



Pay By Phone Usability Testing Report

Experience design that works
www.analyticdesigngroup.com

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Executive Summary

The Pay By Phone mobile application was received positively. Overall, participants commented on the ease of using the app and the convenience it provides. However, some tasks were more difficult than others due to navigation within the app. Even though several participants expressed concern about how parking enforcement would know they had paid to park, most were able to reason through an answer without much prompting from the facilitator.

Approach

To provide a deeper understanding on the user experience of the Pay By Phone mobile app, in-person usability tests were conducted with participants familiar with paying to park in the Seattle area. Specific tasks were tailored to test functionality in the app. Participant feedback was documented through comments on the tasks, a standardized usability evaluation survey, and interview questions.

This study set out to answer two primary questions: 1) what obstacles exist that interfere with the functionality of the app, and 2) what are participants' impressions about paying to park after using the app?

App Functionality Overview

Participants were able to perform many of the usability tasks without much difficulty. There were some tasks that required facilitator intervention, however this did not negatively hinder the overall impression of the app.

Parking Impressions Overview

Almost all participants explicitly commented on the convenience and speed that this app would provide when paying to park. All participants were familiar with the logistics of paying to park in the Seattle area, and thus some expressed concern about how parking enforcement would know if they had paid to park without a parking sticker receipt. Other participants were able to reason through this logistically without much facilitator prompting.



Findings

New Account Creation

Launch the app and create a new account

Sign Up vs. Sign In

Only 3 participants were able to create a new account within a minute. The other 9 participants mistakenly attempted to sign in with their mobile number and PIN (most used the last 4 digits of the credit card) instead of signing up for an account. Some participants even double checked the mobile and credit card numbers two or three times before realizing they needed to sign up for a new account.

Of the participants that were slow to create a new account, the majority clicked on the “sign up now” button at the bottom of the sign in screen, and not the “sign up” button in the upper right corner.

“I would have the bottom part where it says ‘sign up’ bigger so that it’s easier to see.”

Text Field Entry Guidelines

A couple of participants vocalized questions and comments on text field entry, notably the PIN. Only 1 participant entered the credit card with spaces between the numbers; the same participant was also unclear about how the mobile number should be entered.

A few participants asked what the minimum number of digits the PIN needed, and if the PIN could contain characters other than numbers.

“With the numeric PIN, I wasn’t quite sure how many numbers, digits, if it mattered. Normally it says choose up to 8. But it seemed to like what I chose.”

The screenshot shows the PayByPhone app interface. At the top, there's a status bar with AT&T, signal strength, Wi-Fi, time 10:52, and 68% battery. Below that, a 'back' button and the 'paybyphone' logo. A 'secure connection' header with a lock icon is present. A message box says: "Welcome to PayByPhone. Just a quick signup & we'll remember your account details next time." Below this are three input sections: 'country' with a dropdown menu showing '- Canada/United States - 1', 'mobile number' with a text field, and 'choose a numeric PIN' with a text field. A red box highlights the 'mobile number' and 'choose a numeric PIN' fields. At the bottom, there's a 'stay signed in to save time' link and a navigation bar with 'PayByPhone', 'Map', and 'Info' icons.



Findings

Extend Parking Session

Add an additional 30 minutes to your parking spot

Efficiency and Speed

Even though the context and logistics of receiving an SMS alert to extend parking were fabricated for the study, the majority of participants found the alert helpful. There was a consensus for the benefit extending parking remotely would provide to consumers. Many commented that they would enjoy not having to walk back to their car to print a receipt and pay for more parking.

“I think that’d be really cool so I wouldn’t have to be there [at the car].”

Locating Extend

A few participants mistakenly added the same location number in the parking location field when trying to extend the active parking session. This resulted in the error “Sorry your vehicle is parked at the Pay By Phone location.” Other participants were able to extend parking without any issues.

“I like that you can just extend it automatically. The extend button - I didn’t see it right away, possibly because it was the same color as everything else.”

