"Smart" Airport App

PURDUE™ INDUSTRIAL ENGINEERING

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About 34% people miss their flight due to lack of updated and personalized information (gate change, security lines, etc.). Our goal is to make a smart app (learns from users) to make customer experience more pleasant.

Problem

Every year, millions of people pass through the O'Hare International Airport, located in Chicago, IL. O'Hare is one of the nation's busiest air terminals and may be among one of the current airports running at full capacity in terms of their daily throughput (National Academy of Science 2005, page 17). Many people find the current process frustrating and time-consuming, which has rippled into a negative mentality towards traveling. Due to this high throughput, implementing a smart service process could greatly impact many aspects of the traveling process not only for the passengers but for the airline companies themselves. Existing apps such as Google Flight and Expedia currently assist passengers by updating them with travel changes however they do not give the passenger any individual control or assistance. Current industry demand for self-service technology is a developing area that has yet to envelope the entire passenger process (Implementing Integrate 2015). People that travel frequently can easily attest to experiencing missed flights or delays due to a simple lack of information. A "smart" service, that could learn from not only the passenger's previous behavior but also real time statistics within the facility could significantly decrease the frequency of these mishaps.

Implementing Integrated Self-service at Airports. Washington, D.C.: Airport Cooperative Research Program, 2015. PDF
National Academy of Sciences. *Technology Pathways: Assessing the Integrated Plan for a next Generation Air Transportation System*. Washington. D.C.: National Academy Press, 2005. PDF

App Functionality

The proposed app would be able to guide the user through the entire airport process in a timely manner, like having someone holding your hand through the process. This can be achieved through providing live updates on potential varying items such as gate changes or which security line to go through. The app with its current scope is limited to only O'hare Airport however in future versions other airports could be included in order to incorporate additional stages of the air travel process.

Evaluation

Today, we use apps like Expedia and Google Flights to book our flights. After booking, the app shows the flight status with updates such as: gate number, departure, and arrival times. We also use apps like Google Maps which gives us the time to reach to the airport. And based on the past experiences on the time it takes to get through the check-in line, we plan our entire time for the journey from home to the boarding gate. But to do all this we use many different apps and services. Our app integrates all the features from details about road traffic to time to get to the airport at any given time, waiting in the check-in lines, details and updates on the gate numbers and the flight times. Based on all this it suggests the time at which you must leave for the airport and keep updating you.

Smart System

Our system will learn from our users. It will use concepts of machine learning to make our system more efficient. With the real time data the app will adapt to the new situations and data, providing users to make smarter decisions.