

Hi-Fi Prototype & Usability Instruments

Group Number: C12

Group Member: WANG, Chen;

TANG, Jiaguan;

WAN, Jiachen;

WANG, Dongliang;

PENG, Yuanhan;

ZHANG, Wenxin;

Project Name: Sports Lover

TA Name: Maryam Mokhberi

Figma URL:

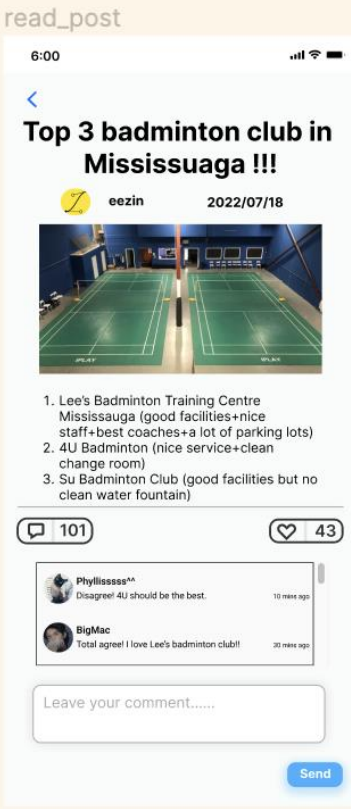
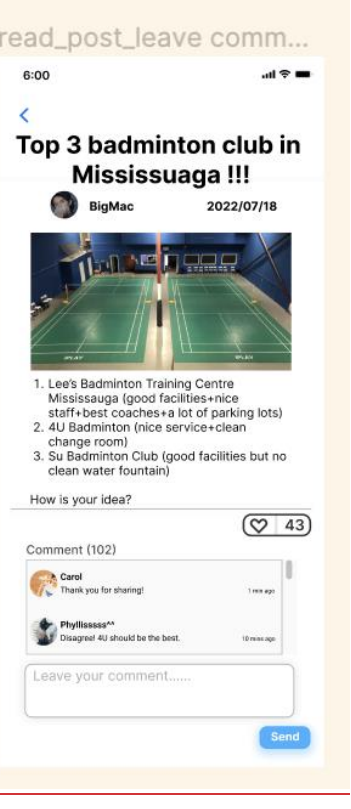
Original Hi-Fi Prototype:

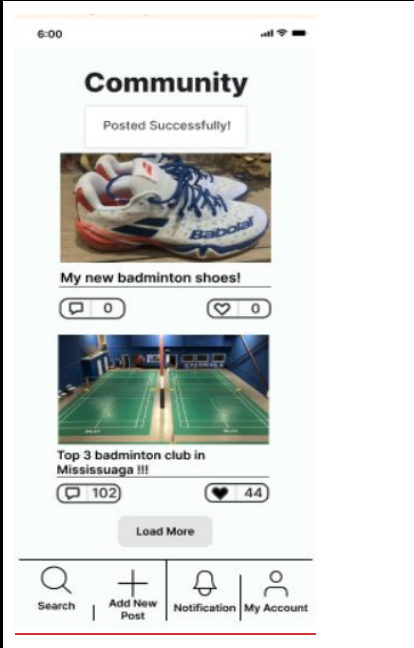
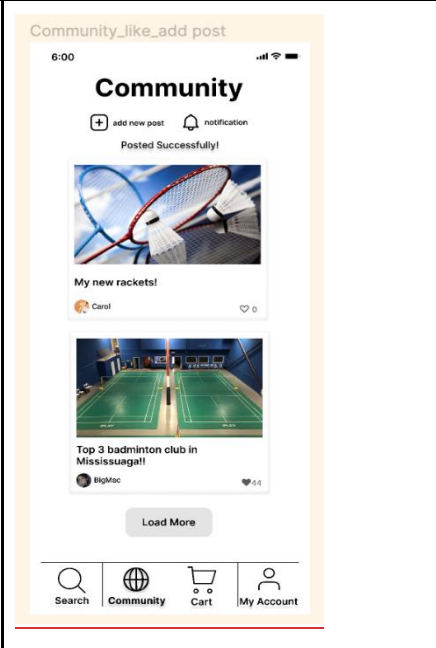
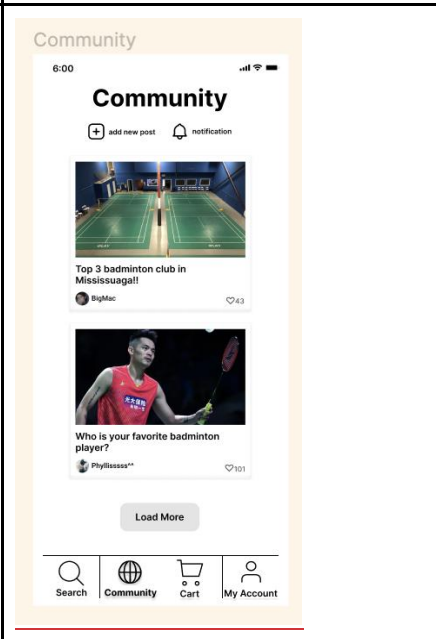
<https://www.figma.com/file/REcnMgGJu01k7kfDDT8cHo/A7a?node-id=0%3A1>







