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User Survey Report

Belmin Oommen

Frederick Brown

Nicholas Carmen

Yiyun Zhang

Zhan Li

A Better Public Transportation App

Drexel University

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# Summary for Team Members’ Contribution

Zhan Li:

1. Draft and modify user survey, then transfer it into Qualtrics platform.

2. Draft the introduction part and methodology part of summary report of the survey.

3. Working with individual analysis of finding for survey result ID 1-5

Nick Carmen:

1. Completed Methodology section

2. Final Editing/Proofread, added elements to each section, Submitted to blackboard

3. Working with individual analysis of finding for survey result ID 16-20

Yiyun Zhang:

1. Working on individual analysis of finding for survey result ID 8-12

Belmin Oommen:

1. Individual Analysis of survey respondents 6 ,7,13,14, & 15

2. Formatting Final Draft

3. Analysis of findings

Frederick Brown

1. Individual Analysis of survey results 21-25

2. Conclusion

3. Helped with introduction and methodology

# Introduction

In the past decade, there has been a sharp increase in the popularity of transportation apps accessible to users via smart phone. With such a high increase in the demand of these apps, it is imperative to collect and analyze real users’ experiences with these apps to identify areas of weakness present in the app and the subsequential enhancements to these areas. This paper will be analyzing the SEPTA (Southeastern Pennsylvania Transportation Authority) App, the target app, to fill the gap in knowledge regarding users’ satisfaction with the app. The SEPTA App is a government official smartphone app that provides the general public with a comprehensive platform to book public transportation right at their fingertips on their smartphone devices. Users of the SEPTA App can view the schedules of the varying transportation types that SEPTA offer, book transportation, keep up with SEPTA trains via the ‘Real Time Vehicle Locator’ interactive tool, and seek assistance about SEPTA transportation. SEPTA services the Southern Pennsylvania area, more specifically the greater Philadelphia area, and has a multitude of transportation options available to users that include bus, railway, subway, NHSL (Norristown High Speed Line), and trolley. The SEPTA App takes the stress of public transportation away by users’ ability to schedule their trip, check on an upcoming trip with up-to-date arrival/departure times, and the personalized ‘save trip’ feature.

While the SEPTA App offers many benefits to users, the results from this paper’s competitive analysis highlighted a few areas that should be improved on the SEPTA App to set itself apart from its competitors. SEPTA ensure customer-centered service and offers users a service that is unique and highly beneficial, but the SEPTA app struggles in user interface, aesthetic design, and some functions. The app currently meets all the basic requirements of its design purpose, but the app’s outdated design takes away from the user’s overall experience with SEPTA. A redesign of the SEPTA App’s overall user interface and app structure would produce significantly higher user satisfaction because a more welcoming app design would properly highlight SEPTA’s mission statement that emphasizes customer-focused service and enhance users experience with SEPTA services overall.

As means to identify and analyze the wants of SEPTA App users, a survey was designed to gain relevant knowledge regarding SEPTA users and their satisfaction with the app. This survey was distributed across a diverse sample to have a better representation of all SEPTA users; participants varying across an array of different demographics such as age-group, frequency of use of SEPTA service, education level, and others. The data obtained from these surveys will be used to formulate a fuller picture of user-suggested improvements the app should undergo and may provide a different prospective of ways to improve user satisfaction.

# Methodology

## Participants

To fill the gap in knowledge of users’ satisfaction in regard to the SEPTA App, a survey was constructed to gain an understanding of SEPTA user demographics and their feelings about the app. This survey was distributed to a convenience sample of 25 participants; each of the five members from this research group selected five participants to distribute the survey to. Since the SEPTA App is available to the general public, the participants were chosen to represent a majority of the different demographic sectors to accommodate the app’s wide and diverse user-base. Participants range in gender and race, as well as in age from 18 to 65 and older, have educational levels varying from a high school diploma to a Ph.D., and have differing statuses of employment.

## Procedure

The participants were sent a link to access the survey; participants did not have any time restrictions placed on them and were able to complete the survey in any location of their choosing. After clicking the link, participants were redirected to the survey and were greeted with the first section of the survey. The first section of the survey contained questions that gathered statistical data about the participant’s demographics; these questions included those regarding their gender, race, age, employment status, and highest level of education completed. After the completion of the demographic’s sections, participants proceeded to the second section titled, “Please tell us more about yourself.’ This section first used a 5-point Likert scale with three statements, to measure the participant’s feelings and usage of technology. The first question in the Likert scale assessed respondent’s confidence in their ability to use technology and resolve any issues that may arise during use.

