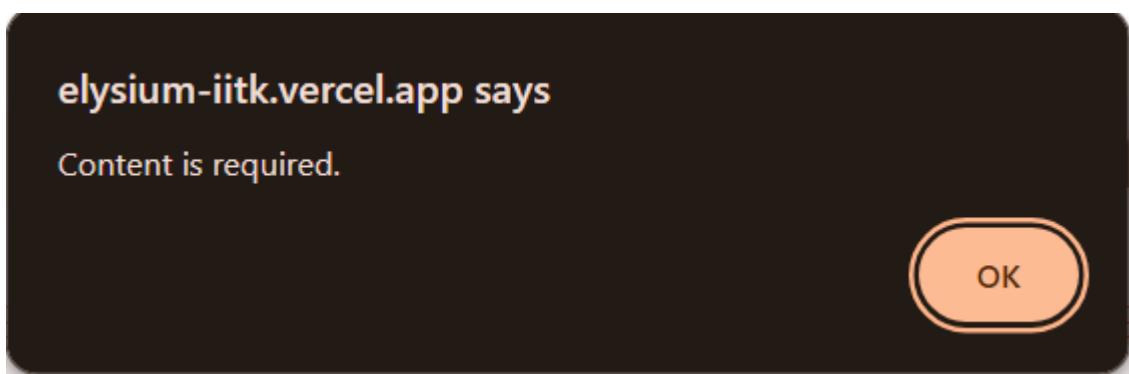
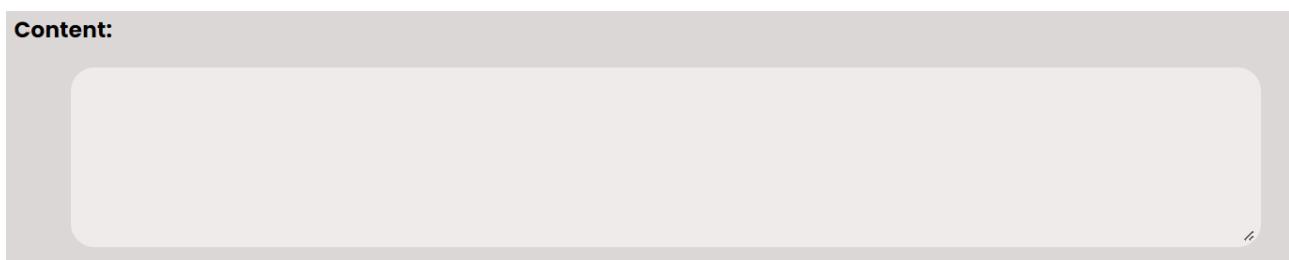
Test Owner: Mahaarajan J

Test Date: 03/31/2024-03/31/2024

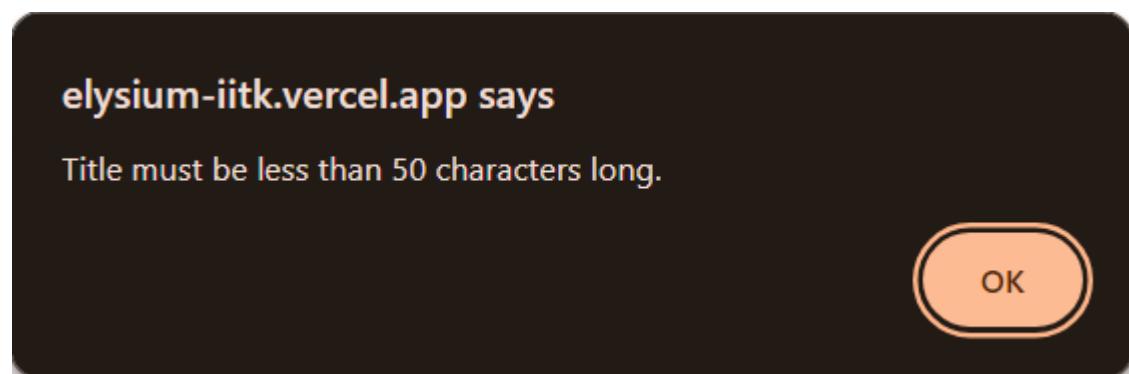
Test Results:

Creation of a blog:

From the counsellor dashboard, a blog was created. A few constraints are placed on the blog length like content can't be empty



Also the length of the Title is limited to 50 characters



A normal blog can be posted as follows

new post

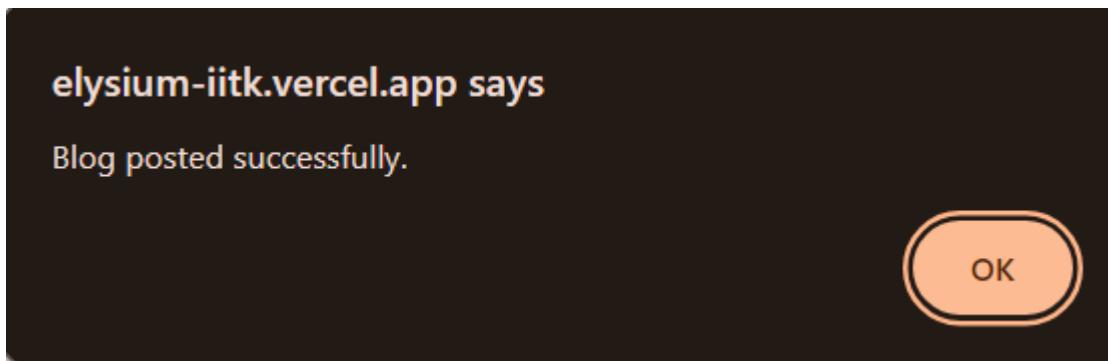
Title: Meditation in our daily life

Content:

Meditation can give you a sense of calm, peace and balance that can benefit your emotional well-being and your overall health. You also can use it to relax and cope with stress by focusing on something that calms you. Meditation can help you learn to stay centered and keep inner peace.

These benefits don't end when your meditation session ends. Meditation can help take you more calmly through your day. And meditation may help you manage symptoms of some medical conditions.

