

Racquet Pro

Test plan, mid-fi prototype, and test results

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1. Introduction

Racquet Pro allows users to measure their skills and improve their performance through goal-oriented training. This report documents the approach to the Racquet Pro project.

2. Prototype

Smartwatch prototype

[Click for prototype](#)

Mobile prototype

[Click for prototype](#)

3. Test protocol

Background

The Racquet Pro allows users to measure their skills and improve their performance through goal-oriented training. The stakeholders want to know if the users can identify, like and use the Racquet pro app features.

Research questions

Can users identify one of 4 Racquet Pro features?

- Connect to device
- Session recorder
- See stats
- Analyze improvement

What features are most impactful for the user.

- Are the features useful for the user?
- Is it something they are willing to buy?

How may we improve the usability of the features.

Methodology

Conduct a user interview and a usability test via zoom or in person. Each session will last approximately 20 – 30 minutes.

Measurements

1. Total time to complete each task
2. Number of errors committed per task
3. Type of errors committed per task
4. Number of navigations/clicks per task
5. Number of times help is requested

Participants

- Plays tennis professionally or frequently
- Uses mobile apps
- 18 years +

Recruitment

Participants will be recruited via Racquet Pro groups members' social network

Pre-test prompt / screening

How frequently do you play Tennis?

Have you ever played Tennis professionally?

Introduction

Thanks so much for participating in this study. Hi, I'm name of moderator, today, I will be asking you a series of questions, and you will have the opportunity to walk me through a few tasks for us to evaluate Racquet Pro app. The reason is that we want to improve the user experience, so the insight and information that you share is valuable. There is no right or wrong answer. I invite you to be candid. It is helpful to share your thoughts out loud as you go through the tasks; that way, we can make the necessary changes to improve the website accordingly. Keep in mind we are testing parts of Racquet Pro app and not you, so there are no right or wrong answers.

This session should take anywhere between 25-30 minutes, does this still work for you? For documentation purposes, are you comfortable with having the session recorded?

Pre-task questions

Warm Up

- Please tell me a bit about yourself
- What's your experience with playing Tennis?
- I.e. Played in tournaments? Camps? Friends?
- How often do you play tennis?
- Have you ever used any digital products to increase physical performance?

Task questions

Task 1

You just purchased the Racquet Pro and would like to use it with your smart watch. Sync the Racquet Pro with your smart watch.

Task 2

You have Tennis practice with a friend and want to record your performance. Using your smart watch, start recording your session.

Task 3

After a few hours of playing Tennis, you'd like to see your performance. Using the mobile app, check your performance.

Check your swing data for swing number 36. Find the swing details.

Task 4

You lost a few rounds playing Tennis with your friend and like to see how you could improve your performance for your next game. Using the mobile app, see how you could increase performance

Post-task questions Likert scale

From 1 to 7 with 7 being fantastic and 1 not good

- Please rate your experience using racquet pro.
- Please rate your experience using racquet pro compared to other game performance enhancing products.

From 1 to 7 with 7 being very useful and 1 not useful.

- Connect mobile device to Racquet Pro
- Session recorder
- See stats
- Analyze improvement

What were the top 3 favorite features?

- List of features
- Sync Smart Racquet pro with smart watch
- Record Session
- Check Performance
- Increase your Performance.

Why?

Post-task prompt

Thank you for taking the time to participate in this study. Your time and contribution is appreciated. Before we end our session.

Are there any recommendations or insights that come to mind for the racquet pro app?

Thank you again, have a great rest of your day.

4. Participants & top findings

Participants

Participant 1

Sai is a 20-year-old Division I college athlete, playing tennis at the collegiate level in Chicago. He has played tennis since he was 7 and plays once/twice a day. His only experience with using digital products is using a jumping mechanism during training that measure jumping height and impact on ground. He has been in a tennis academy growing up, has played many national and international tennis tournaments. He fits our advanced/ pro tennis player target user. While going through the tasks, he struggled mostly with navigating through the watch prototype. Sai loved the following features: insights, summary, and swing data. However, he did not like how the watch interacted and found some of the labels confusing.