The second question gauged respondent’s fondness of using their phone daily to complete their everyday activities, and the last question respondents evaluated their familiarity with apps like SEPTA and their knowledge of accessing features on these apps. After respondents completed the Likert scale questions, the next question in the section was presented as a multiple-choice question. This multiple-choice question asked participants what their primary methods of transportation were. Participants were provided with four main modes of transportation as options: “public transportation,” “private car,” “car-sharing (Uber, Lyft, and etc.), and “walking or bicycle,” as well as an option to indicate another transportation method not listed, and a prefer not to respond answer choice.

The third section of the survey sought to obtain users individual opinions about the SEPTA App; its layout, features, navigation, usability, appearance, content, readability in addition to questions that determined respondents’ usage frequency of the SEPTA App. This section measured user feelings through a variety of different question types including multiple choice questions, user-response questions, and a Likert scale to gather the most comprehensive feedback from respondents.

The last section of the survey has a multitude of open-ended questions to provide insight about assorted topics or issues that users may experience. Questions in this section range from “are there any comments or suggestions that can help us improve the experience” to “may we follow up with questions.” This enables this study to gather more user-specific information and construct specified follow up questions to those individuals who listed their contact information. The more specific the information obtained is, the better understanding of the users wants can be identified and in turn, this allows optimal app design.

The construction and grouping of the survey questions helped to better understand how individuals are using the SEPTA App, what aspects do they think are lacking from the app, and what future innovations would they like to see. After the survey was formulated, it became apparent that it must be distributed among a diverse sample such as daily commuters, seasonal users, irregular users, unaccustomed users, people who live out of the area and have experience with different transportation platforms, users that range in age, and all genders.

The advantages of a survey that encompasses open-ended questions, a Likert scale, true/false, and multiple-choice questions enabled a true understanding of the target audience. To fulfill the needs of the identified target audience, the group members each attempted to find one individual from each category of the specified criteria. Each group member was responsible for obtaining an individual sample size of five participants.

# Individual Analysis of Findings

## Survey Respondents 1 -5 (Li)

The survey respondents ID 1-5 have discrete characteristics in age group, races, profession, employment condition, and the usage of the SEPTA app. For age range, those 5 respondents coved 18-24, 24-34, 35-44, 45-54 four age groups. For races, respondents covered races group with Asian, White, Black, or African American, Hispanic, Latino or Spanish Origin. Most of them are employed full time, and respondents ID 5 are students, respondent ID 4 still seeking opportunities. Most of them have bachelor's degrees, and respondent ID 5 highest education level is high school. Each respondent has a different occupation or main interest which included “business,” “IT (Information Technology),” Cybersecurity,” “data analysis,” and “asset management.” In general, based on the basic information collected from survey part 1 of respondents ID 1-5, they made up a mixed simple of residents in the greater Philadelphia area with various races, ages, and professional backgrounds.

According to the results from survey part 2, we can consider all of 5 respondents have enough abilities and willing to resolve technology issues and are happy to use phone apps to assistant their daily life. However, only respondents ID 2 and ID 5 use public transportation as their primary transportation method. They also have relatively more intensive use experience with the SEPTA app. Besides respondents ID 2 and ID 5, respondent ID 1 use car-sharing services (Uber, Lyft, etc.) as the primary transportation, ID 3 and ID 4 will drive the private car for primary transportation.

In the survey part 3, respondents provide their feedback for overall user experience and a recently operating experience of the SEPTA app. For respondent ID 5, a recent terrible experience with the SEPTA app seriously influenced his feedback. Respondent ID 5 failed to book a ticket on the commuter rail due to an unsuccessful attempt to find the line he wants to take. He provides most of the negative feedback (“strongly disagree” and “disagree”) about the app interface design and points out the app does provide enough information to users, but it is difficult to navigate. Due to the failure of booking a ticket, respondent ID 5 provide a constructive suggestion which to add a “ticket counter” section to simplify the ticket ordering processing. Except respondent ID 5, other respondents provide relative positive feedback (“Neutral”, “Agree”) for the interface design and user experience. This proved that the interface design of the SEPTA app can provide an eligible but mediocre use experience.