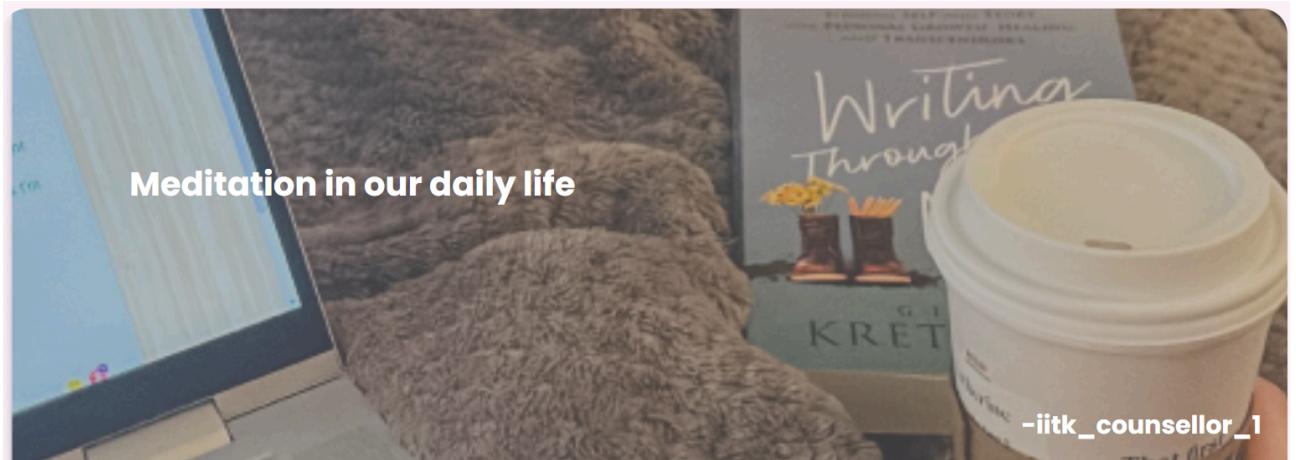
Post



This is reflected in the blogs_posted_by_counsellors database

```
id: ObjectId('6608e1df1641f8cafb9588a4')
content: "Meditation can give you a sense of calm, peace and balance that can be..."
title: "Meditation in our daily life"
counsellor_username: "iitk_counsellor_1"
__v: 0
```

This blog can be shown to a user in the self-help blogs section



Meditation can give you a sense of calm, peace and balance that can benefit your emotional well-being and your overall health. You also can use it to relax and cope with stress by focusing on something that calms you. Meditation can help you learn to stay centered and keep inner peace. These benefits don't end when your meditation session ends. Meditation can help take you more calmly through your day. And meditation may help you manage symptoms of some medical conditions.

Structural Coverage: 100%.

Additional Comments: All features worked as expected. Consistency between various units was seen.

7. Sports booking:

The core pre-booking functionality was tested. Major functionalities that were verified are:

1. A player can book only one sport slot a day for the same time slot.
2. The playmates chosen by one player cannot be chosen by another player for a similar time slot in any sport.

Component details: The units constituting this component were sports units of different users.

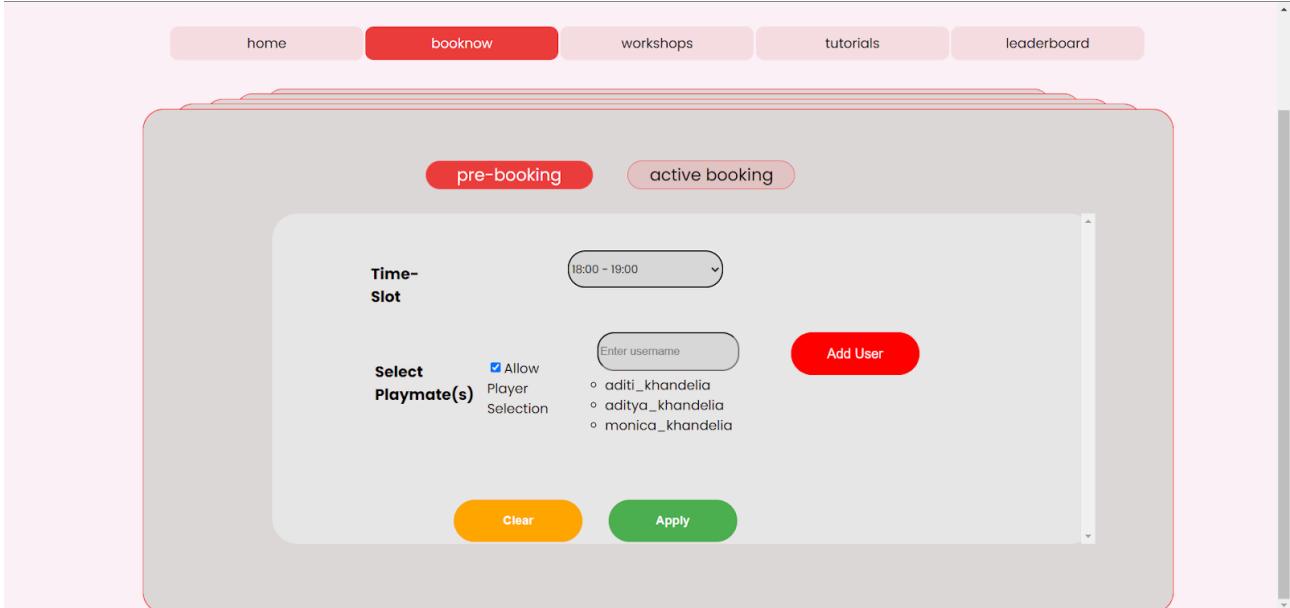
Test Owner: Aditi Khandelia, Arush Upadhyaya, Animesh Madaan, Akanksha Wattamwar.

Test Date: 04/31/2024 - 04/31/2024

Test Results:

For the sake of complete testing, we followed a simple protocol in which 4 players booked a slot of badminton at 6 pm. This process was done in chronological order.