Participant 2

Gleb is a 21-year-old Division I college athlete, also playing tennis at the collegiate level in Chicago. He has played tennis since he was 3 and he plays once/twice a day, 20hrs/week. He hasn't worked with any digital products to measure his physical performance. He has done his training in Russia and has played many international tournaments. He fits our advanced/ pro tennis player target user. While going through the tasks, he struggled more with the phone prototype and the wording of some of the pages. Gleb loved the following features: swing data, insights, connectivity to smartphone feature. However, he believed the watch prototype needed to be more customizable and that pros would most likely not use this. He believed it would be a better fit for amateurs, rising tennis stars.

Participant 3

Pav is a 28-year-old gentleman who grew up in a Chicago suburb where he grew up playing tennis, such as playing on his high school tennis team. He has a lot of experience playing tennis competitively and has played since he was 5 years old. He plays about 3 times a week, and when he was on the team, he would play every day. His experience with digital products relating to physical performance was a workout tracker that he had on his phone. He fits our advanced/ pro tennis player target user. While going through the tasks, he also struggled with the watch prototype mostly. He had never used a smartwatch before, so the navigation and tasks were a bit difficult for him. Pav loved the following features: swing data (speed), point of contact, integration with a smart watch. However, he believes that this app would be better for tennis academy kids, or college athletes. He does not believe it's best for pros.

Participant 4

Chak is an older gentleman, who is a father of 2 kids and has coached their tennis careers since they were children. Both of his kids have played many competitive tournaments and were highly ranked. After high school graduation, Chak took on a professional career of being a tennis coach full-time. He has played tennis for over 18 years. Currently, he plays tennis every day for a total of about 20-25 hours/ week. The only experience with use of digital products in assistance with physical performance is when he used his video camera to show and track his students' performance development. He fits our advanced/ pro tennis player target user. While going through the tasks, he struggled with sticking to the tasks. He started using the screen options outside of the actual watch prototype to navigate through the tasks. He did great with the phone prototype though; he did struggle with finding the insights tab. Chak loved the following features: graphs in insights, swing speed, and accuracy. Some suggestions that he made were having a

feature in addition to the point of contact and point of release that evaluates the data to show the type of spin that swing used such as topspin, backspin, etc.

Participant 5

Rishi is a 24-year-old gentleman who grew up in Kentucky where he plays tennis for fun with his friends occasionally, who has never used any digital products to increase physical performance. He fits our amateur tennis player target user. While going through the tasks, Rishi struggled primarily with the watch prototype which could be due to no prior knowledge or experience with any smart watches. There was also some struggle with task 4 where he needed to find the “insights” tab to “increase performance.” Rishi loved the following features: insights, swing details and that the “start new session” is a big button. However, he really did not enjoy doing any of the watch related tasks because the interactions weren’t working well, and it was very slow.

Participant 6

Kevin, age 28, is a college student in California. Kevin considers himself tech-savvy and uses apps to track his performance every time he works out. He is familiar with apps that help improve workout performance, using 3 different apps to accommodate his different areas of health and training. He expects his apps to work seamlessly with his workouts.

The subject’s user test took place remotely via computer. For the watch interface, he was confused because it did not look like apps he typically used. He did not realize the first screen was the homepage, which caused confusion for where he was in navigation. He was frustrated that each new page looked like a different app. For the mobile app, he struggled with navigation, because it was different per page (arrows vs buttons vs swiping). He struggled with the phrasing of menu items.

Participant 7

Leslie is a 59-year-old woman who wakes up early every morning to exercise for one hour. These workouts include the use of the Apple workout app to time the exercise and keep track of vitals. Leslie has played tennis a handful of times but enjoys the sport and is looking to become more involved with it in the near future. This desire makes her a key user for our prototype and its functions created for beginner players.