Respondents also provide feedbacks about features of the app. The handy features become the most welcome ones from the respondent, and they also use the app for very pragmatic reasons. The reasons such as “I need to plan a trip,” “I want to automatically find the closest public transportations near me,” and “I need real-time traffic information” have been most selected. Additionally, “I want to use the app to manage my SEPTA account” and “I want to receive an unusual traffic warning” have also been selected as the reason to use the SEPTA app. The most of respondents care about the features which allow users to access timely and accurate traffic information. Respondent ID 1 specially mentioned the payment feature of the app and he would like if there were an easier way to purchase and payment feature within the app.

In the last part of the survey, we ask the respondent to provide their email for future follow-up. Two of five respondents left their email addresses which provide us convenience for future research.

Overall, respondents ID 1-5 provide us a brief understanding of residences within SEPTA service areas among different ages, races, and professions. However, only respondent ID 2 is a regular user of the SEPTA app, and the rest of respondents only use SEPTA and their public transportation services as alternative ways when their primary transportation method (mostly is driven by their private car) is unavailable. Other restricted conditions like limited parking space, terrible traffic conditions in urban areas, and the long-distance trip also force respondents to use SEPTA services. In this case, the feedback from those light users have limited reference value for our research.

## Survey Respondents 6, 7, 13, 14, & 15 (Oommen)

Starting with the demographics, the respondents are in the range of 18 – 54. There are three males, one female, and one person who chose to identify as non-binary in this respondent group. In terms of race, three respondents were Asian, and two were white. Also, four out of five respondents are employed full-time in this group, while one is a full-time student. The student's highest completed education level is high school and is probably in a bachelor's degree program or trade school program. Two of the remaining respondents have completed master's degrees, and the last two respondents in this group have completed their bachelor's degrees. Also, in terms of employment, the employed survey respondents all work in different jobs. These occupations are teaching, environmental engineering, construction, and management assistant.

Now, starting with the technical demographic question, which asks how confident the user is to rely on technology to help resolve issues, all the respondents either agreed or strongly agreed in their response. This shows that the respondents use technology and understand how to work many essential features to help solve issues. The next question follows up and asks the respondents if they use phone applications to assist with their daily activities. While four respondents agreed that they use phone apps, one respondent responded with a neutral response. This could mean phone applications do not affect the way the person accomplishes their daily activities.

Next, for the primary mode of transportation question, two respondents have private cars, two other respondents walk, and one uses ride-sharing apps like Uber or Lyft. This is important because the respondent's primary mode of transportation will highly influence their responses to the questions for the Septa application. In this group's case, when asked about how frequently they use the Septa Application, four of the respondents answered with rarely or never using it, and the remaining one occasionally uses it. Although the respondents that never or rarely use the app did provide some feedback for the application-based questions, their responses could be considered not too truthful or valuable for the study due to lack of experience with the Septa application.

Additionally, it is essential to note that two people who responded with never or rarely using the Septa application choose the neutral answer for a cluster of questions relating to the application's features, readability, usability, the home page, search features, content. The rest of the respondents all used the agree response with this cluster of questions. The respondent who occasionally uses Septa answered strongly agreed when asked if the search features, readability, and usability are good.

Furthermore, the next question relates to the most recent use of the Septa application. The question asked about accomplishing what the user was trying to do the last time they were on the app. All respondents answered yes in this part. Next, when asked about what the users liked most about the Septa application, one respondent answered nothing. At the same time, the other responses included the application being straightforward, the app providing detailed schedules, the map overview is good, and the application is easier to use than the website. When asked about what the survey group liked least about the application, two respondents answered nothing. The others responded with maps, providing minimal information, and not having a customer service portal. Finally, when asked about what the Septa Application needs to improve, only two respondents answered, and they said it needs a better user interface and incorporate more push notifications.

In conclusion, after going over this group of survey respondents, not too many clear outcomes can be made since only one person claimed to use the app occasionally. So, some of the answers might have been a guess or based on minimal usage of the application. These results will not be beneficial in finding out ways to improve the Septa Application. Next time, to improve the quality of survey results, it would be helpful to invite people who use Septa on at least an occasional level since they will have more of a feel for the application.