Updated Hi-Fi Prototype:

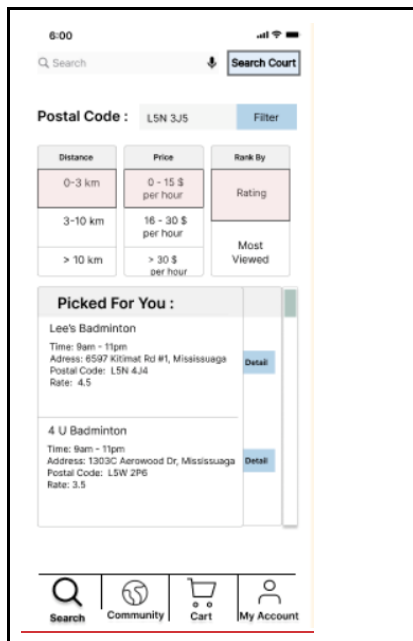
[https://www.figma.com/file/8qiQuu9JNrluqU5AZwBtN9/A7B-\(Copy\)?node-id=0%3A1](https://www.figma.com/file/8qiQuu9JNrluqU5AZwBtN9/A7B-(Copy)?node-id=0%3A1)

Change Log:

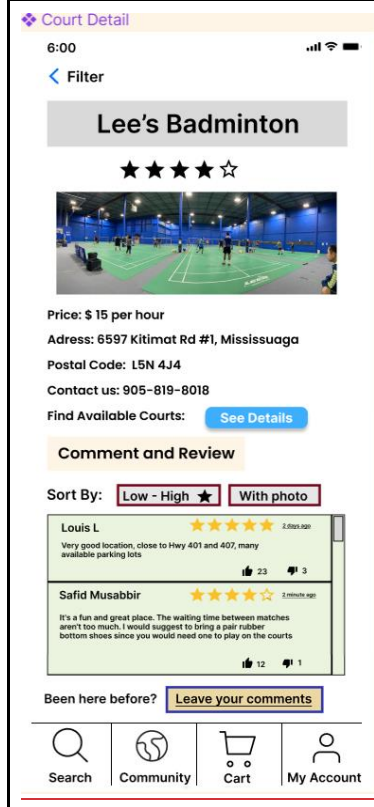
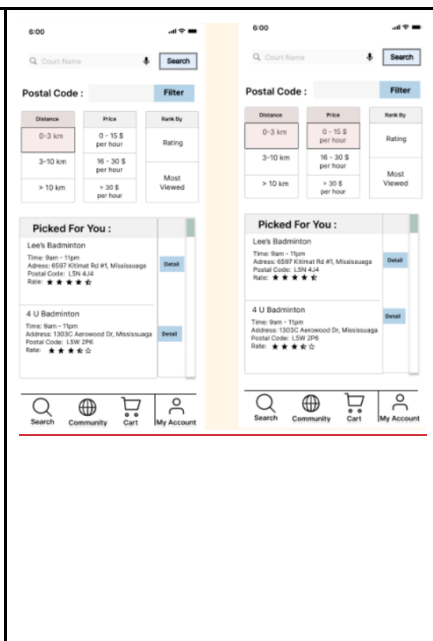
<u>Original Design from A7a</u>	<u>Change Details</u>	<u>Updated Design</u>
 <p>read_post</p> <p>6:00</p> <p><</p> <p>Top 3 badminton club in Mississauga !!!</p> <p>eezin 2022/07/18</p> <p>1. Lee's Badminton Training Centre Mississauga (good facilities+nice staff+best coaches+a lot of parking lots)</p> <p>2. 4U Badminton (nice service+clean change room)</p> <p>3. Su Badminton Club (good facilities but no clean water fountain)</p> <p>101</p> <p>43</p> <p>Phyllissss^A Disagree! 4U should be the best. 10 mins ago</p> <p>BigMac Total agree! I love Lee's badminton club!! 30 mins ago</p> <p>Leave your comment.....</p> <p>Send</p>	<p><u>In the post detail page in the community section, the comment icon just want to show the number of messages, however, it was confused when users tried to read and leave a comment. So, we redesigned the comment part.</u></p>	 <p>read_post_leave comm...</p> <p>6:00</p> <p><</p> <p>Top 3 badminton club in Mississauga !!!</p> <p>BigMac 2022/07/18</p> <p>1. Lee's Badminton Training Centre Mississauga (good facilities+nice staff+best coaches+a lot of parking lots)</p> <p>2. 4U Badminton (nice service+clean change room)</p> <p>3. Su Badminton Club (good facilities but no clean water fountain)</p> <p>How is your idea?</p> <p>102</p> <p>43</p> <p>Carol Thank you for sharing! 1 min ago</p> <p>Phyllissss^A Disagree! 4U should be the best. 10 mins ago</p> <p>Leave your comment.....</p> <p>Send</p>

