STAMP Kochi 2019: Data Innovation Challenge | Team IceBerg

For this challenge, we submit this report explaining detailed working/features of our solution, along with also have a showcase of solution prototype. Check out the custom map http://bit.ly/BhramOne

Problem

Over 15 million journeys are made every day in Kochi, however, people don't have the right travel information readily available to them. Kochi is also one for the most popular tourist destinations attracting over 3.7 million tourists every year, with almost 13% foreign tourists.

Despite the excellent level of service, the lack of information and integration between modes has been one for the major reasons for the declining use of public transit. (The share of public transport came down to 49% from 73% from the year 2005 to 2015).

BhramOne

It is a service that integrates transportation and tourism information services. The web app would be a one-stop shop for every transit decision of citizens and tourists. A combination of print map and app will guide city travellers to explore and move right.

The Map

A print version and offline map (downloadable) can be available at airport, railways, metro stations and information centres to ease their travel experience.

The System

Current: The current transport modes of metro, bus, ferry, auto rickshaws and cycles are ticketed and scheduled separately. This could be of great inconvenience when the user journey involves modal interchanges (which is most cases). This remains the cause for higher use of private transport, which provides convenience and accessibility to the user.

There needs to efficient and reliable technology to support the transportation system in order to decrease traffic and pollution. Real-time tracking of all modes of transport is needed to increase the reliability of the system. However, for the current implementation, the product would use their current timetables and information available to approximately calculate the cost, time and compile an itinerary.

Future: A unified ticketing system will amplify the use of public and non-motorised transport modes as the system will look to provide more convenient and seamless journey when compared with private modes of transport. The data gathered from real-time tracking would be used to improve upon the frequencies and availability of transport on particular routes and throughout the day, which will improve the efficiency and the accessibility of the system.

The Product

A web-based application to aid trip planning through the following features:

- It enables to know the cheapest, fastest option available at the time to get from point A to point B
- It lists schedules of different public transport modes (metros/buses/ferry)
- Provides the option to explore the city by suggesting curated itineraries based on user interests with an option to modify existing/creating new
- One stop to purchase/top up transit pass (currently for metro)
- **Future**: transit pass integrated into phones

Target users for the app: Smartphone users in and travelling to Kochi (Scalable to other cities in future that have open transit data).

App feature details:

1. Information at a glance- of all the transit options available

   The app can help you check what transport options are around you at any given time, as well as when is the next option available. This could be particularly useful to decide which transport option to take, given that it also shows information about the cost of the trip. While planning the journey, it can help you make effective decisions like choosing the bus instead of the metro, which would be nearer to the final destination. The app makes it easy to see how far everything is at a single glance.

2. Streamlining your journey- aims at getting you at the destination as fast and as fuss-free as possible.

   While most navigation apps arguably do the same job in terms of providing directions, the app goes the extra mile and offers additional information that makes travelling – and the everyday commute in particular – much easier. This comes in the form of tips about alerting you to get off stops as a notification, or the seat availability on the metro or ferry to show how crowded it is going to be.

   These small snippets of advice, included in-between directions, are what elevate the application instead of merely getting you from A to B.

3. Downloadable interactive offline maps for- attractions, food, transport services

   No internet available, that's fine. The app provides downloadable interactive transport services maps, as well as maps showcasing attractions and food options around the city. These can come in handy while going around and exploring a new or your own city.

4. Journey stats- money saved, change in air quality, calorie burnt, carbon footprints

   Most travel/navigation apps tend to be purely functional, with users abandoning them immediately after they've completed their journey. However, this app provides the user with more insightful travel-related statistics, which could show how many calories you burned, change in air quality or the carbon footprint of your journey and also the money saved by taking public transport rather than driving.

5. Explore the city

   The app not only lets you get around the city but also helps you curate your own individual experiences based on your interests. The application also provides offers on visiting attractions as an incentive for using public transit for those journeys.

Technology

The application uses the open datasets provided by KMRL as part of their open data initiative to develop optimised scheduling and trip planning. Being a web app, it can be used by any smartphone user, irrespective of the device. The app uses GPS trackers and Bluetooth to provide fast response and high tech solution to a complex trip optimisation problem. The app has got intuitive UI and is customer focused in order to provide the user experience. The app makes access easy and opportunities more accessible in order to contribute to the economy.

The goal is not only to provide a seamless travel-planning experience to users but also reduce vehicular emissions by promoting the usage of public transport. The app will assist the user in choosing the best available transit mode that involves the least travel time (shortest-path), lowest emissions (environmental cost of the route) and money spent in that transit, in this order of preference.

Key differentiators

- Fast response time
- Hightech solution
- Optimised-customised routes and itineraries
- Ease of accessing the information in one click

Product Road-map

Payment integration: As KMRL looks forward to introducing Kochi One Card, for seamless payment across all modes, the app looks on integrating the payment technology with the card and personal banking system to provide even simpler transaction. Further on, it looks to introduce subscription models for daily commuters as the application pass tailored to the commuter usage.

Phone card: The app would integrate Kochi One card to ease distribution, access and management of transit cards. It would involve buffing up the security of the app and its data.

Day pass: For tourists, the app will facilitate the purchase of day passes for all transport services, even before getting to the city and collecting them at the airport or any metro

station. Further incentives for regular commuters and tourists for events -like Biennale, IPL, Football, that happen in Kochi.

User/Environmental Benefits

Saved time for network passengers: Passengers are able to plan their journeys better, that allows them to adjust their routes in light of new information and provide more certainty when the next journey mode arrives. This can help avoid congestion and save time, this time saving could be estimated to millions of rupees a year.

Better information to plan journeys, travel more easily and take more journeys: Passengers are now able to better plan their journeys, enabling them to use KMRL services more often. By improving information provision, this can result in more journeys on the network from people who have accessibility needs. This can also result in improving the mental wellbeing of people using the service and greater satisfaction of the customers.

People are more likely to walk or cycle leading to healthier lifestyles: The app can help integrate the first- and last-mile encouraging alternative transport modes including cycling and walking. This can support ambitions around sustainable and healthier streets.

Contributing to improving air quality and emissions: The app supports the modal shift from private and public vehicles, there will be greater numbers of pedestrians and cyclists. They will contribute to a lower carbon footprint in Kochi and emit lower particulates being emitted, which can improve air quality.

More investment in improving the infrastructure: With an increase in people using the services and greater impact on wellbeing, more investment can be drawn in to support the infrastructure and relevant services.

Market Size

The number of smartphone users in India is estimated to hit 337 million by the end of 2018. The number of smartphone users in India would reach 490.9 million by 2022. Kerala has the highest mobile penetration with more than 30 million connections for a population of 33 million, with a rapid increase in the usage of smartphones.

This not only means that the app has higher growth potential but also higher acceptability from the population.