## Survey Respondents 8-12 (Zhang)

The 11-15th responses are from respondents with a small age range which is 18-34. The gender and race are distributed evenly, two male, two female and one non-binary, three whites and two Asians. Two respondents are employed full time so they may use SEPTA for commuting, while other two students may use it for school. Each respondent of survey id 11-15th has a unique job: UX (User experience) designer, chemical production, real estate, pharmacy, and environmental engineering. Two of them acquired bachelor's degrees, one of them got an associate degree, one master's degree and one high school degree.

Four respondents agree or strongly agree that they believe they can use technology and solve problems on their own, while one participant strongly disagrees with this assumption, which may be due to the previous experience or technical difficulties. With the rapid development of software applications, more people are using phone apps to assist with daily activities. Four respondents agree or strongly agree with this phenomenon, while one respondent maintains a neutral attitude. Three participants strongly disagree or maintain neutral attitudes about the familiarity with the SEPTA app and how to access the features, the other two respondents agree with this proposal, we think the diversity should be caused by the different use time with the app. Only one person uses public transportation regularly, the others choose private cars, working or bicycles as their primary transportation method. Except one person uses the app for multiple transportation methods, all other respondents use the app to plan a trip as their main purpose. All respondents provided their feedback on the most important feature they choice, except one person think is not familiar enough with the app. The selected most key features include scheduling feature, accessibility, and real time traffic information. One respondent advised the map should interact with the user, while other participants did not provide additional feature suggestions. Two respondents use app for commuting and two respondents use it for school. However, their use frequency is all different, one occasionally, one frequently, for both commuting and going to school. All five respondents have a positive attitude about the use experience: home page, navigation, app organization, search, readability, range and availability of features, and content. The attitude is either neutral, agree or strongly agree. The only exception is respondent 12 disagreeing about the usability of the app, while other respondents are neutral, agree or strongly agree with the assumption. This is the key response from users that we should do more research and pay more attention to the usability aspect of the app.

According to the survey, two of five respondents think they did not achieve their objective by using the app. This is an unexpected result, and it should guide us to do a comprehensive analysis on the app. The unfinished objective was an unvisited location to go to school. This failure case shows the shortcoming of basic service and new location service. Another negative is the late notification of cancellations or delay. It is from respondent 14 and this is unacceptable because he delays may disrupt the customer's transportation plan, it may cause money losses or time waste. As for the advantage of the app, three respondents said the app’s accessibility: easy to use and straightforward. Another one is the instant display of train or bus schedules. The least liked object about the SEPTA app is from respondent 13, the least liked is the organization. It is hard to understand the meaning behind this evaluation. No respondent provided any suggestions for the app, and none of them allow us to follow up by email for further questions. Respondents 11-15 did not leave their email.

## Survey Respondents 16-20 (Carmen)

Reviewing users 16 to 20, you can clearly see that the users that represent this subset is between the ages 18 to 35. More so within the range of 25 to 35 since only one participant said they were between the ages of 18 to 24. The group was also split evenly between 2 males and 1 female with one participant identify as binary. Last one user was Asian were as the rest of the participant were white. As for the rest of the demographic sections the participant had mainly the same status. Most had edification above high school besides one, most were employee’s besides one. Each participant seems to have shared a similar demographic besides one characteristic.

Looking closer into participant number 16, this part of the survey asks the user how well versed they are using a mobile app, but also how well versed they are with the current septa app. Participant 16 indicates that they strongly agree that used mobile applications, and that they agree that they are familiar with the septa app and how it functions because they more than occasionally use the app. However, even with their understand of the overall app the use bikes as their main transportation method. When it comes to using the application, they wanted to be able to schedule, check traffic and see/manager their personal account information. So, while user 16 does not use the app as their primary transportation, when they do use it, they want further features and better understanding of their information. While reviewing the application they felt that home page, organization, search readability, content, appearance, usability, and navigation was designed well with minor needed updated based off the strongly agree vs agreed response. They also felt when using the current app their overall goal was met when planning a trip and there were no obstacles that prevented them from completing their task. Lastly, they had no extra information to provide to make the app better and did not want to be contacted later for further questions.