Mobile Site Redirect from SMS

A few participants accessed the mobile website from the SMS alert about their expiring parking session. Once on the mobile website, they needed to log back into their account. Participants who extended parking in this manner were instructed that they could also extend parking from the mobile app. A couple of participants expressed some confusion about using a mobile website versus the app and being prompted to log in again.

One participant responded back to the SMS they received to extend parking. The facilitator clarified that the SMS was an alert, not an individual or system they could respond to for support or help.

“I don’t whether I’m in the app or the webpage. I wouldn’t want to log in again if I knew I was already logged into the app.”



Findings

Features and Other Functionality Exploration

Add and change different information in the app

App Navigation

Several participants displayed some difficulty navigating within the app, especially accessing the active parking session window. There was no evident way to see any active parking sessions from the options menu.

Several participants using the Android version of the app were not able to hit “next” from the keyboard tray to advance input to the next text entry field. To enter information into additional text fields, they needed to tap outside the keyboard to collapse the tray.

Furthermore, the next button within the app window (not on the keyboard tray) was intermittently unresponsive. The button displayed a contrast change, indicating it had been pressed, but the screen would not progress unless there was a longer press on the button.

“I’m pushing next and it’s not doing anything.”

Payment History

Looking up payment history is currently not an option available in the mobile app. This task was designed to be more exploratory and receive participant feedback on their expectations for accessing payment history.

For this task, accuracy was based on participants’ abilities to locate the relevant information to access payment history on the Pay By Phone website. Participants were not required to log into the website and pull up payment history.

“I don’t know if I want to go to another site and log in again. I would assume [I could find payment history in] payment details, or I could click on it and email it to myself.”

Additional Features

Participants provided additional feedback and insight after using the app. When asked whether participants felt they had paid for parking, most agreed they had, even though there was no sticker that needed to be printed to display in their car window. One participant suggested having a Pay By Phone symbol they could place in their car so parking enforcement would know they were a Pay By Phone customer.

Additionally, one participant suggested it would be convenient to be able to search for available parking on a map to find street parking and lots.

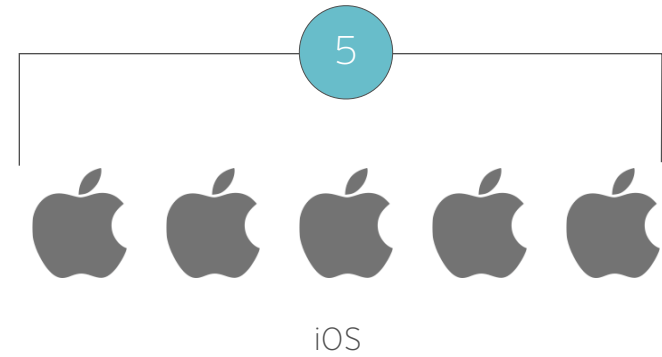
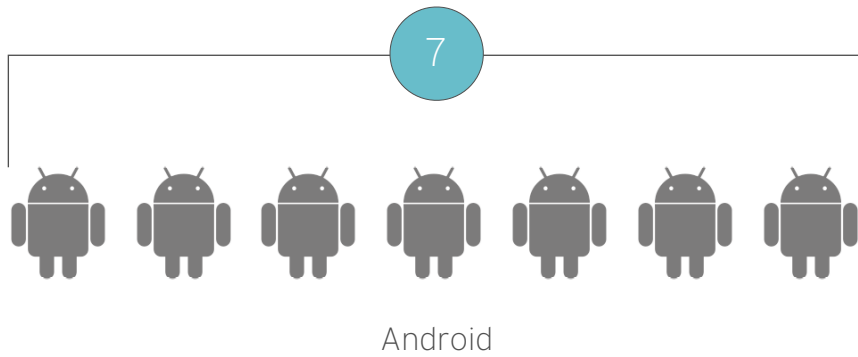
Lastly, some participants did discuss the security of their credit card, asking how safe the card would be in the app.

“You would almost want a little Pay By Phone symbol in your car. ‘Oh yeah, he’s a Pay By Phone customer.’”