	<p>The bottom navigation bar in the community section was different from other pages, which caused users' confusion. We want to make the bottom bar consistent all the time.</p>	
	<p>The users' names and head portraits aren't displayed in the original prototype, so we add them all in the updated prototype.</p>	

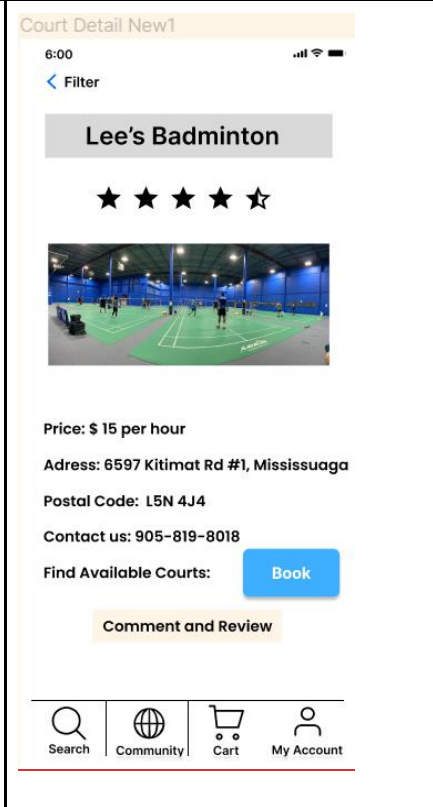
<div> <div>Sign in</div> <div> <div><</div> <div>Sign In</div> </div> <div> <div>Name / Email</div> <div> <input type="text"/> </div> </div> <div> <div>Password</div> <div> <input type="password"/> </div> </div> <div> <div>Sign In</div> </div> <div> <div>Forgot Password?</div> </div> <div> <div>Sign in with</div> <div>    </div> </div> <div> <div>Don't have an account?</div> <div> Sign Up </div> </div> </div>	<p>The user's names and passwords aren't displayed on the sign in page.</p>	<div> <div>Sign in</div> <div> <div><</div> <div>Sign In</div> </div> <div> <div>Carol</div> <div> <input type="text"/> </div> </div> <div> <div>utbest01</div> <div> <input type="password"/> </div> </div> <div> <div><input type="checkbox"/></div> <div>By continuing you accept our Privacy Policy</div> </div> <div> <div>Sign In</div> </div> <div> <div>Forgot Password?</div> </div> <div> <div>Sign in with</div> <div>    </div> </div> <div> <div>Don't have an account?</div> <div> Sign Up </div> </div> </div>
<div> <div><</div> <div>Personal Info</div> </div> <div> <div>First name</div> <div> <input type="text"/> </div> </div> <div> <div>Last name</div> <div> <input type="text"/> </div> </div> <div> <div>Phone number</div> <div> <input type="text"/> </div> </div> <div> <div>Country</div> <div> <input type="text"/> </div> </div> <div> <div>Province</div> <div> <input type="text"/> </div> </div> <div> <div>City</div> <div> <input type="text"/> </div> </div> <div> <div>Postal Code</div> <div> <input type="text"/> </div> </div> <div> <div>Submit</div> </div>		