Looking closer into participant number 17, this part of the survey asks the user how well versed they are using a mobile app, but also how well versed they are with the current septa app. Participant 17 indicates that they agree that used mobile applications, but did not have a great understand of the current septa app because they do not use the app. They lacked the understandably of the app, said they their main transportation method use riding sharing / uber services. When it comes to using the application, they wanted to have the closest transportation method closest to them automatically appear. So, while user 17 does not use the app as their primary transportation, when they do use it, they want further features and better understanding of their information. While reviewing the application they felt that home page, organization, search readability, content, appearance, usability, and navigation they felt as though the design was just okay. There was nothing that stood out to be great but also nothing that was extremely poor. They also felt when using the current app their overall goal was met when planning a trip using the bus scheduling and there were no obstacles that prevented them from completing their task. Lastly, they mentioned that there needs to be a better overall user interface but did not want to be contacted later for further questions.

Looking closer into participant number 18, this part of the survey asks the user how well versed they are using a mobile app, but also how well versed they are with the current septa app. Participant 18 indicates that they strongly agree that used mobile applications, and that they agree that they are familiar with the septa app and how it functions because they occasionally use the app. However, even with their understand of the overall app the use private car as their main transportation method. When it comes to using the application, they wanted to be able to schedule, check traffic and see/manager their personal account information but also wanted feedback from SEPTA. So, while user 18 does not use the app as their primary transportation, when they do use it, Realtime information about the current schedule and get push notifications when there are delays. While reviewing the application they felt that home page, organization, search readability, content, appearance, usability, and navigation was designed well with minor needed updated based off the strongly agree vs agreed response. They also felt when using the current app their overall goal was met when planning a trip and there were no obstacles that prevented them from completing their task. Lastly, they mentioned the lack of push notification for alerts and indicated that we can follow up later to get more details on their experience.

Looking closer into participant number 19, this part of the survey asks the user how well versed they are using a mobile app, but also how well versed they are with the current septa app. Participant 19 indicates that they neutral on their use for mobile applications, and that they strongly agree that they are familiar with the septa app and how it functions because they occasionally use the app. However, even with their understand of the overall app the use private car as their main transportation method. When it comes to using the application, they wanted to be able to schedule, check traffic and see/manager their personal account information but also wanted feedback from SEPTA. So, while user 19 does not use the app as their primary transportation, when they do use it, Realtime information about the current schedule and get push notifications when there are delays. While reviewing the application they felt that home page, organization, search readability, content, appearance, usability, and navigation was designed well with minor needed updated based off the strongly agree vs agreed response. They also felt when using the current app their overall goal was met when planning a trip and there were no obstacles that prevented them from completing their task. Lastly, they had no extra information to provide to make the app better but did indicate that we can follow up later to get more details on their experience.

Looking closer into participant number 20, this part of the survey asks the user how well versed they are using a mobile app, but also how well versed they are with the current septa app. Participant 20 indicates that they strongly agree that used mobile applications, but are not as familiar with the septa app and how it functions, and they almost never use the app. The reason for lack of use is their primary transportation method is a private car. When it comes to using the application, they wanted to be able to plan a trip. So, while user 20 does not use the app as their primary transportation, when they do use it, they want a better user interface to interact with. While reviewing the application they felt that home page, organization, search readability, content, appearance, usability, and navigation was not designed well with major needed updated based off the strongly agree vs agreed response. They also felt when using the current app their overall goal was met but did not indicate what their goal was or if there were no obstacles that prevented them from completing their task. Lastly, they had no extra information to provide to make the app better but indicate that we cannot follow up later to get more details on their experience.

## Survey Respondents 21-25 (Brown)

The survey respondents, ID 21-25, provide essential insight about the SEPTA app through their survey responses. Majority of these individuals are between 25 and 35 years old with one respondent being within the 18 to 24 years old range. Regarding the participants gender and ethnicity, one respondent out of the five is male, making this sample predominantly female. Respondents also distinguished their ethnicity, and these responses yielded that 80 percent of them are white, with 20 percent identifying as Asian. All respondents specified that they are employed full-time, except respondent ID 25 that is a student. The respondents’ specifications of their jobs showcased that they all work in extremely diverse fields: respondent ID 25 listed their job as an Engineer, respondent ID 22’s job is in Human Resources, respondent ID 19 detailed their job title as a Property Manager, and lastly respondent ID 20 worked at the Front Desk. Determining the demographics of the survey respondents is highly relevant to this study due to SEPTA services extremely diverse user group, so having respondents of differing demographic backgrounds enables this study’s results to be applied to the broader communities.

