University of Winnipeg

Winnipeg Transit: Digi-Pass

Team Kreacher – Final Milestone

Caleb - Wilson - Eric - Angelic - Joshua

ACS 3916-001: Human Computer Interaction

Professor Bautista

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1. Prototype and Design Rational

Usability Inspection

After the feedback we received from milestone II, we sat together (on Teams) to discuss how we can solve the usability issues we were facing. To start we took a close look at our design using the feedback as a lens. Below is our progress.

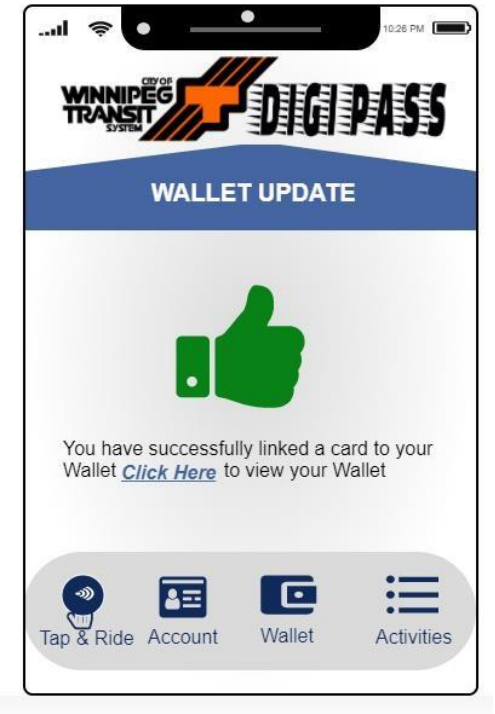
As you can see, there is some pretty drastic changes from where we started (left) to where we are now (right). This is what happened:

- Having both “Peggo Card” and “Add Payment” buttons was confusing users. We decided to merge them into one button, “Wallet”, to eliminate this confusion.

- Users found the hand icon above “Tap to Ride” confusing as it suggested they tapa something with their finger. To address this, we changed the icon to a phone with a fingerprint to show that users with use their fingerprint to authorize a payment with their phone.

Vertical Implementation

This was not so much of an issue as our design was almost vertical for our previous iteration. We only needed to add a few confirmation screens to our design to complete it. The image to the right displays an example of one of these pages.



Design Rational

Our users found the original design clunky and crowed. To remedy this, we moved the “log out” button and profile picture to the account page, changed the app background, moved the logo, and altered the navigation ribbon to have a more modern look. We believe these changes have opened the design up quite a bit and leave it with a simplistic, modern look.

UXPin Review

UXPin worked great for our team to collectively work, build, share, and test our experiences in a supremely awesome way. It carried us through our project from the earliest concept wireframing to system design and component creation.

We would say, for any team that requires high levels of collaboration between designers and communication with stakeholders, UXPin is a wonderful, useful tool. However, it is not a great tool for a team that has less experience with similar tools, as it is a complicated platform that requires a steep learning curve. However, if a team is willing to invest the time and energy in learning how to use the tool, then UXPin can be a one-stop-shop for iterative design workflows.

UXPin has some problems that need to be fixed when it comes to using the interaction to create animation. When we animated more than one element, the simulation started to lag, and our prototype did not perform as it ought to. We also observed that prototypes with a lot of interactions can get slow, especially on computers with a lot of security software. It would be best for UXPin to figure out what is blocking APIs, and JS, also what is causing the glitches.

In general, we would recommend UXPin as one of the best prototyping platforms.

2. Usability Test

Script

We based our script off the usability test Prof. Bautista preformed in class. We made sure to brief the participant thoroughly and give them a scenario for each task. When they were asked to complete a task, it was done verbally and visually by posting it in a chat or on a piece of paper. The interview was as open as possible, and the participant was encouraged to think aloud as much as possible.

Research Analysis

We performed a usability test with five individuals who consented via signature prior to testing. Our evaluation consisted of five main tasks for the participants to complete, a brief questionnaire on phone use and a post-test app evaluation. Our interviews were recorded via microphone and screen recording software to be further reviewed.

Phone Use Questionnaire

We gave our participants a 3-question survey on phone use regarding daily phone use, transportation apps, and mobile payment options. We found that our participants spend anywhere from 1.5 to 10 hours a day on their mobile devices, prefer using Google Maps over other options, and do not use mobile payment options.

Tasks

We gave our participants a scenario they are meant to act as, an international student unfamiliar with the Winnipeg public transportation system. Then asked them to complete tasks with this scenario in mind.

For each task we tracked several data points. Did they complete the task? How many taps did it take them? How long did it take them? How many errors did they make? And were they satisfied? These questions are specifically targeted to measure the ease of use, simplicity, speed, and intuitiveness of our app. Additionally it was an open dialogue allowing the participants to ask questions or give feedback at any time.

Due to the small sample size we are limited to analyzing trends among individual answers.