1. User *sankalp_mittal* added *aditi_khandelia*, *aditya_khandelia*, and *monica_khandelia* as playmates and booked a 6 pm badminton slot.



The corresponding entry in the sports booking database:

```
_id: ObjectId('66097d46cf91f8fef1a067dc')
show_up_status : 0
user_id: ObjectId('66058df562062aa40dd09223')
time_slot : 18
type_of_sport: "badminton"
time_of_booking : 2024-03-31T15:12:06.542+00:00
booking_status : 1
type_of_booking : 0
date_slot : "01/04/2024"
partners_id: Array (3)
no_partners : 3
court_id : ObjectId('65ec76df615f93471e4ea561')
__v : 0
```

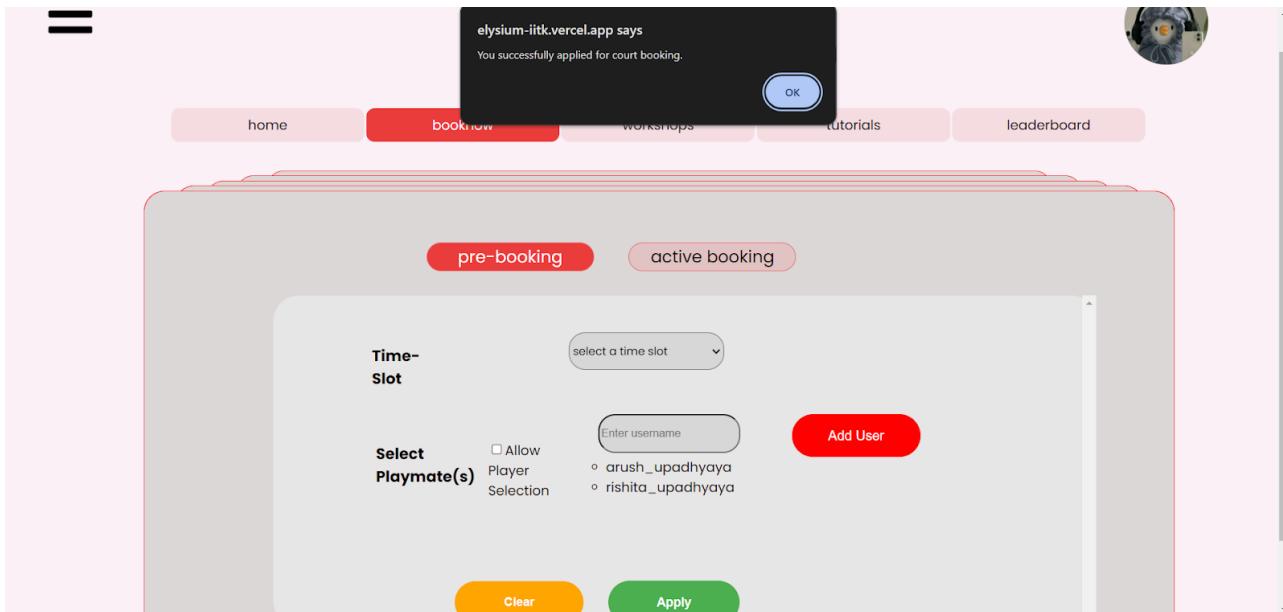
Now user *aditya_jagdale* booked a slot for 6 pm with playmates as *arush_upadhyaya*, and *rishita_upadhyaya*.

The corresponding entry in the sports booking database:

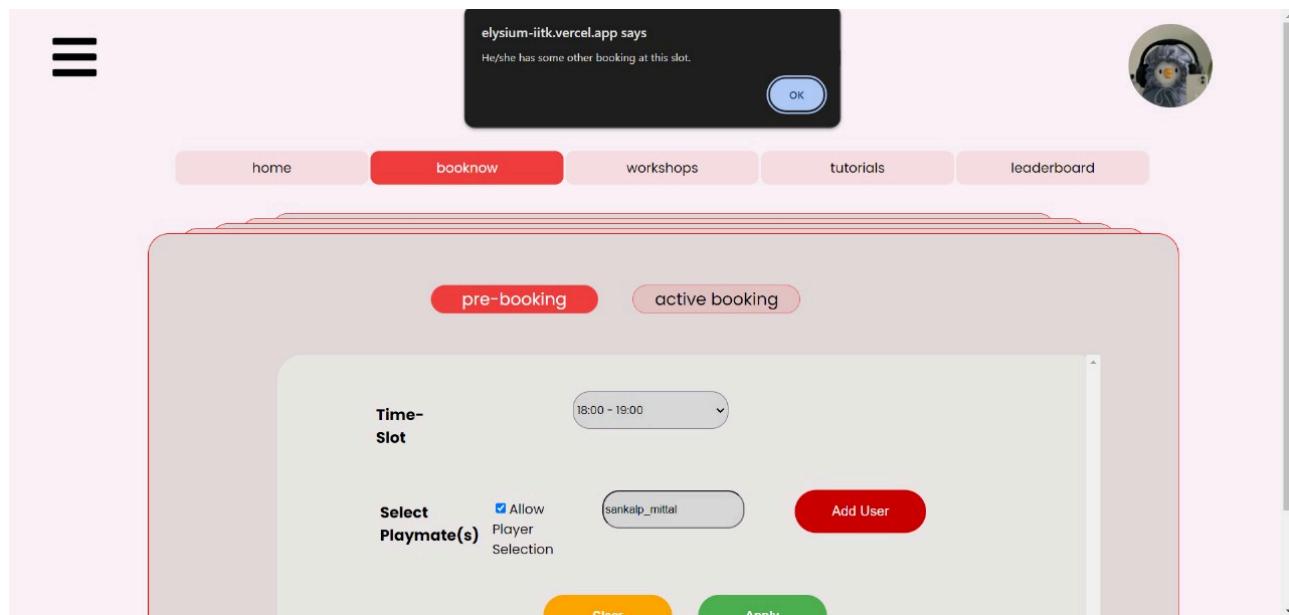
```
_id: ObjectId('66097fe9cf91f8fef1a06851')
show_up_status : 0
user_id: ObjectId('66058df462062aa40dd09214')
time_slot : 18
type_of_sport: "badminton"
time_of_booking : 2024-03-31T15:23:21.325+00:00
booking_status : 1
type_of_booking : 0
date_slot : "01/04/2024"
partners_id: Array (3)
no_partners : 2
court_id : ObjectId('65f1d6a2f2bcc9bb79a8ea6')
__v : 0
```