The results from the second part of the survey provided insight about the respondents’ comfortability and enjoyment of technology. Four out of the five respondents proclaimed that they feel highly confident in their abilities to use technology and resolve technological issues on their own and one respondent disagreeing in their confidence in their abilities. The survey yielded that 60 percent of these respondents were familiar with the SEPTA App and knew how to use the features on the app, 20 percent of respondents felt highly confident regarding their familiarity with the SEPTA App, and the remaining 20 percent strongly disagreed with their knowledge of the app. From these results, it can be deduced that over half of respondents from this sample feel comfortable and confident with the SEPTA App, but it cannot be further specified if the respondents’ that answered ‘disagree’ are unfamiliar with SEPTA or if they have difficulties navigating features on the app. In conjunction to discovering more information regarding respondents’ familiarity with technology and the SEPTA App, it was also determined from this survey that four out of the five participants stated that their primary mode of transportation is via private automobile and one respondent stated they traveled through public transportation The main mode of transportation used by respondents’ is vital to the correct analysis of the survey results; this information can give key insight to the necessity of their use of the SEPTA App.

The third section of the survey contributed greatly to this paper’s understanding of user satisfaction and feedback regarding the SEPTA App. User feedback sheds light on the potential issues faced while using the app and highlights prominent features. From the survey, it can be concluded that the main reasons why users use the SEPTA App is to book a fare, seek information about the closest station, view real-time traffic information and to utilize the SEPTA App’s vivid maps feature. The respondents also highlighted the features they deemed most valuable, and responses ranged from ‘knowing real time train delay and clear maps’ to ‘emergency news, and ‘train schedules.’ These responses detail the features on the SEPTA App that make the app diverse from others in its field and SEPTA’s dedication to providing user-centered service. Further adding to these users glowing reviews about the SEPTA App, four of the respondents stated that they do not think there are features that are missing on the SEPTA App. The only respondent that provided feedback on what the SEPTA can improve on is a commuter and very frequently uses the SEPTA services, and she states that there needs to be some further improvements in schedule accuracy. Most of the respondents use SEPTA services rarely (less than or equal to 2-3 times per year) but when they are seeking public transportation, they thoroughly enjoy using the SEPTA App when their primary transportation method becomes unavailable, if they must go into the city, and/or attend a sporting event. Per the responses’ received, four out of 5 of these respondents would fall into the category of infrequent SEPTA-users, who only use the app when there is a special circumstance.

The Likert-scale questionnaire in the third section of the survey provided real user feedback about differing aspects of the SEPTA App. When asked about their feelings regarding the SEPTA App’s Home Page and its ability it provide necessary information to users while providing a welcoming atmosphere, 20% of respondents agreed, 40% were neutral, and the remaining 40% disagreed. As for the smooth navigation aspect of the app, 60% of respondents felt neutrally, 20% agreed, and 20% disagreed. There is a slight difference in responses in the third question about the clarity of the app’s organizational structure, 60% of respondents replied ‘neutral’, and 40% agreed. When asked to rate the app’s features and if these features satisfied user’s needs, one respondent strongly agreed, two respondents agreed, one selected neutral, and the last respondent disagreed. The responses from this last question of the survey inquiries about respondents’ thoughts on the statement, ‘the range and available features on the SEPTA App meets all of my needs.’ The statement ultimately received one ‘agreed’ response, two ‘neutral’ responses, and two ‘disagree’ responses. There is some apparent unsatisfaction of the SETPA App by some users that they further detail is due to ‘unreliability’ and ‘speed.’ One respondent also denoted in an open-response question that the SEPTA interface is clunky and should be improved. From all of this data collected data from this sample of the survey, it is apparent that some users feel as though the SEPTA App is missing some key features, but all respondents expressed their dislike towards the app’s appearance. This data strongly suggests across the board by participants responses that the app is lacking in its appearance, organization, and home page. Furthermore, the SEPTA App’s features and their service is highly regarded by users, but the app is seemingly lacking in aesthetics and organization. To further enhance users, experience with the SEPTA App, there should be some refinements and redesigns in these areas.

# Analysis of Findings

## User Characteristics

This analysis will combine the results collected from the individual analysis and provide a complete overview of the survey results. The first part of this analysis will cover the demographic information gathered from all the survey respondents. The survey collected results from a total of 25 participants. The ages of the participants ranged from 18 to 54 years old. The majority of the participants were in the 25 to 34 age group, while the 35 to 54 group had the least amount (Figure 1).