Leslie’s test was conducted in person on a laptop computer. While she struggled with some of the navigational choices in our prototype, she enjoyed the functionality and the goals of the app. The most difficult area of the app for her was the summary page on the mobile platform. The page was both unintuitive to find and difficult to navigate. The frustration of finding the insights tab made the overall experience end on a negative note. The watch version of the app was also difficult for Leslie to navigate because some of the design choices were unintuitive compared to the workout app she is used to. One example of a non-familiar choice is the home page being linked through the heading. While this is common on mobile apps, it is not common on a fitness or Apple watch. Outside of the navigational struggles, Leslie could imagine herself using our app to better her tennis practice. Her favorite part of the experience was the timer page on the mobile app because it was easy to read and use. She recommends expanding this ease to the rest of our experience in order to create a more positive and intuitive app.

Participant 8

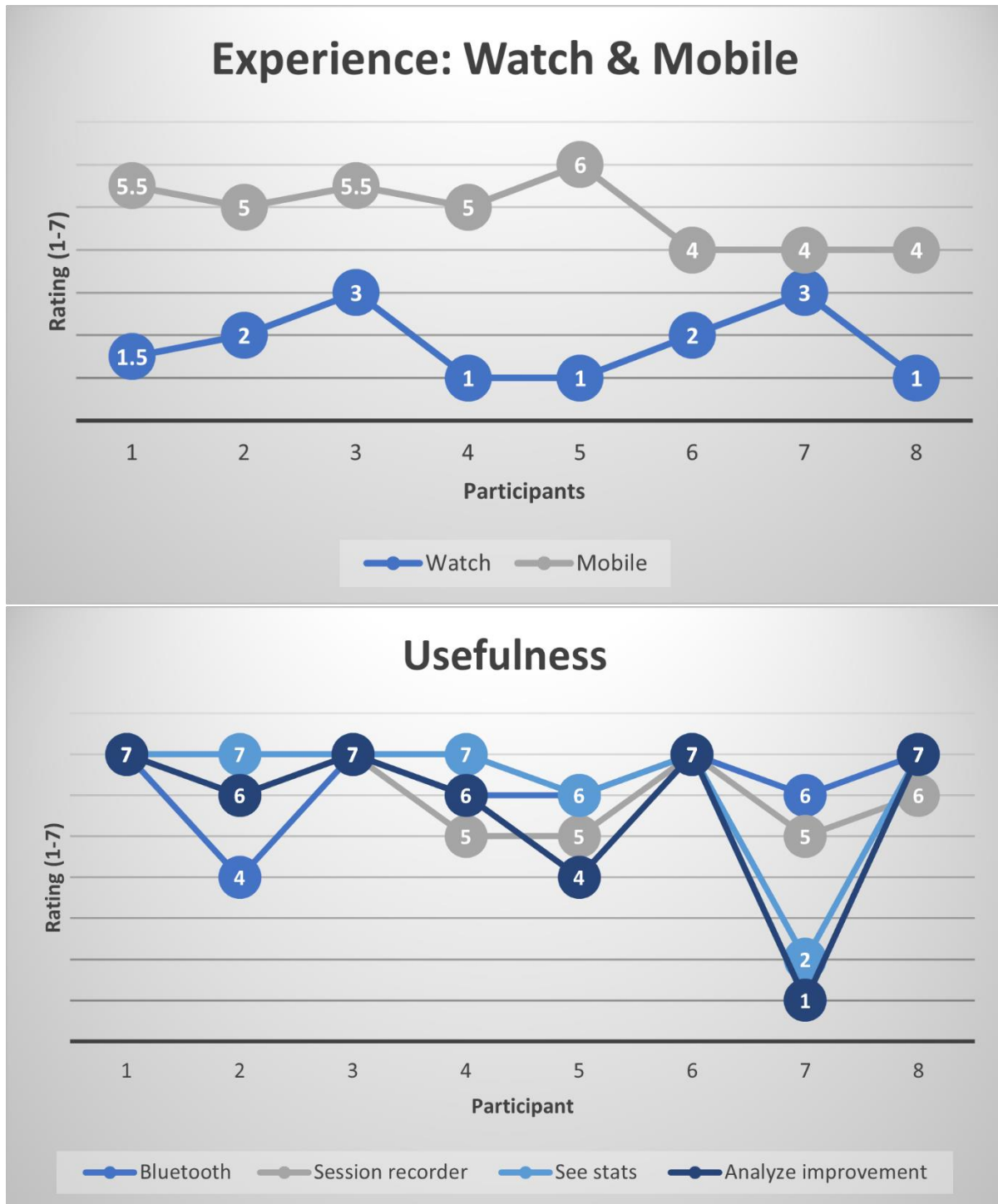
Subha is a 38-year-old woman who grew up in San Diego. She played tennis a few times in her life. Subha uses her iPhone to track her performance on her peloton and her watch to track her steps. The most