Now user *gv_aman* booked a slot for 6 pm with playmates as

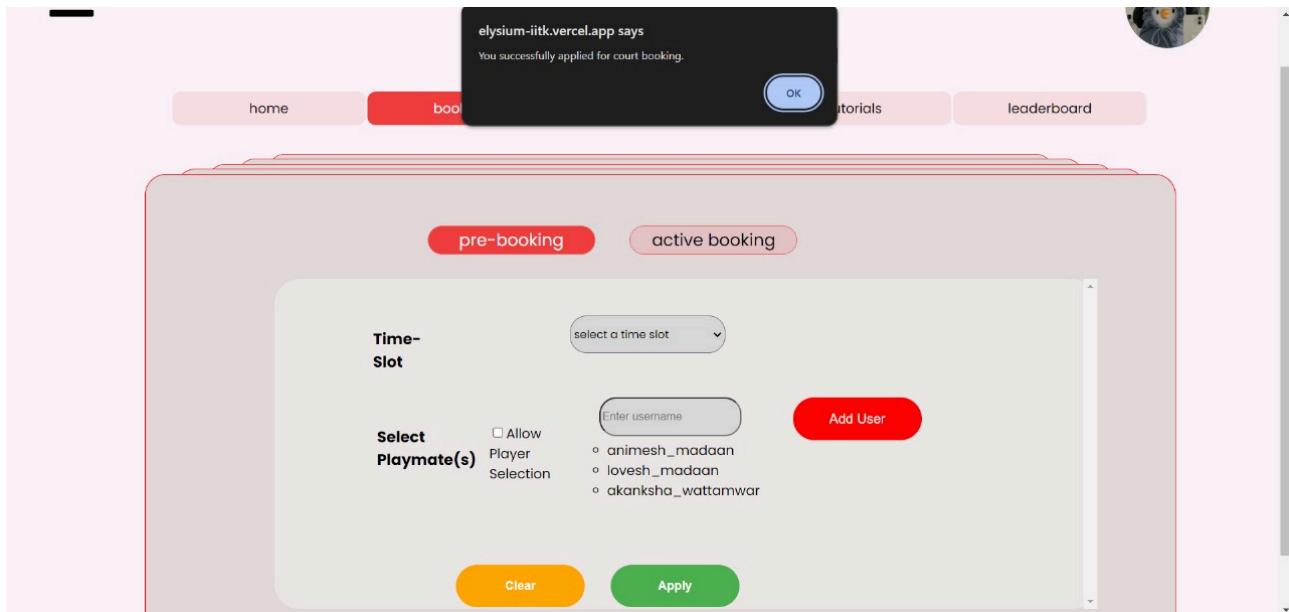
Animesh_madaan, Lovesh_madaan, sankalp_mittal and Akanksha_wattamwar



User sankalp_mittal had already booked another slot at 6 pm slot hence error is shown while selecting player sankalp_mittal.



gv_aman can book slots with the rest of the three members successfully.

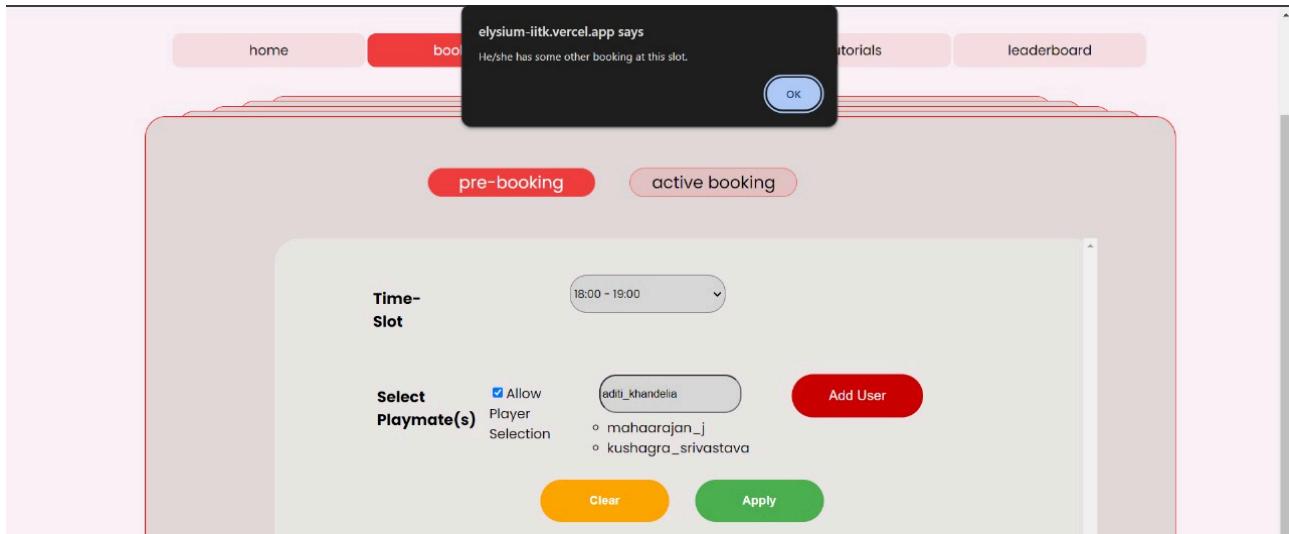


The corresponding entry in the sports booking database:

