Usability Testing for TransLoc App

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Executive Summary

In a brief account of the report, the report demonstrates the usability of the application, TransLoc. Our team conducted a series of usability tests of TransLoc, utilizing various scoring methods and ensuring the testing practices followed standard guidelines. Our team will be presenting data reflecting the usage of TransLoc and its usability and overall user experience of Kennesaw State University students.

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Introduction

For our usability report, we'll be presenting to you our findings on the TransLoc app's functionality as well as overall the user experience. TransLoc allows users to know when buses are near them or in route. Considering that TransLoc is widely used by many Kennesaw State University (KSU) students and college students in general, ensuring that the app provides accurate services such as checking routes and seeing bus times will keep them on track and prevent them for being late to classes.

In our study, we utilized the testing methods of System Usability Systems (SUS) and Think-Aloud Protocol (TAP), which allowed us to observe how helpful the app is considering its main function.

Methods

When it came to sorting out our methods for how we would complete the testing, we selected a few participants, coordinated the group's time to accommodate the participants' varied availability then recorded and took pictures to display the overall procedures we took as we conducted the testing.

In order to gather data for the report, we provided the participants with two pre-test questionnaires, one for obtaining consent and the other to gauge their mood before testing, a SUS test, and required the participant to perform TAP then finished everything with a post-test questionnaire to give an evaluation of our overall performance and test.

Furthermore, utilizing SUS is important as the test is used in many instances to rate products based on their overall usability and reflects user experience. The test is conducted using 10 questions to rate the product (or in this case app) to assess the participant's overall opinion. Regarding TAP, this method allows us to understand how the participant completes their tasks as they are doing them. Using TAP also allows us to analyze minute details as the participant is completing tasks such as their facial expressions, tonality, and so on.

Testing Goals and Objectives

Throughout the testing process, our entire goal was to understand how simple or difficult the TransLoc would be to use. Considering that most of the participants had Androids and used the Google Store's version of the app, it did allow us to view the perspectives from Android users. However, one participant used their iPhone to test the app. Overall this additional OS allows for extra diversity in the results.

Furthermore, having this additional information will allow us to view any other functions based on the OS as well as with the application itself regardless of the system. From all the learned data, I believe the company will benefit greatly since you'll have insight as to how well the app functions for typical university students who occasionally ride the buses.

Results

Participants

We interviewed participants and provided each a questionnaire.

We had 7 participants in total. All participants had ridden the Kennesaw State University bus, the Big Owl Bus, at least once. All participants are undergraduate students, falling in the age range of 18 to 24. All students are enrolled in college full time, taking 12+ credit hours during the current semester.

5 out of the 7 participants do not live in campus housing. 2 participants are currently living in campus housing, both on KSU Marietta campus.

Out of 7 participants, 4 use the Big Owl Bus for transportation "seldomly," 1 specified taking the bus 1-2 times per week (occasionally), 1 taking the bus "everyday" (frequently), and 1 who does not utilize the bus (not applicable). All participants had ridden the bus route between Kennesaw Main Campus and Kennesaw Marietta Campus at least once.

5 out of the 7 participants had used the TransLoc app, while 2 participants had not. 4 participants used the app "seldomly," 1 participant used the app every day, and 2 participants did not utilize the app (not applicable).

Altogether, the participants displayed similar commonalities they had between each other:

- Undergraduate students within the age group of 18 to 24
- Used KSU's bus system, Big Owl bus, for transportation occasionally during the spring semester.

Tasks

To observe the functionality of the app, we arranged three tasks for the participants complete:

- Find the Marietta to Kennesaw bus route.
- Follow the bus along its route.
- Check to see where the nearest bus is to the user.

Metrics

We provided each participant a System Usability Scale questionnaire. We evaluated usability through quantifiable means by calculating participants' SUS scores (see Figure A. below)

Participant	SUS Score	Status	Acceptablility	Net Promoter Score	Grade
97	90	Best Imaginable	Acceptable	Promoter	A+
63	85	Best Imaginable	Acceptable	Promoter	A+
56	75	Excellent	Acceptable	Passive	B
50	72.5	Good	Acceptable	Passive	C+
43	52.5	Fair	Marginal	Detractor	D
26	40	Poor	Not Acceptable	Detractor	F
57	40	Poor	Not Acceptable	Detractor	F

Figure A.

Our participants' SUS score evaluations reflected a mean of 65, falling in a 'good' performance with a grade of C. However, this score is reflective of passive user promotion or otherwise "neutral" feelings of the application. This score also falls short of acceptability in usability and application function, falling into marginal category.

Additional Findings

After the participants completed the tasks, we came to a few conclusions on the functionality of TransLoc overall and how it differs on Android versus iPhone.

As they interacted with the app, they utilized TAP to express what they were doing to achieve their goal. For the first task, it was clear that all of the participants could complete it without much frustration or confusion. So, in that regard, the functionality does what it's supposed to do but there were still a few complaints about how routes were under the search category which makes it unfamiliar to the user as most expected it to be under the routes category instead.

Lastly, Android users were unable to complete the second task of following the bus on the mini map.

Setbacks

Notably, despite our findings, there were a few issues that we believe could've allowed us to gather better results. The room that we tested the participants in was rather small and didn't allow the note logger to be in a separate room or a bit further from the participant. Considerably, one of the participants noted how "uncomfortable" or "hard to not notice" the session was for them. We did gather the data that we desired for the app but the setback affected the testing negatively.

We also determined that some usability scores differed due to the application being tested on different operating systems (Android or Apple IOS). We found a possible correlation between higher scores and IOS users. We found that this was potentially problematic, since this can skew SUS results.

Discussion

In retrospect, with all the data we gathered, we would like to discuss what these meanings could mean for the TransLoc app and what solutions could be implemented to fix the problems that occurred.

Recommendations

1. **Set up familiar icon arrangement**

2. **Fixing the routing interface in Android devices**

Conclusion

Overall, our study suggested that TransLoc's usability overall usability for students was sufficient, however, underwhelming. There are a few fundamental issues such as categorization and information organization. There is some evidence that suggests that the application functions differently while running on different operating systems, such as Android users being unable to utilize certain features like iPhone users could. This specifically pertains to the routing feature. This is potentially correlational evidence, that would require further testing. We hope that our findings could be helpful for both Transloc and Kennesaw State University. For Transloc, understanding their usability could benefit them on understanding what to improve and implement. For KSU, this is helpful to understand the experiences of their students who utilize campus transportation.