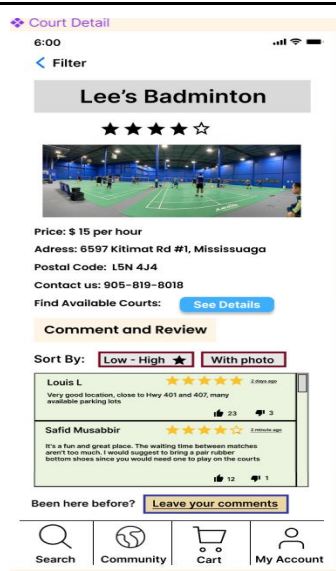


We need several filter pages when pages, users choose different filter conditions.

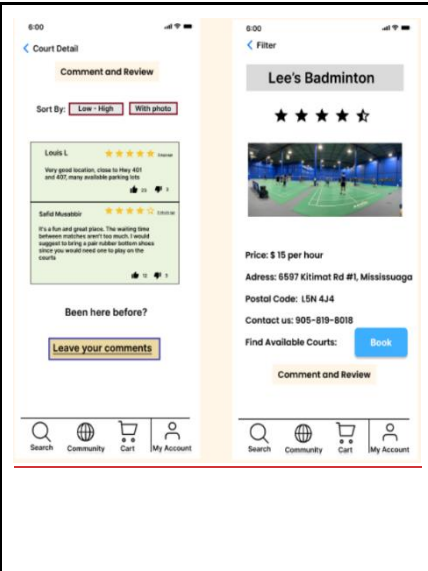


Change the see detail button to the book button, which is more meaningful.

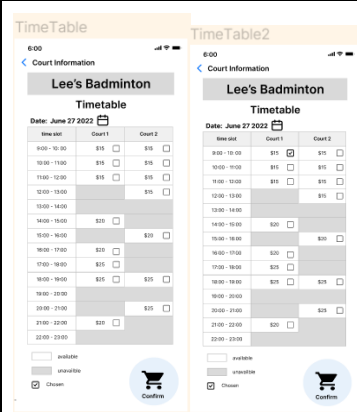




Separate court details page into court details page and comment/review page.



In the timetable page, make each time slot default selectable.