Next, for the gender information about the participants, fifteen respondents were male, nine respondents are female, and one participant identified as non-binary/third gender (Figure 2). These results show that majority of the participants in this survey were male. In terms of race, eight respondents are Asian, one participant is African American, one participant is Hispanic/Latino, and fifteen respondents are white. (Figure 3).

Also, seventeen participants are employed full-time, six participants are full-time students, and two survey participants are currently seeking employment or education opportunities (Figure 4). These results show that majority of the respondents are employed. The respondents' occupations ranged from a range of diverse industries like IT, business, real estate, engineering, and many more. In terms of educational background, five respondents said High School diploma was their highest education completed, one respondent said associate degree, 16 participants said bachelor's degree, and 3 said master's degree (Figure 5). These results show that majority of the respondents are college-educated.

Additionally, the survey asked three questions to assess the users' comfortableness with using technology. The first one asked whether the participant was confident in their ability to use technology to resolve their problems. For this question, one user strongly disagreed, two participants were neutral, eleven participants agreed, eleven participants strongly agreed. The second technology-related question asked if the participants liked using phone applications to help accomplish their daily activities. Based on the participants' responses, one respondent disagreed, four respondents were neutral, eleven respondents agreed, and eight participants strongly agreed. Based on these two questions alone, it seems that most users are comfortable with technology to help them solve their problems and accomplish daily tasks, but a couple of respondents do not rely on technology or are not confident in using it (Figure 6).

The last question in this category asks the participants if they are familiar with apps like the Septa application and aware of the features the app has. For this question, eleven participants responded with either disagree or strongly disagree, five respondents chose neutral as a response, and nine participants responded with agreeing or strongly agree. These results show that only nine users out of the twenty-five participants are familiar with the septa application (Figure 6).

## User Analysis

This part of the analysis will compare the responses from survey participants. The main question that helps divide respondents into different use categories is how frequently they use the Septa application. The results of this question revealed that thirteen users never visit the app, three users very rarely use the app, one user rarely uses the app, five users occasionally use the app, one user frequently uses the app, and two users very frequently use the app. Based on these results, the responses from thirteen users do not impact the app since they never use it, but their answers can still be considered for review and conclusions. Four of the respondents fall into the tertiary user category since they rarely use the Septa app. It is crucial to consider this type of user's feedback for improving an application even though they do use it every day. Next, five users will fall into the category of secondary users since they occasionally use the Septa application. Lastly, three users will fall into the last category of primary users. Their responses will have the most meaningful impact on improvement choices since they are daily application users.

First, starting with participants who never used the applications, the bulk of the responses for questions relating to the Septa application's features were neutral. One user in this category disagreed with all the questions related to the Septa application's features. When asked about what improvements can be made for the app, responses included needing a better user interface, better trip planning features, more straightforward navigation for booking trips, and a better user interface. While this information has no backing since these participants never used the app incorporating their ideas could potentially lead them to use the application in the future.

Next, the tertiary group of users is participants who rarely use the applications and most likely have a novice level of experience with the features the Septa application uses. For the questions relating to the features of the Septa application, this group had a mix of neutral responses and agreed that the elements are good and do not need changes. One participant in this group disagreed that features like search, content, and usability are currently meeting all user needs. Surprisingly, this group of participants had no suggestions on how the app can be improved.

Additionally, the secondary group is made up of participants who occasionally use the Septa application. For the questions relating to the features of the Septa application, four out of the five participants in the group agreed that the components are doing an excellent job and do not need changes. One respondent in this group disagreed and believed that many of the app's features do not accomplish their purpose. The secondary group only had a suggestion from one participant to improve the app, and that was for the application to provide a better map.

Finally, the primary group of users includes participants who frequently use the Septa application. There are three respondents in this group. Based on their responses, two participants agree that the features of the application accomplish their purpose. One respondent had a majority response of neutral and some disagreements and agreements for the features. This participant disagreed that the homepage was good, and the application had good usability. This respondent agreed that the app had good readability. In terms of improving the app, this group suggested things like updated regional rail schedules and better trip planning features. The last participant in this group said the app does an excellent job and does not need improvement.

## Analysis Conclusions

In conclusion, based on the analysis, it was discovered that the majority of the survey users do not rely on the Septa application. While the participants were split into the user categories of tertiary, secondary, primary users, there were still 13 participants who never used the application. This limits our results by reducing the number of responses that will help improve the application. For future surveys, it would be beneficial to incorporate more primary and secondary Septa application users into the participant pool.