Experience

Participant Device Comparison





Experience

Participant Pay By Phone Familiarity

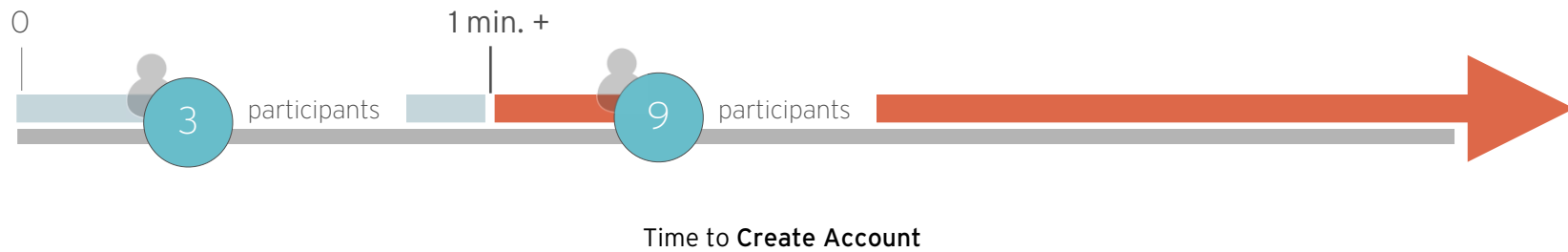




Experience

Participant Performance

'Create Account' Task

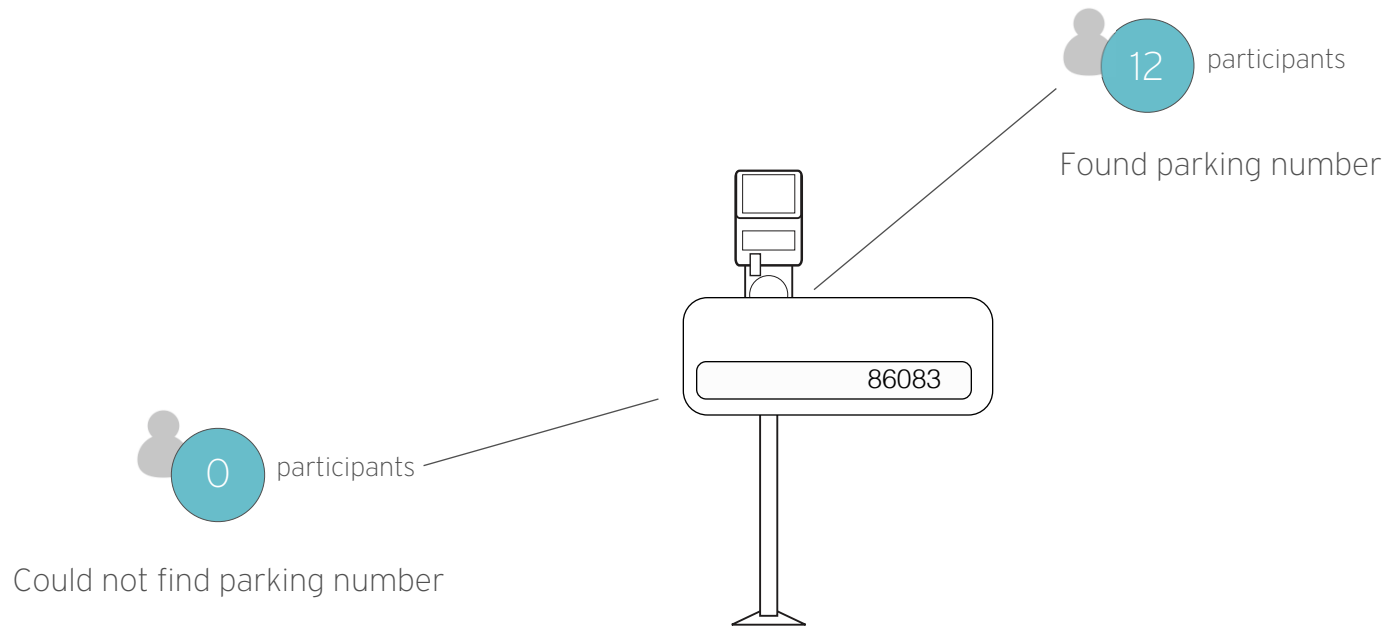




Experience

Participant Performance

Discovery of parking location number

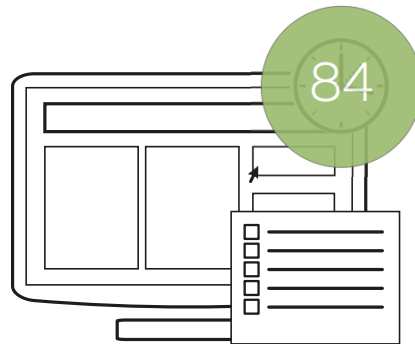