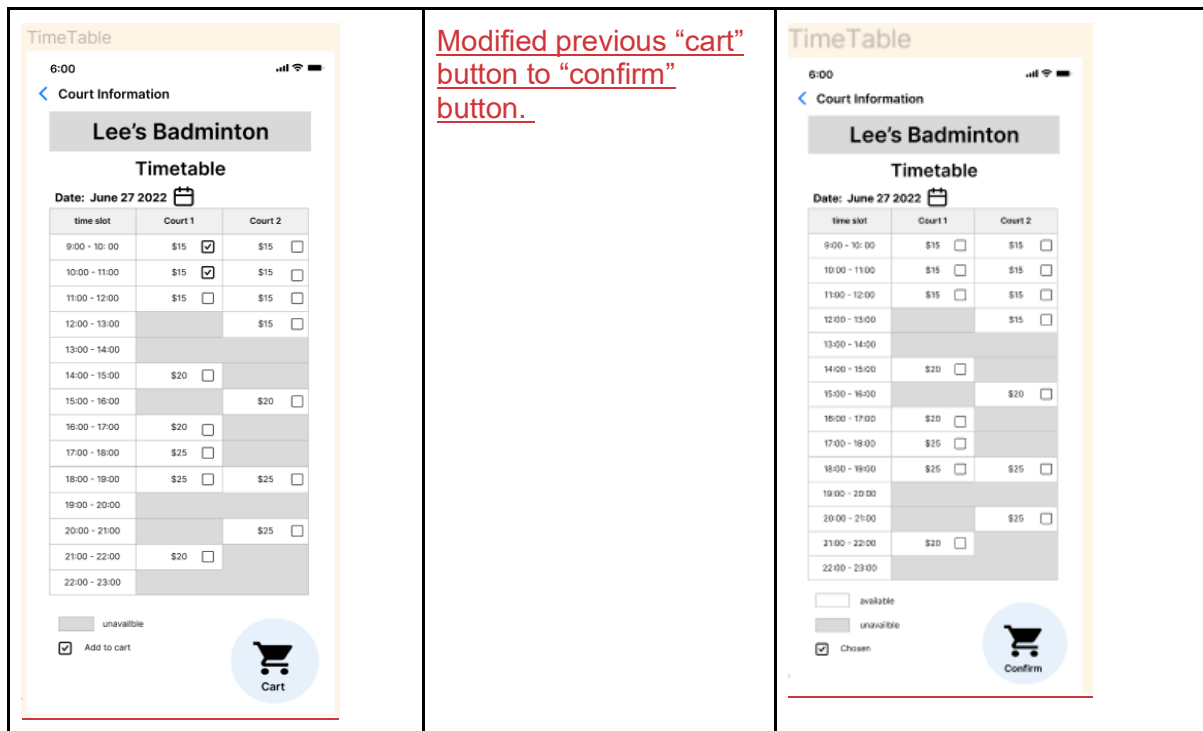


Table of Content

1. Usability Testing Plan	2
2. Usability Testing Instrument	
2.1 Research Protocol	2
2.2 Consent Form	3
2.3 Pre-study questionnaire	4
2.4 Test Script	4
2.5 Template for capturing observer notes	5
2.6 Post-study Survey & Interview	8
2.7 Checklist	8
3. Appendix	9

1. Usability Testing Plan:

- Goals for the study:
Our goal is to help us improve the design of novel interactive computational media that are intended to help them book badminton courts efficiently.
- Create Format and Setting of our study: Following the checklist.
- Number of Users: 6
- Recruiting process:
Recruit users for lecture sessions. Let participants sign the consent form.
- Tasks: Follow the usability testing process, perform test script and gather user feedback.
- Metrics collection: Taking notes and filled in prepared forms while perform testing
- Questionnaires: pre and post questionnaires
- Description of the system: Mobile app

2. Usability Testing Instruments

2.1 Research Protocol:

1. **Project Title:** Usability test of an app to help users efficiently book badminton courts.