Although there were a limited number of tertiaries, secondary, and primary users, the responses from those participants were still beneficial to learn how they feel about the Septa application and what the app could do to improve. The majority of the responses from non-app users and tertiary users were neutral and disagreeing, while most responses from primary and secondary users agreed that features of the application were good. This shows that based on this specific survey pool that the users are happy with the application. It was also interesting to discover that the users that never used the application had the most to say about improvement suggestions.

# Conclusion, Implications, and Future Considerations

In an everchanging climate of innovative technology and new, flashy ride-sharing apps becoming ever so present, it is imperative that the SETPA App can remain in touch with users’ feelings and satisfy their needs. This defines the magnitude of the data obtained and sheds light on aspects of the SEPTA app that should be redesigned. Many civilians rely on SEPTA services every day and utilize the app to locate transportation stations/services, book fares, and view real-time schedule changes. Moreover, the SEPTA App functions as a lifeline to many and any issues present within the app has the ability to dismantle one’s ability to travel to their destination.

This study sought out to gain further information regarding real user’s thoughts and feelings about the SEPTA App. Through a convenience sample survey, data about user demographics, their familiarity with technology, and their satisfaction/dissatisfaction with the SEPTA App was acquired. This data revealed that users appear to be extremely satisfied with the SEPTA service and the key features on the SEPTA App, but professed some distaste about the appearance, user interface, and navigation of the app. While many users emphasized their overall like of the features on the SEPTA App and agreed that these features satisfy their needs, it is apparent that the bleak and archaic app design may be taking away from user’s overall experience. In order to achieve results that could be more generalizable, this survey was distributed among a diverse sample of respondents with differing ethnicities, employment, gender, and other factors. Since the SEPTA App has a highly diverse user-pool, it was essential to have diversity within the sample, so this data could be extrapolated and applied it to general SEPTA users.

The data collected and analyzed provided great insight to users’ satisfaction with the SEPTA App, however some limitations should be noted. First, the sample size was merely twenty-five participants and SEPTA services over 4 million people in a year, so the data clearly does not represent the demographic sectors of all SEPTA users. This further means that more studies should be conducted to fully understand the satisfaction of SEPTA users; a survey sent to SEPTA users via text after a ride is a sufficient way to reach a larger pool of SEPTA users. Another limitation that should be acknowledged is the convenience sample bias, this creates an inherent bias and potentially the overrepresentation or underrepresentation of certain groups. The representation issue coupled with the fact that the sampling was not random presents difficulties when attempting to generalize the survey’s results. This further contributes to the need for additional investigations about users’ interactions with the SEPTA App and other extraneous factors. A particular study that could enhance the current known knowledge regarding these factors, is a study that intends to identify a potential correlation between user satisfaction of the SEPTA App and their frequency of use.

Through the analyses performed on the collected data and with the limitations acknowledged, this research recommends that the SEPTA App undergoes some cosmetic redesigns and improves user interface. The appearance of an app plays a significant role in a user’s satisfaction with the app, so the SEPTA App should revamp their aesthetics to present a more friendly and welcoming app for their users. The use of some vibrant colors that still uphold a clean look, using the principles of natural mapping, and changing the font style as well as increasing the font size could remedy the lack of aesthetics that the app currently has. The SEPTA App should also use the principles of Human-Centered Design to improve the apps user interface to further increase users’ satisfaction. Human-Centered Design (HCD) is rooted in the principle of taking human psychology into account when designing a product and tailoring the design tactics to suit the needs of the user-groups. Given that SEPTA so highly value their customers and repeated highlights their mission statement of ‘customer-centered service’ on their website; there should be a redesign of the SEPTA App’s user interface that must take a HCD approach along with accounting for the standards identified by Fitts Law, that optimizes human efficiency when using technology. These recommendations would highlight the importance of the services offered by SEPTA, as well as doing so in a way that makes users feel welcomed and supported.

# Tables and Figures

## Figure 1

Participant Age Range Graph:

Chart

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## Figure 2

Participant Gender Graph

A picture containing chart

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## Figure 3

Participant Race Graph

Chart, bar chart

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## Figure 4

Participant Employment Graph

Chart, waterfall chart

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## Figure 5

Participant Education Graph

Chart, bar chart

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## Figure 6

Technology Demographic Questions

Chart, bar chart

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