Experience

Participant Performance

SUS (System Usability Scale) Score



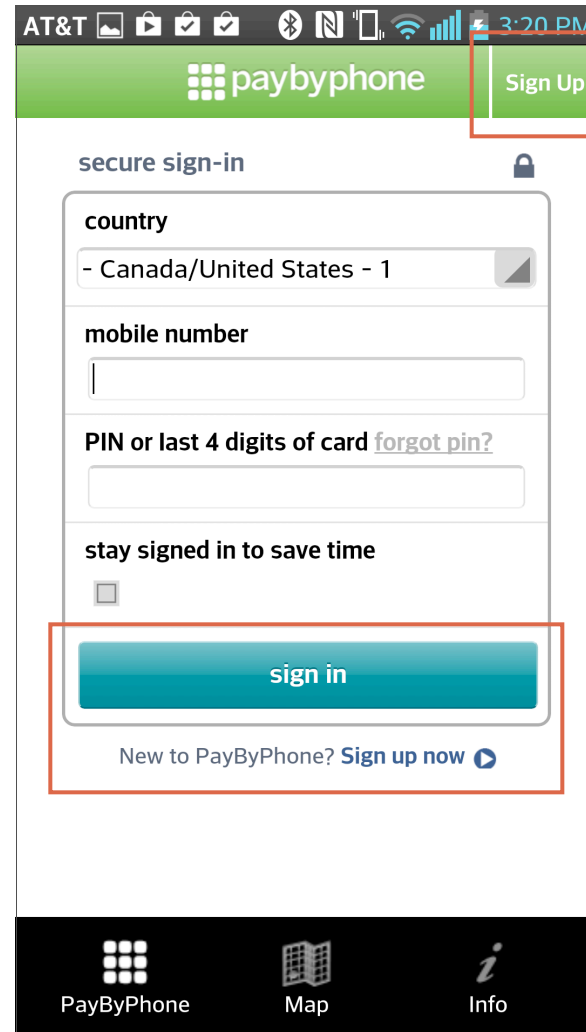
Excellent (80 or higher), Fair (60-79), Poor (Less than 60)



Experience

Recommendations (Account Creation)

- ▶ Consider making the sign up button more prominent when app is first launched
- ▶ Consider changing the wording from “Sign Up” to “Create Account”