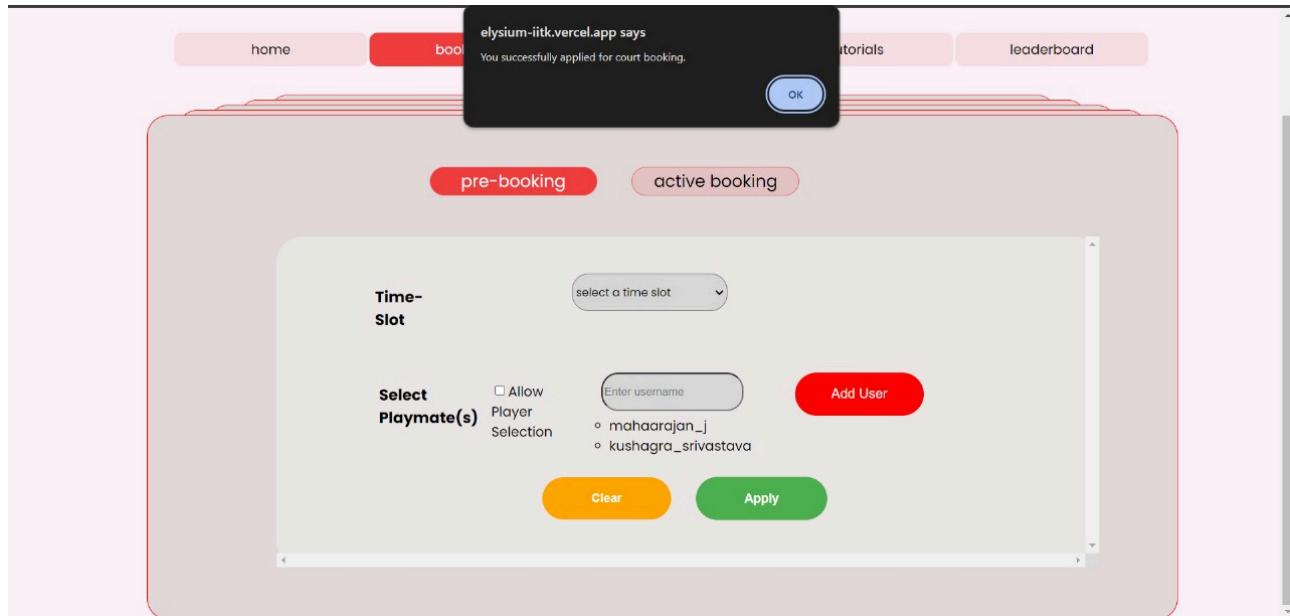
```
_id: ObjectId('66097d46cf91f8fef1a067dc')
show_up_status : 0
user_id : ObjectId('66058df562062aa40dd89223')
time_slot : 18
type_of_sport : "badminton"
time_of_booking : 2024-03-31T15:12:06.542+00:00
booking_status : 1
type_of_booking : 0
date_slot : "01/04/2024"
partners_id : Array (3)
no_partners : 3
court_id : ObjectId('65ec76dff615f93471e4ea561')
__v : 0
```

Now user *ritesh_bhaviskar* booked a slot for 6 pm with playmates as Mahaarajan_j, Kushagra_srivastava and aditi_khandelia.

User aditi_khandelia had already booked another slot at 6 pm hence error is shown while selecting player aditi_khandelia.



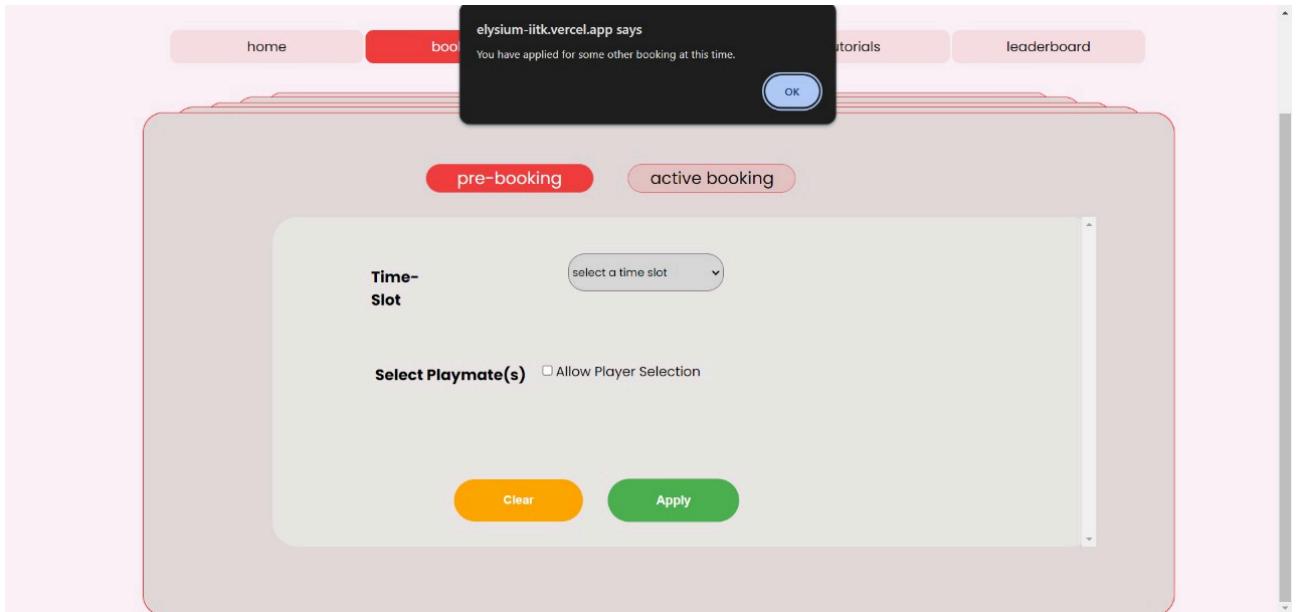
ritesh_bhaviskar can book slots with the rest of the two members successfully.



