
Team Kreacher Research Analysis

by Joshua LeClair

Introduction

Public transportation is a blessing, but during a pandemic, it is an easy way to spread disease. Team Kreacher is a group made of five human computer interaction students working towards the goal of creating a safer, more convenient public transport. We hope to achieve this through adding a contactless payment interface, "DigiPass", onto the Winnipeg Bus Live app.

The purpose of this study is twofold; First, to understand bus user's perspective on public transport during the COVID-19 pandemic. Second, to introduce and gauge interest in a contactless payment method for public transport.

We utilized person-to-person interviews as well as online questionnaires to collect our data. Due to limitations, our sample population consists mostly of university students and family.

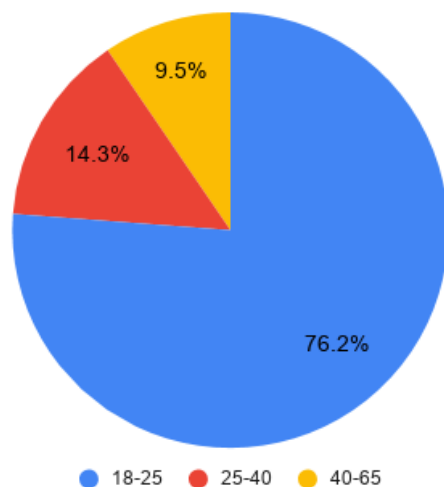
We interviewed 7 people and received 14 responses to our questionnaire.

Data analysis

Descriptive statistics was used in this study. Due to the limited sample size, simple analysis techniques (i.e. averages and pattern checking) were used on both quantitative and qualitative data types.

Findings

Participant age

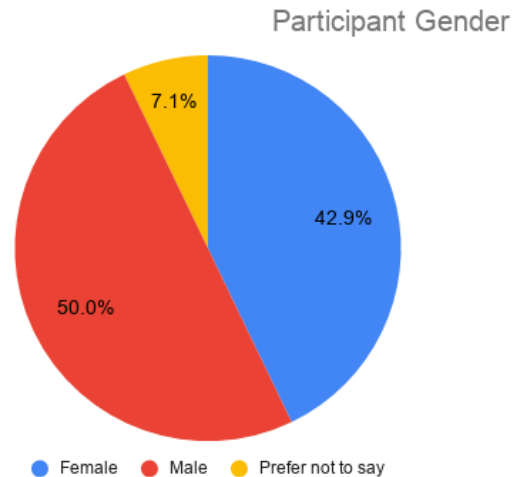


Demographic

As age is the first inquiry of each of our participants, the figure to the left is a summation of both research methods. A majority of our participants fell within the age range of 18-25, the typical age of university students. Unfortunately, our data lacks input from 65+ participants which are the primary concern regarding COVID prevention. We will take this into consideration throughout the project

Demographic Cont.

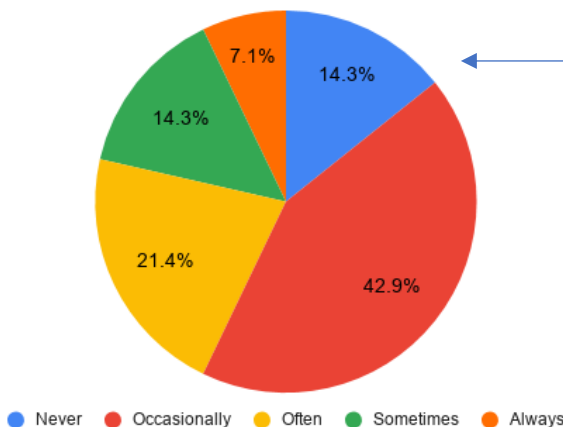
There was a very even spread of male to female participants within this study. Although this is a very small sample, the percentages reflect those of the population. This means our data will be more reflective of the population.



Questionnaire

Our questionnaire consists of 1 question curated from each out of 5 total about the state of public transport in general, its state with regard to COVID-19, as well as, perceived effectiveness of our implementation of contactless payment. We received 14 responses.

How often do you use the transit pass?