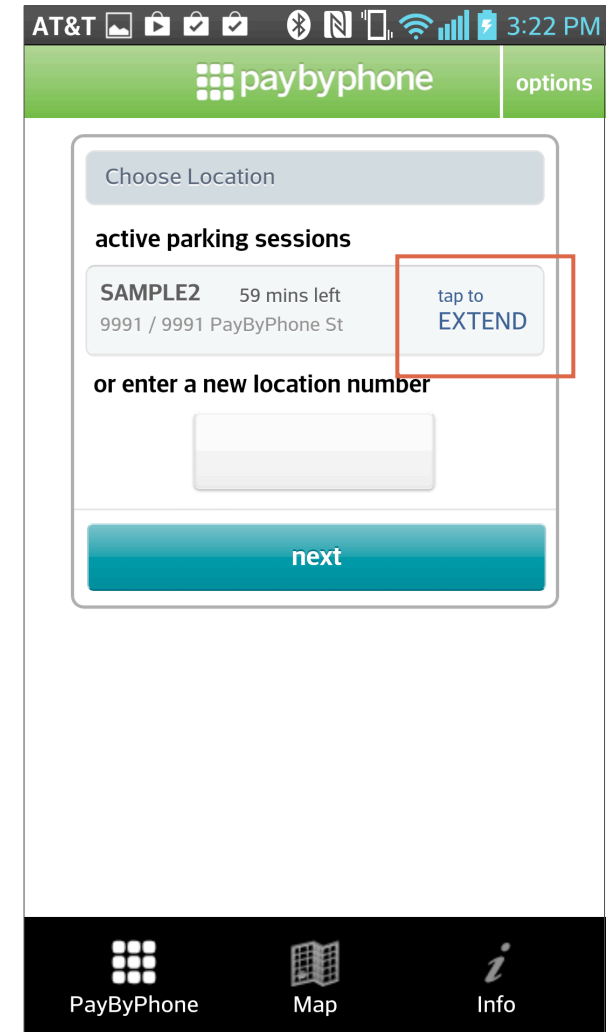
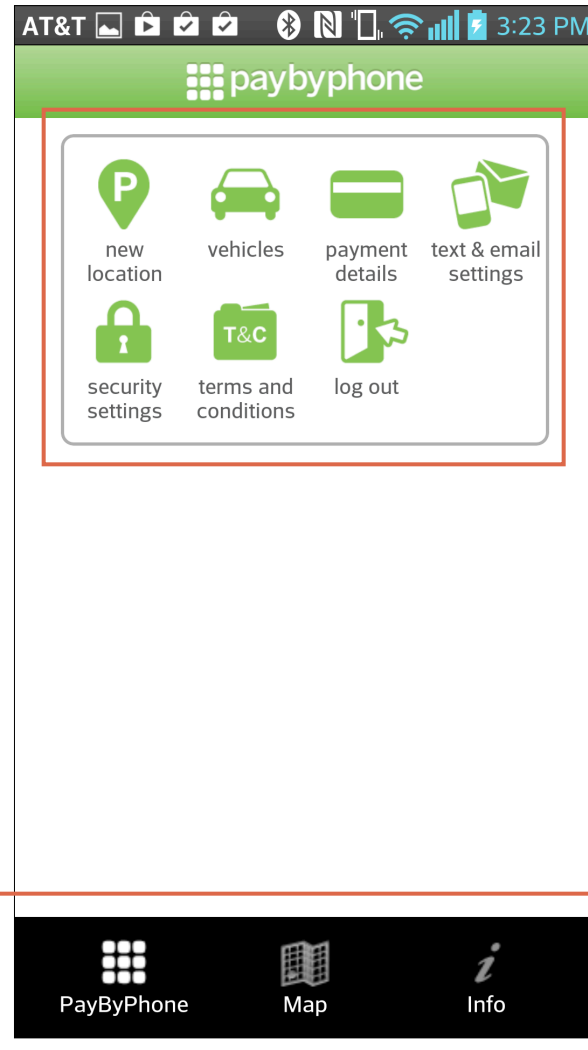




Experience

Recommendations (App Navigation)

- ▶ Consider adding an “active session” button to the options menu
- ▶ Consider making the “PayByPhone” button in the bottom menu bar redirect to the options menu
- ▶ Consider making the “Extend” parking button more prominent for active parking session
- ▶ Consider implementing payment history access within app, possibly as another button in the options menu