2. **Investigators:** Names and email addresses of all members of the research team

WANG, Chen: chennn.wang@mail.utoronto.ca

WAN, Jiachen: jiachenw.wan@mail.utoronto.ca

WANG, Dongliang: dongliangw.wang@mail.utoronto.ca

TANG, Jiaguan: jiaguan.tang@mail.utoronto.ca

PENG, Yuanhan: yuanhan.peng@mail.utoronto.ca

Zhang, Wenxin: wenxin.zhang@mail.utoronto.ca

3. **Purpose:** The purpose of our research is to find out the potential existing problem to help us derive requirements for the design of novel interactive computational media that are intended to be useful to badminton fans. A brief description of our design concept is that we aim to design an app to help badminton fans efficiently search and book a badminton court and offer them a platform for them to share their experience regarding badminton.

4. **Process to be followed:** We will brief the participants about the purpose of the study, explain the consent form to them, and ensure that they sign the consent form. We will then engage the participants in a 23 minutes long usability to test our app.

5. **Participant selection:** Participants will be chosen from Badminton fans. They will be identified via a seven questions pre-study questionnaire and selected according to the condition that they plan to play badmintons at least once a month.

6. **Relationships:** Our relationship to the participants may be described as follows: Some of the participants would be students around us and we know that they like playing badminton and the rest of participants would be strangers who play badminton .

7. **Risk and benefit:** There will be minimal risk to the participants, for example that they feel that they have wasted their time. The only benefit will be to contribute to the education of the investigators. Participants are free to withdraw before or at any time during the study without the need to give any explanation.

8. **Consent details:** We will brief the participants about the purpose of the study, and explain the **attached consent form** to them, and ensure that they consent to participate and sign the consent form.

9. **Compensation:** Participants will receive no compensation.

10. **Information sought:** The information to be sought is described in the attached part four which is a list of tasks for our participants to finish.

11. **Confidentiality:** Information will be kept confidential by the investigators. Names or other identifying or identified information will not be kept with the data. The only other use will be to include excerpts or copies in the assignment submitted, but names and other identifying or identified information will not be submitted.

2.2 Consent Form:

Consent Form: An app about badminton

I hereby consent to participate in a research study conducted by Group C12: WANG, Chen; TANG, Jiaguan; ZHANG, Wenxin; PENG, Yuanhan; WANG, Dongliang; WAN, Jiachen for an assignment in University of Toronto Computer Science course *CSC318 The Design of Interactive Computational Media*.

I agree to participate in this study, the purpose of which is to explore possible difficulties people may encounter when looking for a badminton court, and provide efficient solutions.

I understand that

- The procedures to be used are a ten questions survey.
- I will receive a chance to win a \$25 amazon gift card for my participation.
- I am free to withdraw before or any time during the study without the need to give any explanation.
- All materials and results will be kept confidential, and, in particular, that my name and any identifying or identified information will not be associated with the data.

1) Agree

2) Disagree

PARTICIPANT

Name (please print) _____

Signature _____

Date _____

INVESTIGATORS

Name _____ Chen WANG _____ Signature _____ Chen WANG _____

Name _____ Jiachen WANG _____ Signature _____ Jiachen WANG _____

Name _____ Yuanhan PENG _____ Signature _____ Yuanhan PENG _____

Name _____ Wenxin ZHANG _____ Signature _____ Wenxin ZHANG _____

Name _____ Dongling WANG _____ Signature _____ Dongling WANG _____

Name _____ Jiaguan TANG _____ Signature _____ Jiaguan TANG _____

2.3 Pre-study questionnaire:

1. What is your gender?
2. What is your age?
3. Please specify your ethnicity.
4. Are you a student, part-time worker, or full-time worker?
5. What is the highest degree or level of school you have completed/ are pursuing?
6. How often do you play badminton?
7. How good are you at playing badminton?

URL link: <https://forms.gle/3xQtSUAuXBzBHZ3X7>

2.4 Test script:

Scenarios:

You are a third year UofT student who loves to play badminton. You heard from your friends that there is an app that can help you book the badminton courts efficiently and know many peers who also like to play badminton. You decide to try it.

Key Tasks:

Task 1 : You are ~~a new user to the app~~ our app user. how would you log into ~~create your~~ into your account through this prototype?

