IE486 Work Analysis & Design II
Shuttle Services Comparison Platform

Smart Travel

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Abstract

The purpose of this poster is to show our processes of designing a “SMART” travel app. The app is self-monitoring, could analyze data as well as present the best travel options for customers in terms of available providers, price and time. Not only should the app be beneficial to customers but it should also be beneficial to providers. Through a series of analysis, questionnaires and eye tracking experiments our team was able to design an app that will provide customers with the information needed to make a well-informed decision on how to travel from Purdue to O'Hare airport, while also making sure that providers get the most out of their resources.

Interface Design

There will be 5 different interfaces: one for general welcome page, where the user can select their identity as a passenger or shuttle bus provider. Two other pages for passengers and the left two will be for shuttle providers. The purpose of this poster is to show our processes of designing a “SMART” travel app. The app is self-monitoring, could analyze data as well as present the best travel options for customers in terms of available providers, price and time. Not only should the app be beneficial to customers but it should also be beneficial to providers. Through a series of analysis, questionnaires and eye tracking experiments our team was able to design an app that will provide customers with the information needed to make a well-informed decision on how to travel from Purdue to O'Hare airport, while also making sure that providers get the most out of their resources.

Survey Design

The survey was given to participants who took the eye tracking analysis for our project. This questionnaire is designed in a way that the question looks for a ‘strongly agree’ answer. The purpose of this survey was to get a better insight on what participants feel about the design, general functionality and the cost model of our app. A total of 6 individuals took our survey. This is not a large sample size so the validity of the questionnaire result is doubtful. But we can tell from the result there are some improvements we can make.

Task Design

- All information could be observed when customer book the ticket. To book a ticket, the customer only needs to open Travel Smart application. Tap “passenger”. In the second interface, enter the trip information which includes Round Trip or One wait, From and destination, Pickup, and Dropoff location, date. Tap “Next” tab. Select the available trip for customer. The real-time information of bus and the visual map will present in this interface.
- For providers, this application is able to check the order and locate the location of the customer. In the first interface, the driver needs to tap “Shuttle Service Provider”. Enter the “username” and “password into input box. The information about waiting customers will display on the screen.

Task Analysis

Hierarchical Task Analysis (HTA) is used to divide task into subtask for better understanding of how the task is completed by users. In addition, HTA is also used to explore various approaches to completing the same task as well as studying the interaction between the users and the interface after we have designed them. The interfaces are designed to serve both the customer and the providers.

Analytic Hierarchy Process

Four Criteria:
- Purpose: Does the content support the purpose of the page? Is the user clearly indicated?
- Currency: Is the information provided in the page up-to-date? Does it realize real-time data analysis?
- Readability: Is the content in each page readable? Are the font, color, pattern and structure well organized?
- Coverage: Does the content cover all the information that is needed?

REFERENCES


Factor Analysis - Eye Tracking

Factor Analysis was used to analyze the results of the eye tracking experiment. The results from our interface is compared to the results of good ux design, which allows us to determine the weaknesses and strengths of our interface, and how to further improve the interface in order to better the four criterias from the AHP analysis.

Recommendations

- For the content, other methods can be provided except shuttle service, like Uber. The ultimate goal of our travel smart app is to find the best option for the user to get to the airport. Therefore, we can consider more aspects that may influence the result.
- For page setup, according to our eye tracking analysis result, we may improve the report page by highlighting different sections. We could also improve the title of each page to make the attraction point stand out.

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