The corresponding entry in the sports booking database:

```
_id: ObjectId('66097fe9cf91f8fef1a06851')
show_up_status: 0
user_id: ObjectId('66058df462062aa40dd09214')
time_slot: 18
type_of_sport: "badminton"
time_of_booking: 2024-03-31T15:23:21.325+00:00
booking_status: 1
type_of_booking: 0
date_slot: "01/04/2024"
partners_id: Array (3)
no_partners: 2
court_id: ObjectId('65f1d6a2f2bcc9bb79a8ea6')
__v: 0
```

When user *ritesh_bhaviskar* attempts to reserve an additional table tennis slot for 6:00 PM, the booking process fails because the user already has a previously booked slot at the same time



8. Leaderboard:

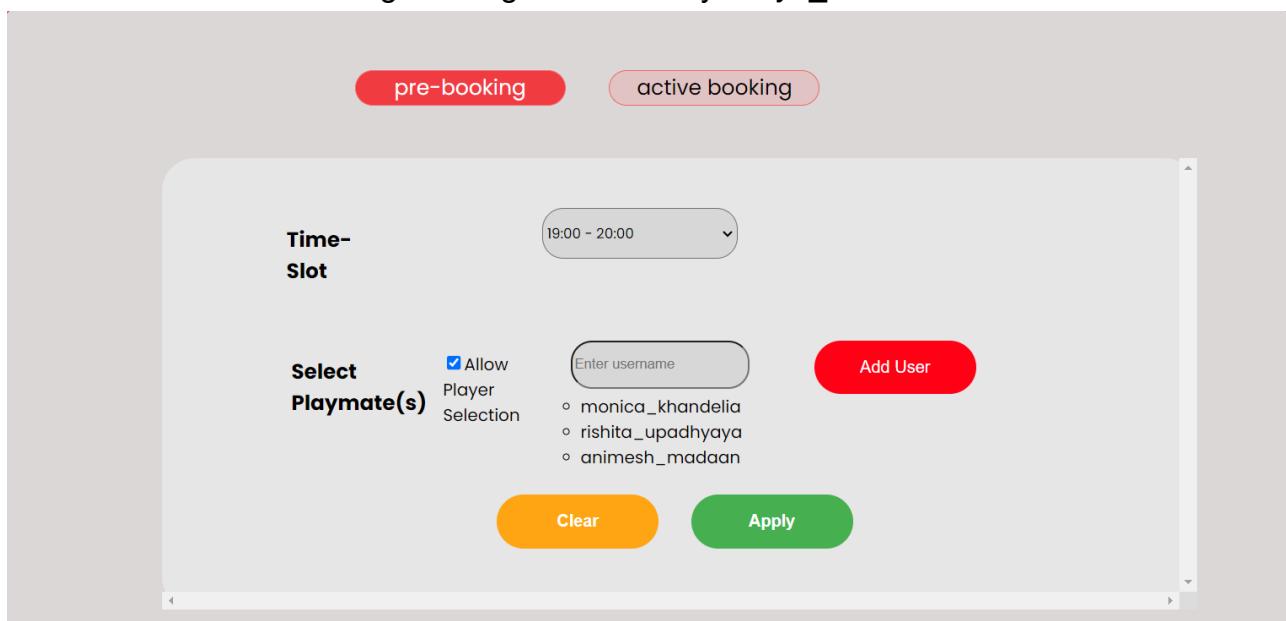
The core leaderboard functionality was tested. The major functionality that was tested was changing the positions of people based on swimming or losing a match. The following test has been done using the badminton page.

Component details: The units constituting this component were the leaderboard, admin page, and booking

Test Owner: Sankalp Mittal

Test Date: 05/1/2024 - 05/1/2024

Test Results: The following booking was made by *aditya_khandelia*



```

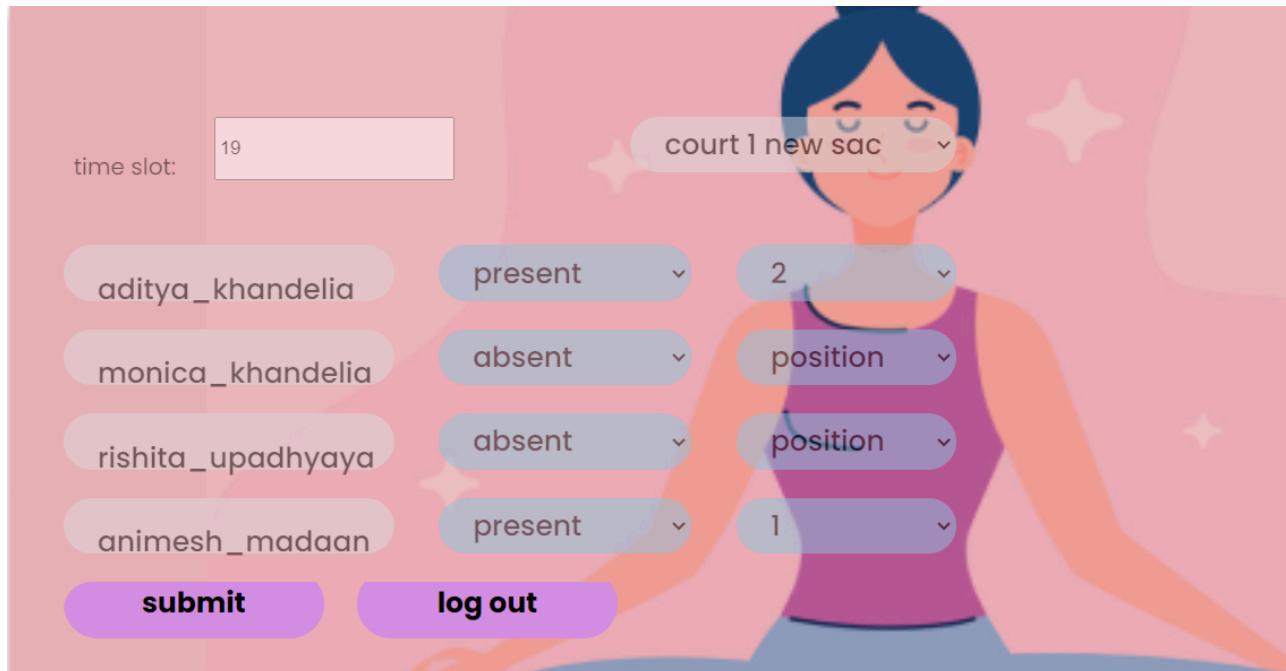
_id: ObjectId('660ab3de0cda0c09f54e5281')
show_up_status : 0
user_id : ObjectId('66058c4d62062aa40dd09150')
time_slot : 19
type_of_sport : "badminton"
time_of_booking : 2024-04-01T13:17:18.030+00:00
booking_status : 1
type_of_booking : 0
date_slot : "01/04/2024"
partners_id : Array (3)
no_partners : 3
court_id : ObjectId('65ec76b7615f93471e4ea55f')
__v : 0