Task 2: ~~You want to find a cost-effective badminton court near your living places. What could you do to find such a court using this prototype? How would you find a cheapest badminton court near your living place by this prototype?~~

~~Task 3: You found many good choices within our app. In order to make the final decision, you want to view others' personal experience to find the one that has the best services. How would you do that?~~
 Task 3: How could you view the information of a badminton court?

~~Task 4: You find an excellent post and want to join the discussion, what would you do using this prototype?~~
 Task 4: What would you do to book an appropriate time slot and make a payment?

~~Task 5: You find Lee's badminton a good choice, so you want to learn more about this court with detailed information like available time slots, comments, etc. How would you do this with this prototype?~~
 Task 5: How do you check what you have booked before?

~~Task 6: You and your friends decided to book Lee's badminton courts from 9am-11am on June 27th. What could you do to select the dates and the time slot using this prototype?~~

~~Task 7: You have already selected the appropriate time slot, then you decide to make a payment to hold the space, what could you do with this prototype?~~

Task 68: You want to share the photos of your new sneakers with other players. How could you achieve this with this prototype?

Task 79: You want to check what you have post before. How could you do this with this prototype?

2.5 Template for capturing observer notes

Observations:

	P1	P2	P3	P4	P5	P6	Possible solution	Notes
User is annoyed by the sign in process							<u>Change sign in process to a simple version</u>	
User click the profile button								
User don't know where to search for a court							<u>Make the search button more clearer</u>	<u>UserUsers need more guide</u>
User don't know how to search for recommendation							<u>Give the clear task to user</u>	<u>Clear task is important</u>

User don't know how to book a specific court								
User find it hard to select an available time slot							Make selected effect more clear clearer	
User don't know how to share their experience								
Users find it hard to check responses of their posts								
Users don't know how to write an review							Make the search button more clear clearer	Review part of our design is not clear.
Users don't know how to check former posts								
Other:								
Other:								
Other:								

Participants:

	P1	P2	P3	P4	P5	P6
Scheduled-session occupation	<u>student</u>	<u>student</u>	<u>student</u>	<u>Student</u>	<u>student</u>	
Gender	<u>Male</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	
Age	<u>18-24</u>	<u>Greater than 30</u>	<u>18-24</u>	<u>18-24</u>	<u>18-24</u>	
MajorFrequency of playing badminton	<u>sometimes</u>	<u>Never</u>	<u>Rarely</u>	<u>Rarely</u>	<u>Never</u>	
Year-of studyBadminton skill level	<u>Intermediate Player</u>	<u>New player</u>	<u>Beginner</u>	<u>Beginner</u>	<u>New Player</u>	

Raw Table:

	P1	P2	P3	P4	P5	P6
Task 1	<u>Didn't follow the instruction</u>	<u>Didn't follow the instruction</u>	<u>The pages are neat</u>	<u>We change the process of creatingcreating a new account to sign in. It becomsbecomes better</u>	<u>There should be a user term</u>	
Task 2	<u>Policy information is need</u>	<u>Improve the the search function</u>		<u>Should not pop up the unavaibleunavailable page</u>	<u>The filter method is complex</u>	