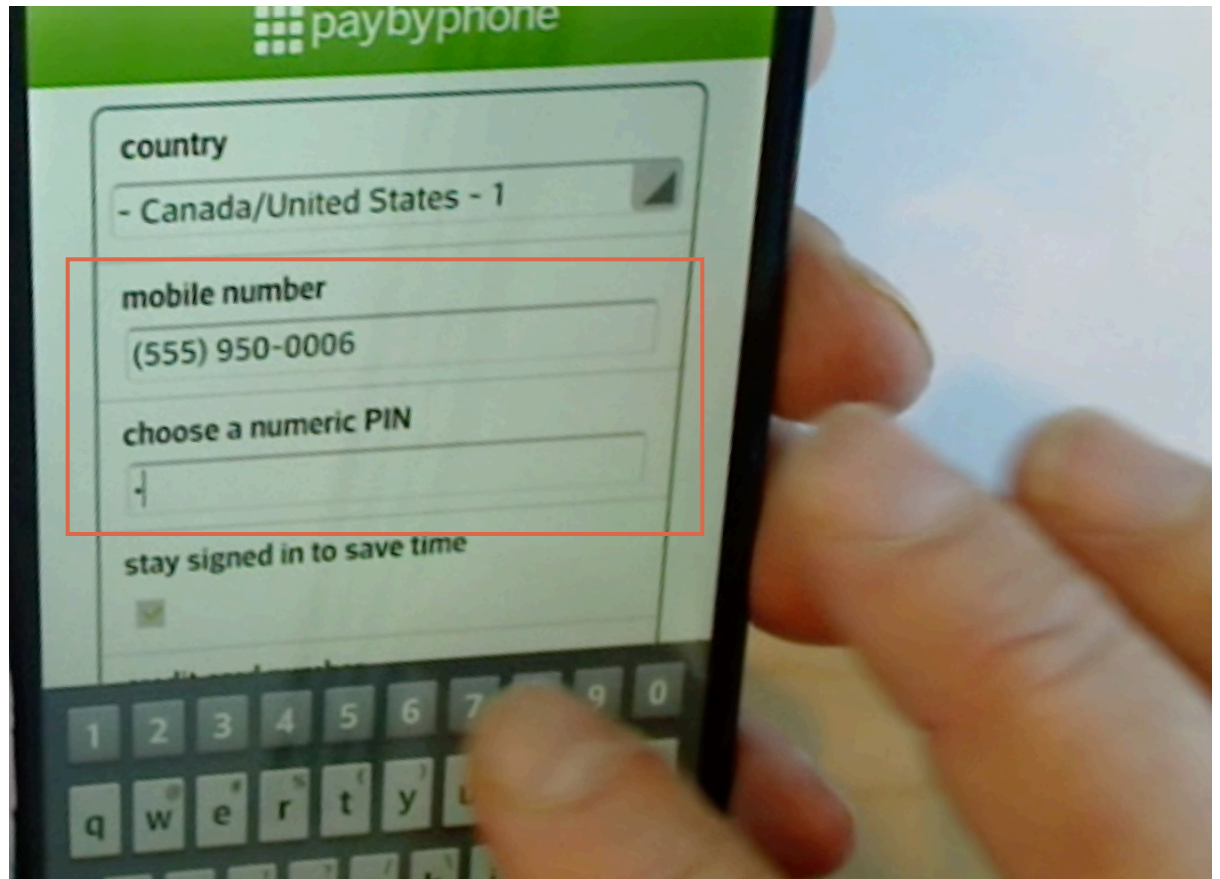




Experience

Recommendations (Text Entry and Alerts)

- ▶ Consider displaying a faint (low contrast) example text in text entry field as an example for text formatting; Once consumer begins typing in field, the example text would go away (ex: for mobile number 5555555555, or 1111 for PIN)
- ▶ Consider adding language to SMS alert to extend parking within app (“Parking for SC182 at location 9991 expires at 10:34PM on 2013/11/07. To add more time, access the app, call 0870 458 9600, or visit m.paybyphone.com”).





