

Hi-Fi Prototype & Usability Instruments

Group Number: C12

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Project Name: Sports Lover

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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

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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 lovers. A brief description of our design concept is that we aim to design an app to help badminton lovers 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, how would you create your account through this prototype?

Task 2: Both you and your friends want to find a cost-effective badminton court near your living places. What could you do to find such a court using 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 4: You find an excellent post and want to join the discussion, what would you do using this prototype?

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

Task 9: 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								
User click the profile button								
User don't know where to search for a court								
User don't know how to search for recommendation								
User don't know how to book a specific court								
User find it hard to select an available time slot								
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								
Users don't know how to check former posts								
Other:								
Other:								
Other:								

Metrics:

	Task 1			Task 2			Task 3			Task 4			Task 5		
	Success	Time	Satisfaction	Success	Time	Satisfaction	Success	Time	Satisfaction	Success	Time	Satisfaction	Success	Time	Satisfaction
P1															
P2															
P3															
P4															
P5															
P6															
Mean															
Count															
Standard deviation															
95% confidence															

	Task 6			Task 7			Task 8			Task 9			Task 10		
	Success	Time	Satisfaction	Success	Time	Satisfaction	Success	Time	Satisfaction	Success	Time	Satisfaction	Success	Time	Satisfaction
P1															
P2															
P3															
P4															
P5															
P6															
Mean															
Count															
Standard deviation															
95% confidence															

Participants:

	P1	P2	P3	P4	P5	P6
Scheduled session						
Gender						
Age						
Major						
Year of study						

Raw Table:

	P1	P2	P3	P4	P5	P6
Task 1						
Task 2						
Task 3						
Task 4						
Task 5						
Task 6						
Task 7						
Task 8						
Task 9						
Task 10						

URL link:

https://docs.google.com/spreadsheets/d/1eZ8wOxVUeUz-NRuLl_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 quality of our app?

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

2.7 CheckList

To ensure smooth running of each user session:

- ☐ Please reset browser cookies, clear up caches.
- ☐ Please go through the research protocol and consent forms, introducing participants to the test.
- ☐ Let the user 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-FiPrototype.)
- ☐ Please go through the Test script with the user.
- ☐ Use the template to take observer notes URL:
https://docs.google.com/spreadsheets/d/1eZ8wOxVUeUz-NRuLl_XPP208kZD-vDG0tuNi-UvQT3g/edit?usp=sharing
- ☐ Let user fill out Post-study survey & interview questions URL:
<https://forms.gle/nc4rh9s2K1Utbu256>

(give a review)

3. Appendix: Assignment Distribution

	Draft Hi-Fi prototype
Home Page; Sign in/up;	WAN, Jiachen
Filter search; Review	TANG, Jiaguan
Payment; Checkout;	WANG, Chen
Community;	PENG, Yuanhan
User profile;	ZHANG, Wenxin
Timetable; Calendar;	WANG, Dongliang

	Draft Usability Test Instruments
Research Protocol; Consent Form; Template for capturing observer notes	WANG, Chen
Pre-study questionnaire	PENG, Yuanhan
Test script	WAN, Jiachen; ZHANG, Wenxin
Post-study survey & interview	WAN, Jiachen; WANG, Dongliang
Checklist	ZHANG, Wenxin