Log In

For this task we asked participants to create a new account and log in. Some participants skipped creating an account and just hit log in making up the only errors for this task. Otherwise all participants completed this task taking around 13 taps and 1 minute and 15 seconds on average. All participants were satisfied and there were no further comments or questions.

Link Credit Card

Here we asked participants to add a credit card as a payment option. Everyone completed the task taking around 8 taps and 1 minute and 20 seconds on average. No one made any errors, and everyone was satisfied.

One user appreciated how straightforward this was to complete but was confused if they should put spaces between the CC numbers or not. Another user appreciated the censoring done on the CVV.

Overall, we are happy with how this task preformed and will not be looking into major changes.

Tap to Ride

This is the main purpose of the app, so it is a very important task. We gave our participants context and asked them to pay for their bus fare. Eventually, everyone completed the task, but one had some major issues figuring out how to complete the task. Apart from them, our participants took around 5 taps and 1 minute on average to finish. One participant was not satisfied.

One person thought they should navigate to the U-Pass in their wallet to pay for transit. The participant who was dissatisfied thought that the NFC should automatically bring the payment screen up rather than having to tap anything.

Because this is our main task, we need to ensure our users have no issue using it quickly and efficiently. We will be brainstorming ways to decrease task time taken and increase learnability.

Link U-Pass

We asked participants to add a U-Pass to their in-app wallet. Everyone completed this task but some encountered issues navigating to the correct page. Otherwise, they took around 6 taps and 40 seconds on average. Everyone was satisfied.

One participant removed a U-Pass then added rather than adding a new one immediately. Otherwise participants reported that it was straightforward. No Major changes needed; however, we will look into creating a prototype that allows there to be no pre-existing account data within it.

Forgot Textbook

We gave our participants some context and asked them to find what bus they rode last. This was remarkably straightforward for our participants. Everyone completed with 1 tap and 10 seconds on average. There were no errors, and everyone was satisfied.

One person thought they needed to memorize the bus number to find which one they rode last on the activity screen. We will look into displaying more data on the activities screen so future users know all details of their past rides.

App Evaluation

To close our interview, we asked our participants a few questions: “How was your overall experience with the app?” and “If you could change anything about the app, what would it be? Why?” These questions are meant to get any additional feedback we can before the interview is over.

Our participants found the app simple, easy to navigate, and straightforward.
We were given great feedback when we asked what the participants would change. One noted the app is styled like one from 15 years ago and that the alignment of the objects need to be straightened out. Another suggested that the NFC reader be the prompt for payment rather than a tap.

Overall, we are very thankful to our participants for their feedback. Our team is committed to quality and will do our best to modernize the design and make payment more intuitive.

Reflection: Usability Testing

Overall, the usability test we conducted with the five individuals who participated went very well despite the covid-19 restrictions as we all managed to find a person who was wanted to be a part of this project.

The participants weren’t confused with the five main tasks of our evaluation and they were all satisfied because they found the app simple, straightforward, and easy to navigate.

The questions we asked were more open-ended questions which helped us to develop a better understanding of our users and their needs, get more context behind their actions, and the reasoning behind why they were satisfied or dissatisfied.

However, we did agree as a team that we could’ve polished the app better since a participant said it looked old-fashioned and outdated. Also, we should’ve removed some pre-existing information to illustrate a user got confused on why they had a balance in their account already when it was newly created.

If we had the chance to do things differently, we would've loved to interview actual bus riders as they are the target audience for this app, and we could've asked what is missing in the current bus apps niche that we could feature in our app. Not only that but it would've been nice if we had the possibility to reach out to more people from different backgrounds and level of experience.

All in all, the test was successful, and we are happy with the outcome.

3. Conclusion

Interaction Design Process and HCI

While there were many bumps in the road along the way we finished and had a good time doing it. Using IxD to complete this project was like shining a lamp into a dark room. It seems obvious now, but involving the users helped us grow and develop our product in a more meaningful way. When we would brainstorm and start a design, we all had different opinions on what the users would like best, by going to them directly we avoided unnecessary debate. This project as a whole has taught us what it means to work in UX and how to work in a design team. It also showed us the importance of feedback in any team.

Future

This project was aa fantastic learning experience that will be reflected upon for years. If we were to do it again with our experience, here's what we would do differently:

In-Depth Research

Our team lacked knowledge on how other apps with similar functions were designed. Next time we would do a more in-depth research to get an idea of what else is out there, from competitors and similar industries. This will help establish what might be possible, identify the gap in the market we are trying to fill, and what we can do better.

User Evaluation/Feedback

The design stage is where users often have the most input. Even if they don't have any background in tech, everyone has a personal opinion of what an app could or should look like, based on their own experiences. Due to covid and the limited scope of this project we did not get much research in. Next time we would double down on our research efforts to get a better understanding of what users want.

Better Communication

Be it with the team, or with the end users, information needs to be communicated in every phase of the design process. Communication is very important during the design process and we lacked it during some vital points. Next time we would make sure that clear and concise communication is a top priority.