challenging area of the app was recording the session; that was the only task she could not complete. How to record the session she felt was unintuitive. Her overall experience with the watch app was not that great. She did not like the watch app; she thought it did not feel like a watch app. It was not intuitive like the exercise apps she's used to, such as peloton or the standard exercise app that comes with the apple watch. She did like the phone app. Despite her experience, she liked the ideas of the concepts and would use them if it were refined. Her favorite features were stats and sessions.

Record session interaction

[Click for recording example](#)

Data



5. Analysis & design recommendations

Themes

Confusing navigation

- **There are no indicators for navigation.** Users were confused as to where they were in the app, what screen was the home page, and how to move through different screens.
- **Icons are not clickable.** Users tried to interact with icons on buttons but were frustrated because they were not functioning. Users had to click outside of the icon to function.
- The battery life and signal strength indicators on the prompt to connect device (Screen 1b) caused users to believe device was connected.
- **There was confusion about the distinction** between “swing data,” and “session summary.”

Inconsistent visuals

- **The prototype did not look like the device.** Users were confused when testing the smartwatch app because it did not look like a smartwatch.
- **Smartwatch app and mobile app had inconsistent visuals** for all screens for both devices. Users felt like they were using different apps when entering a different screen.
- **The way screens with multiple pages were indicated was inconsistent.** Users were confused why some screens used arrows for multiple pages while others showed tabs or circles.

Unclear labels

- **Labels for menus and navigation bar were unclear.** Users struggled with trying to find items menus because it did not match with what they were searching for.
- **The communication of tabs was unclear.** Users were unable to see tabs on the summary screen.
- **The function of the profile section was unclear.** Users were confused about if the profile was for their account or their performance history.
- **The button to end the session on the “Session recorder” screen was unclear.** Users believed that the button looked like a title and that the session had already ended.
- **Users expressed the need for help when using the app.**

6. Recommendations for next iteration

To alleviate the pain points found during usability testing, we have compiled a list of prescriptive steps for the next design iteration:

Confusing navigation

- **Create a new home screen for the smartwatch** to allow users to navigate through different features of the app. Remove the navigation bar from the “Session recorder” screen.
- **Fix the smartwatch heading interaction** to take users back to home page at any time. Add a back arrow indicator to show that the heading is interactable.
- **Fix the interactions on the smartwatch** to improve lag. Allow the icons to be clickable.
- **Remove the “Connect device” screen** (Screen 1b) and change it to a “Connecting device” prompt.
- **Add an option to the “Session recorder” screen to end the session** for both smartwatch and mobile app. Prompt if the user is sure they would like to end the session.
- **To improve the distinction of “Swing data” and “Session Summary,”** “Session Summary” will now be changed to “Performance Review.” This feature will show the user’s personal performance over time.

Inconsistent visuals

- **Adjust the frame of the prototype** to look more visually appealing and representative of the device it is used on. Round out the corners and add a frame to both.
- **Adjust the first panel of the “Stats” screen** to show swing details.
- **Improve consistency throughout all screens.** Change the “See Stats” screen design to swipe interactions with page indicators.
- **Remove graphs from summary page** to better reflect new function.

Unclear labels

- **Change the title of “Session Summary” screen to “Performance Review”** on both the smartwatch and mobile app to better reflect the new function. Keep the current icon and change the label to “Performance” in the navigation bar.
- **Adjust the visibility of tabs.** Make the “Insights” clearer
- **Add “Account” to the dropdown menu and change the profile button in the navigation bar to “Performance”** to better reflect the new function.
- **Add “Help” section** to the dropdown menu.