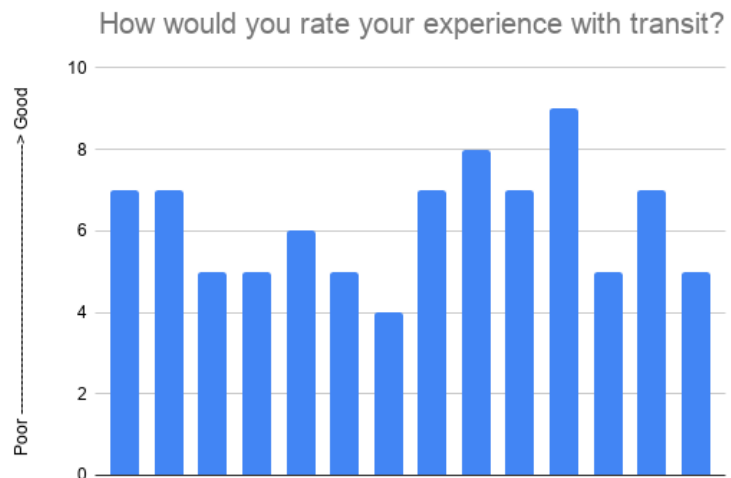


Q1: Use of Transit Pass

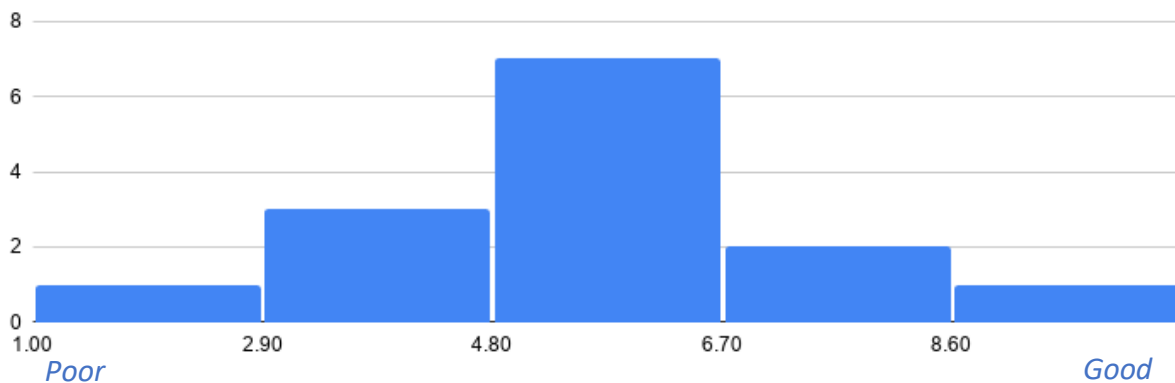
A majority of our participants only 'occasionally' use transit. However, if we take the average, they use it a bit more ('sometimes'). This is an indication that our participants do use transit and can answer the following questions accurately.

Q2: User Experience with Transit

From the bar graph to the right, we can see that most users have a slightly positive outlook on transit. On average, they gave transit a 6.2 of 10. This tells us there is room for improvement.



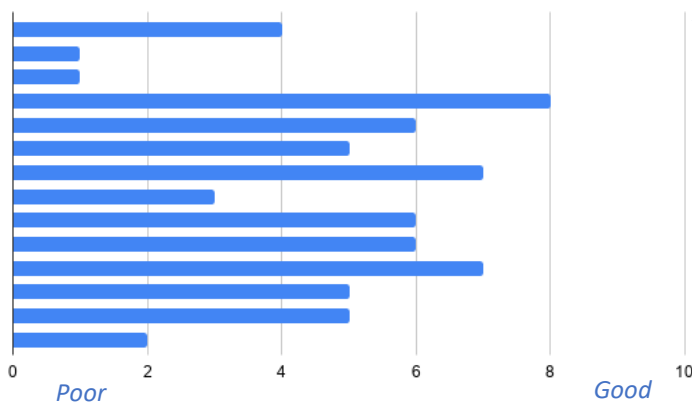
How do you like the current bus pass or tickets?



Q3: Users' Take on Current Payment

From the histogram above, we see that a majority of our participants gave a neutral rating to the current bus pass/tickets. On average, they rated it 5.2 of 10. As one can see, there is a plenty of room for improvement regarding this aspect of transit. However, because the answers are so neutral, it leads me to believe our participants may accept the current system as a cultural norm and could potentially resist if we were to change this system substantially. We can address this by leaving the normal system untouched, only adding ours on.

How well would you say Winnipeg public transport is handling COVID safety for its riders?



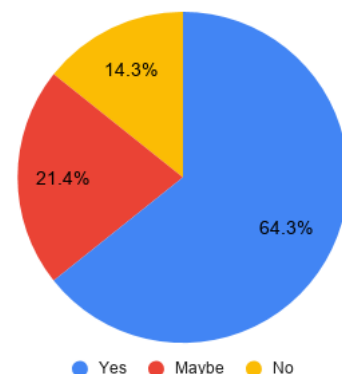
Q4: Winnipeg Transit and COVID

From the bar graph on the left, we see that the participants do not think transit did an exceptional job handling COVID-19. On average, they rated it 4.7 of 10. From this we see that there is certainly a market for increasing the COVID-19 safety measures on transit.

Would contactless payment on public transit encourage flattening the curve?

Q5: Contactless Payment and COVID

From the chart on the right we see 64.3% of our participants believe that contactless payment would help flatten the curve. This data tells us that our interface is likely to be viewed as a positive change regarding public transportation during the pandemic.



Interview

Our interview consist of 1 question curated from each out us (5 total) about bus tickets, perspective of transit during this pandemic, fare expense, and implementation of contactless payment. We received 7 responses.

Q2) How has COVID-19 effected your perspective of public transportation?

Most participants are now hesitant to ride the bus due to improper social distancing and the uncertainty that people around you may be sick. This tells me we need to look into solutions to help encourage social distancing and maybe integration with a COVID tracker to see if anyone infected has ridden.

Q4) In this pandemic do you think that contactless payment on the transit would help enforce safety measures?

Of 7 participants, 4 did not think contactless payment would help enforce safety measures. Considering responses to a similar question within the questionnaire suggested otherwise, I am led to believe the wording of this question was flawed. However, we will take this into consideration and brainstorm how else we can encourage safety.

Q1) Have you ever encountered a problem when using the bas pass or tickets?

4 of 7 participants had problems with bus passes and 3 of them specifically mentioned passes not scanning properly causing the line to back up and make people late. This tells us the importance to make our interface quick and easy to use to minimize backups.

Q3) Is the transit fare too expensive for the length a transfer is valid for? If yes do you think Digi-pass is a better alternative?

As expected, most people would like the transit fare to be cheaper or have the duration extended. Most people do not think DigiPass will solve this. A comment that stood out was to have a ticket duration specified by user. This tells me we need to investigate if we can make a variable duration ticket option that is cheaper or more expensive respectively.

Q5) Do you have an idea or have used any contactless payment app before? If yes how was your experience with it?

Almost all participants have used some form of contactless payment before. All of them enjoyed it for its speed, convenience, and simplicity. This reinforces that our interface must have these traits.

Hypothetical Implementation

If our DigiPass interface was implemented as is, we would see some major issues. However, with the data gathered from this study we are on the right track for success and one step closer to creating a safer public transport environment for Winnipeg.