```

This is how the leaderboard looked before the match

Position	Name
1.	aditya_khandelia
2.	lavanya_srivastava
3.	kushagra_srivastava
4	monica_khandelia
5	pankaj_khandelia
6	arush_upadhyaya
7	rishita_upadhyaya
8	vinay_upadhyaya
9	vidhu_upadhyaya
10	animesh_madaan

The *admin_badminton* will update the rankings of the match, depending on which the leaderboard will get updated, if all 4 had been present, no change in rankings are made, as only 2 player matches are considered rated.



The leaderboard has been updated as followed

Position	Name
1.	animesh_madaan
2.	aditya_khandelia
3.	lavanya_srivastava
4	kushagra_srivastava
5	monica_khandelia
6	pankaj_khandelia
7	arush_upadhyaya
8	rishita_upadhyaya
9	vinay_upadhyaya
10	vidhu_upadhyaya

Additional Comments: All features worked as expected. Consistency between various units was seen.

There is a slight caveat to the working of the admin page, it is assumed that the admin is working sensibly and he can change the entries as many times as he wants. This is done to allow him to update the leaderboard multiple times in case multiple matches are played or they are played between different sets of people. Due to this we have not stopped the admin from making multiple entries.

4 System Testing

1. Requirement: Users can create account using the sign-up page

Test Owner: Aditi Khandelia

Test Date: 25/03/2024 - 25/03/2024

Test Results: Test passed.

Additional Comments: Users can create a new player category account using a unique username and a valid IITK email id, to which a verification email is sent to complete the sign-up process. Portal doesn't allow sign-up with an email whose domain isn't @iitk.ac.in.

2. Requirement: Users can login using valid username and password

Test Owner: Kushagra Srivastava

Test Date: 25/03/2024 - 25/03/2024

Test Results: Test passed.

Additional Comments: Any user, coach, yoga instructor, counsellor, gym instructor, swim instructor or admin can login using their unique username and password. Redirection then took place to their respective dashboards. An error message was shown when an invalid username was entered or when the password was wrong.

3. Requirement: Coach, Yoga Instructor, Admin, Counsellor, Gym instructor or Yoga instructor accounts can be created using the superuser account.

Test Owner: Animesh Madaan

Test Date: 26/03/2024 - 26/03/2024

Test Results: Test passed.

Additional Comments: The system has only one superuser account. The account was logged into using the general login page. Superuser was then redirected to the required page where any of the above mentioned users could be created using unique usernames and valid IITK email ids. Email is sent for verification of email ID.

4. Requirement: Users can log out of the portal.

Test Owner: Aditya Jagdale

Test Date: 26/03/2024 - 26/03/2024

Test Results: Test passed.

Additional Comments: On clicking the hamburger icon at the top left corner of the screen, the navigation bar opened, and clicking the logout button at the bottom of the navigation bar logged the user out and redirected to the login page. For the superuser, the logout button is present on the user creation interface itself.

5. Requirement: Users can create court bookings in advance.

Test Owner: Arush Upadhyaya

Test Date: 26/03/2024 - 26/03/2024

Test Results: Test passed.

Additional Comments: For non-team sports like badminton, tennis, table tennis and squash, the user was allowed to apply for a court booking a day in advance. The decision on booking was made on the basis of the acceptances, rejections and show-up status of the user. The final status of the booking got reflected in the profile section of the user's dashboard.

6. Requirement: User was allowed to book a court in real-time during advance booking.

Test Owner: Sankalp Mittal

Test Date: 26/03/2024 - 27/03/2024

Test Results: Test passed.

Additional Comments: For non-team sports like badminton, tennis, table tennis and squash, the user was allowed to apply for a court booking in real-time. In the advance booking section of the concerned sport's page, the user could see the time slots available and the courts that remained unbooked at that time. The user could then book this court and the booking was decided on the basis of FCFS. The status of the booking was reflected in the profile section of the user's dashboard.

7. Requirement: Users can view available workshops and apply for them.

Test Owner: G.V. Aman

Test Date: 27/03/2024 - 27/03/2024

Test Results: Test passed.

Additional Comments: Users could see the present and future workshops posted by the coaches of all sports in the respective sport's section in the user dashboard. Each entry corresponding to a workshop showed the content describing the workshop (as posted by the coach), its date, time and currently available slots. The user could apply for the workshop by clicking on the apply button. The application got accepted based on FCFS in real-time. The status of the application could be seen in the profile section of the user's dashboard.

8. Requirement: Users can view tutorials for all sports, yoga, gym and swimming.

Test Owner: Ritesh Baviskar

Test Date: 27/03/2024 - 27/03/2024

Test Results: Test passed.

Additional Comments: In sports, yoga, gym and swimming sections, by navigating to the tutorials tab, each user gets a list of internet resources on the corresponding activity and their links. The user could use these links to view the said resource.

9. Requirement: Coaches could post workshops and check the enrollments into these workshops

Test Owner: Mahaarajan J

Test Date: 27/03/2024 - 27/03/2024

Test Results: Test passed.

Additional Comments: In the post workshop section of their dashboard, the coaches could post a new workshop by writing an attractive description, specifying the date, the start time and the batch size. They could then check the enrollments into these workshops in the check enrollment section in the tabular form(where the usernames of the participants also get displayed) as well in the statistics section in the form of a bar chart and a pie chart, where relevant figures also get displayed.