Methodology



Methodology

Participants

- ▶ Recruited 12 adults familiar with paying to park in Seattle
- ▶ All inclusive for gender, occupation, familiarity with PBP
- ▶ 30 minute session including usability tasks, survey, and interview questions
- ▶ Participant preference for Android or iOS app version

Usability Tasks

- ▶ Structured usability tasks for each participant
 - ▶ Launch app and create account
 - ▶ Park your car (with visual aids)
 - ▶ Extend parking
 - ▶ Add another car
 - ▶ Look up payment history
 - ▶ Log out, log in
 - ▶ Forgot PIN
 - ▶ Change credit card

SUS Questionnaire

- ▶ All participant rated usability of app on standardized questions and scale

Post-Session Interview Questions

- ▶ Overall impressions
- ▶ Prior knowledge of Pay By Phone
- ▶ Feedback on any difficult tasks
- ▶ Feedback on beneficial or detrimental aspects of app





Appendices



SUS Questionnaire

How participants rated the app.


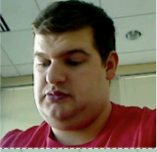
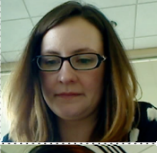
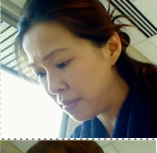



| SUS QUESTIONNAIRE | P1 | P2 | P3 | P4 | P5 | P6 | P7 | P8 | P9 | P10 | P11 | P12 | AVG |
|--|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| I think that I would like to use this app frequently. | 4 | 5 | 4 | 5 | 5 | 4 | 4 | 5 | 5 | 4 | 4 | 4 | 4.4 |
| I found the app unnecessarily complex. | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 3 | 2 | 1.7 |
| I thought the app was easy to use. | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 4 | 5 | 4 | 3 | 4 | 4.2 |
| I think I would need the support of a technical person to be able to use this app. | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1.2 |
| I found the various functions in this app were well integrated | 4 | 4 | 4 | 4 | 4 | 5 | 4 | 4 | 5 | 4 | 4 | 3 | 4.1 |
| I thought this app was too inconsistent. | 1 | 2 | 2 | 3 | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1.6 |
| I would imagine that most people would learn to use this app very quickly. | 5 | 4 | 5 | 4 | 5 | 5 | 4 | 5 | 5 | 4 | 4 | 2 | 4.3 |
| I found the app very cumbersome to use. | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 2 | 3 | 3 | 1.7 |
| I felt very confident using the app. | 5 | 5 | 4 | 5 | 4 | 5 | 4 | 5 | 5 | 4 | 2 | 4 | 4.3 |
| I needed to learn a lot of things before I could get going with this app. | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 4 | 1 | 2 | 3 | 1 | 1.7 |
| SUS score (/100) | 90 | 85 | 80 | 83 | 85 | 90 | 88 | 93 | 100 | 80 | 63 | 73 | 84 |

Question Scale of 1 - 5
1 - Strongly Disagree; 5 - Strongly Agree






SUS Overall Score
Excellent (80 or higher), Fair (60-79), Poor (Less than 60)



Participant List

| # | | Name | Age | Gender | Profile | Device |
|----|---|-------------|-----|--------|---------------------|---------|
| P1 |  | Robert P | 38 | Male | Civil Engineer | Android |
| P2 |  | Gary K | 27 | Male | Research Scientist | Android |
| P3 |  | Stephanie H | 32 | Female | Artist | iPhone |
| P4 |  | Monica S | 39 | Female | Homemaker | iPhone |
| P5 |  | James G | 27 | Male | Automotive Sales | iPhone |
| P6 |  | Jon N | 57 | Male | Wholesale Sales Rep | Android |
| P7 |  | Huy D | 31 | Male | Business Analyst | Android |



| # | | Name | Age | Gender | Profile | Device |
|-----|--|-----------|-----|--------|----------------|---------|
| P8 |  | Shannon F | 23 | Female | Student | Android |
| P9 |  | John S | 21 | Male | Student | Android |
| P10 |  | Dale W | 59 | Male | Business Owner | iPhone |
| P11 |  | Pete G | 38 | Male | Supervisor | Android |
| P12 |  | Lindsey B | 24 | Female | Nanny | iPhone |



Experience Design that works

Founded in 2005 on the principle that evidence-based design will always be more powerful than design driven by best practices, we have grown from a single practitioner to a vibrant, collaborative team.

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