Task 3	<u>Clarify</u> <u>Clarify the function of community and review</u>	<u>The user supposes to got to community, rather than the comment and review</u>	<u>The see details button is small and not very meaningful</u>	<u>The user cannot change its personal information</u>	<u>The badminton court information is very small</u>	
Task 4		<u>Add pages to enhance the interaction</u>			<u>Increase the font size or adding color colour to the court information part</u>	
Task 5	<u>The timeslots are selected before the user's selection</u>		<u>Schedule a court is easy</u>	<u>Request for "emergency exit" button</u>	<u>Timetable should have a full legend or no legend. Incomplete Incomplete legend is bad</u>	
Task 6	<u>We should sign in rather than create a new account</u>	<u>The user's actions are already set in the timetable page</u>	<u>Add help documents</u> deu ments	<u>Questions are too detailed</u>	<u>The legend in the Calendar page should also be changed.</u>	
Task 7	<u>A new user should not have a preset shopping cart.</u>	<u>Same as above</u>	<u>The booking cart is not obvious</u> obvious		<u>The name of the shopping cart should be more meaningful</u>	
Task 8		<u>Add reaction page.</u>		<u>Button consistency</u>		
Task 9	<u>The community has a different navigation bar, which is bad.</u>	<u>Finding my own post replies is difficult</u>	<u>The box showing the number of comments is like a button</u>	<u>Community Community part is fun</u> Community	<u>I like that it has a community feature</u>	
Task 10		<u>All features included are essential</u>	<u>Too many unimplemented implemented function</u> unimplemented	<u>Comments design is not approachable</u> approachable		

URL link: https://docs.google.com/spreadsheets/d/1eZ8wOxVUeUz-NRuL1_XPP208kZD-vDG0tuNi-UvQT3g/edit?usp=sharing

2.6 Post-study survey & interview questions

Survey Q:

1. I think that I would like to use this app frequently.

2. I found the app unnecessarily complex.
3. I thought the app was easy to use.
4. I think that I would need the support of a technical person to be able to use this app.
5. I found the various functions in this app were well integrated.
6. I thought there was too much inconsistency in this app.
7. I would imagine that most people would learn to use this app very quickly.
8. I found the app very cumbersome to use.
9. I felt very confident using the app.
10. I needed to learn a lot of things before I could get going with this app

Interview Q

11. What do you like most about our app?
12. What is the inconvenience that you find in our app?
13. Could you give us some advice to help us improve the ~~quility~~quality of our app?

URL Link: <https://forms.gle/nc4rh9s2K1Utbu256>

2.7 ~~CheckList~~Checklist

To ensure smooth running of each user session:

- ~~Please reset browser cookies, clear up caches.~~
- Welcome the participant and reminds them reset browser cookies: Hi, it's nice to see you, my name is Wen and I work for group C12. Thank you for helping us researching. In this session, I will be given you a questionnaire to fill, a prototype to run, and asking for your feedback. Please reset browser cookies before doing further actions.
- ~~Make sure how to pronounce participants' name correctly.~~
- Please go through the research protocol and consent forms for participants, introducing participants to the test. Ask the participants to fill the consent forms.
- ~~Ask~~Let the user to fill out Pre-study questionnaire URL:
<https://forms.gle/nc4rh9s2K1Utbu256>
(gather background demographics.)
- Let the user view demo using this URL:
<https://www.figma.com/proto/REcnMgGJu01k7kfDDT8cHo/A7a?node-id=7%3A3&scaling=scale-down&page-id=0%3A1&starting-point-node-id=7%3A3&show-proto-sidebar=1>
(This demo starts from the Homepage of Hi-Fi Prototype.)
Introducing Think-Aloud Protocol. Ask them to think loud whiling finish tasks.
- Please go through the Test script with the user. Give tasks one at a time.
- ~~Use the template to take observer notes~~ URL:
https://docs.google.com/spreadsheets/d/1eZ8wOxVUeUz-NRuLl_XPP208kZD-vDG0tuNi-UvQT3g/edit?usp=sharing
- Check whether Observers have questions.

- AskLet user fill out Post-study survey & interview questions URL:
<https://forms.gle/nc4rh9s2K1Utbu256>
 (give a review)
 - Thank the participant and end the session.

3. Appendix: Assignment Distribution

<u>Updated Usability Study Instruments</u>	<u>Jiachen WAN, Dongliang WANG, Wenxin ZHANG</u>
<u>Updated Hi-Fi Prototype</u>	<u>Yuanhan PENG, Chen WANG, JiaguanTANG.</u>
<u>Change log</u>	Yuanhan PENG, Chen WANG, Jiaguan TANG, Jiachen WAN, Dongliang WANG, Wenxin ZHANG