10. Requirement: Users can apply for yoga sessions

Test Owner: Akanksha Wattamwar

Test Date: 27/03/2024 - 27/03/2024

Test Results: Test passed.

Additional Comments: Users could view the present and future yoga sessions as posted by yoga instructors in the sessions section of the yoga page. The sessions get displayed with a description, their dates, time slots and maximum capacity. The users could apply for the session by clicking on the apply button, and their application got accepted or rejected on the basis of FCFS. The status of the booking could be viewed in the profile section of the user's dashboard.

11. Requirement: Users can view self-help blogs by counsellors

Test Owner: G.V. Aman

Test Date: 27/03/2024 - 27/03/2024

Test Results: Test passed.

Additional Comments: By navigating to the self-help blogs section using the navigation bar, the user could see any one of the many blogs posted by the counsellors, selected randomly. The heading, content and the username of the counsellor got displayed.

12. Requirement: Yoga Instructor can post sessions

Test Owner: Ritesh Baviskar

Test Date: 27/03/2024 - 28/03/2024

Test Results: Test passed.

Additional Comments: Yoga Instructor could specify the content, location, batch size, date and time slot of the session. Respective errors were displayed if the date time format was incorrect, batch size was not a number, if the instructor tried to post multiple sessions on the same date and time or if start time was after end time

13. Requirement: Yoga Instructor can check enrollments

Test Owner: Aditya Jagdale

Test Date: 28/03/2024 - 28/03/2024

Test Results: Test passed.

Additional Comments: Yoga instructor could view by specifying the workshop name, the user details for those that have enrolled in the session, along with the date, time slot and location.

14. Requirement: Yoga Instructor can view statistics of yoga workshops

Test Owner: Sankalp Mittal

Test Date: 28/03/2024 - 28/03/2024

Test Results: Test passed.

Additional Comments: Yoga instructor could check details like number of participants, vacancies and total strength per workshop, altogether in a bar chart or separately in workshop wise pie charts.

15. Requirement: Gym/Swimming Instructor can check enrollments

Test Owner: Animesh Madaan

Test Date: 28/03/2024 - 28/03/2024

Test Results: Test passed.

Additional Comments: Gym/Swimming instructor could view by year and month the users that have enrolled in a membership.

16. Requirement: Gym/Swimming Instructor can view statistics of gym memberships

Test Owner: Akanksha Wattamwar

Test Date: 28/03/2024 - 29/03/2024

Test Results: Test passed.

Additional Comments: Gym/Swimming instructor could check details like number of registrations per month in the form of bar chart and pie chart

17. Requirement: Counsellors can post their time of availability

Test Owner: Kushagra Srivastava

Test Date: 29/03/2024 - 29/03/2024

Test Results: Test passed

Additional Comments: Counsellor could choose to specify their availability either on a specific date, within 30 days, or a general days of week-wise availability, both in the form of 1 hr time slots, to notify users when they are available for appointments, and they can view the same on the same page. An error was displayed if the date format was not correct. For the day-wise availability, any new entry would overwrite the previous entry. If

availability was specified multiple times for the same date, only the last entry was considered.

18. Requirement: Counsellors can accept appointments

Test Owner: Arush Upadhyaya

Test Date: 30/03/2024 - 30/03/2024

Test Results: Test passed

Additional Comments: Counsellor could accept/reject requests for appointments from users. If there were multiple requests for the same date and time then accepting one automatically rejects all other requests for the same date and time. Accepted appointments appear separately on the page

19. Requirement: Counsellors can post blogs for users

Test Owner: Mahaarajan J

Test Date: 30/03/2024 - 30/03/2024

Test Results: Test passed.

Additional Comments: Counsellors could write and post blogs for the user, that appear randomly on their homepage, with a title of less than 50 characters and content of less than 10000 characters

20. Requirement: Admin can mark attendance and match positions.

Test Owner: Aditi Khandelia

Test Date: 31/03/2024 - 31/03/2024

Test Results: Test passed.

Additional Comments: Admin could log in using their username and password and get redirected to the specific sport's attendance interface. The interface read system time and upon selecting the correct court, the names of the players who had booked the court for the said time slot and date got filled in the names' sections. The admin could then mark the attendance and fill the positions of the players. Relevant error messages were shown whenever the admin tried to mark the attendance of a player who was not present, whenever the admin tried to mark the position of an absent player, and whenever the admin tried to submit the attendance form without filling all the required fields etc.

5 Conclusion

As far as we can see, the testing was sufficiently exhaustive and we do not expect a significant number of errors to arise if the system were deployed.

The number of bugs we found and corrected was more than 200, indicating that the testing was effective.

The testing process can be improved by having a larger number of students in the team and dividing the team into groups, so as to reduce the amount of communication between the developers and testers of each feature.

There is also a conflict of interest in the testing process if the testers and developers are part of the same group, therefore we tried to keep the two teams separate, and no developer tested a feature that they had developed. Separating the two groups and the assessments of their work would incentivise testers to think as end-users rather than custodians of the software. In fact, this is standard practice in the certification of safety-critical software, i.e. independent regulators certify systems as safe.

Giving more time to the testing process would also have improved the testing process. However, as we had limited time, implementation was given priority, with as exhaustive testing as possible.

Appendix A - Group Log

Sr. No.	Date	Agenda	Duration
1.	21/03/2024	Meet to discuss the work allocation of Testing and User-Manual. Initiated code improvement.	1 hr
2.	24/03/2024	Discussed the work of testing along with changes that needed to be made in User-Manual. Also reviewed the details and any doubts of the Test Document.	1 hr
3.	28/03/2024	Finalized the User-Manual.	1 hr
4.	29/03/2024	Initiated component testing.	1 hr
5.	30/03/2024	Initiated integration testing.	1 hr
6.	01/03/2024	Formatted and merged the Testing Document. Finalised User Manual.	2 hr