Ideal Transport Presents ‘Pathfinder’
Presentation Agenda

- Brief Introduction to Problem
- Solution Overview
- Application and Use Cases
- Architecture Overview
- Features and Benefits
- Success Story and Collaborations
CHALLENGES FACING CITIES...

Today
- Reduce and control pollution levels
- Improve urban mobility (Transport-poverty)
- Mobility Safety problems
- Multi-Mode connect (First/Last Mile problem)

And Tomorrow..
- Reducing Automobile Dependency
- On Demand Services / Technology
- New Tech modes of Transport
- Reducing Footprint (Spatial & Environment)

80% of the world’s future population of 9 billion is expected to live in urban areas by 2050..."
Need of today and tomorrow...
What frustrates travelers most...

Don’t know when the bus or train will arrive

Too crowded

Unsafe

Transfer between bus and train difficult

Data collected from cities that we serve –

#1 - Kolkata, Mumbai, Cairo, Los Angeles
#2 – Mumbai, Cairo, Dhaka
#3 – Delhi, Dar-E-Salam, Los Angeles
#4 - Los Angeles
The Problem

People don’t choose to ride the bus, train or taxi; they make journeys from origin to destination.

But going from origin to destination is not a fluid or integrated experience, it is rigid, fragmented, expensive and unsafe.

Each transport mode requires a commuter to pay separately.

No easy way to make a journey flexible and on demand.
The Solution

What if all Transport was converged...
Personalized to your need,
And available at your fingertips

PATHFINDER - A digital platform that provides mobility as a service (MaaS) where and when it is needed by the customer.
The only platform in the world that integrates passenger and freight transport
Maas (Mobility as a Service) is a **user-centric intelligent mobility management and distribution system** in which our solution provides the end user with access to multiple transport services.

Maas provides aggregated **single account, on demand, multimodal service**

Maas enables a **seamless door-to-door journey experience by integrating access to different modes of travel like public transport, taxi, car rental, private transportation on a single platform**. It provides route information, modal options, booking, payment and ticketing services for all integrated modes on and through the same platform.
# Putting the Traveler first

## Features

- Allows end to end journey planning
- Provides real time ETA of all transportation modes
- Allows QR code based booking and ticketing across modes on a single platform
- Unifies last and first miles connectivity on a single platform
- Provides exact location of the vehicle
- Provides in advance the number of seats available and level of crowdedness
- Predicts seat availability
- Dynamically predicts demand
- Provides fleet management and online booking feature for freight
- Safety feature for vulnerable users

## Benefits

- Saves time & improves quality of commute
- Reduces Auto Ownership
- Reduces Idle Time and Transport Utilization
- Mitigates Traffic Congestion
- Mitigates Mobility Safety Problems
- Reduces Overall Price of Service / Cost to Serve
SO... HOW DOES IT WORK

**DRIVER**

- Uber-like App for Driver
- Avoid potential ‘bunching’
- Controls Crowdedness
- Capture ‘demand’ in real-time

**USER**

- Real-time trip planning
- Real-time ETA Tracking
- Live tracking of crowdedness
- Real time location sharing
Solution Beneficiaries

Empowers transport operators with accurate information, simplifies operations, allows data driven decisions

Transit Agencies

Commuters

System Integrators
Features for Transit Agencies

- Route Rationalization
- Route Analysis
- Stoppage Analysis
- Trip Analysis
- Geo Analysis
Features for Commuters

- Journey Planning
- Live Tracking
- Seat Booking
- Ticketing
- Passenger Safety
- Crowd Control
For System Integrators

Preferred partner for any system integrator on entire range of technology tools that enable Smart Cities and other innovative strategies across the mobility spectrum.
Application – Route Management

**Route Creation App**
- Automated Route, Stoppage creation
- Capture OD with gender info
- Works both online/offline mode
- Re-usable, configurable on any location

**Route MDM**
- Quality Control
- Route / Stoppage MDM
- Reports & Analytics
- Replay / Simulation
Application – Crowdsourced Data

Coomuters
- Interconnection thru' location share
- Input Crowdedness thru' Commuter APP
- Route specific WhatsApp Group

Drivers / Conductors
- Watch other buses on the same road
- Input Crowdedness thru' Driver APP
## Application – Passenger Information

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>DESTINATION</th>
<th>ETA</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS1</td>
<td>AIRPORT (GATE NO.3)</td>
<td>1 Mins</td>
</tr>
<tr>
<td>VS1</td>
<td>ESPLANADE (SBSTC BUS STAND)</td>
<td>1 Mins</td>
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<tr>
<td>E1</td>
<td>HOWRAH STATION</td>
<td>21 Mins</td>
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<tr>
<td>VS1</td>
<td>ESPLANADE (SBSTC BUS STAND)</td>
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</tbody>
</table>

WORLD BANK GROUP | KOREA GREEN GROWTH TRUST FUND | IDEATION TECHNOLOGY SOLUTIONS
Architecture Overview - Framework
Architecture Overview - Middleware

Control Room Application
- Dashboards
- Monitor and Manage
- Alerts & Notifications
- Incident Management
- Crew Roster
- Trip Schedule & Mgmt.
- PIS Mgmt.

Smart Transport Middleware
- Central Data Warehouse
- Message-bus for real-time location events
- Open Data Compliance (GTFS)
- Standardization for 3rd Party Access
- Big Data scalable
Use Scenario 1 – Multimodal Journey Booking

Choose mode → Book seat → Make onetime payment
Use Scenario 2 – Passenger Safety

**Brother**
I’m in trouble; Road Accident at
google.com/maps/pla Esplanade, Kolkata/ Latitude: 22.56N Longitude 88.35E

**Me**
I met a road accident, please help.

**Police**
We’re reaching there. Are you safe?

**Report Incident**
Street Crime
Road Accident
Violence Against Woman

**Safety Message (optional)**
Instant Automatic SMS to Family / Friends with Location Hints

**Safety Communication**
GPS Based Nearest Relevant Agency Discovery
Real-time Group Chat
Telephonic Communication
Use Scenario 3 - Crowding Mitigation

Geospatial Analysis
- Geo Temporal Analysis
- On-boarding / Alighting Density
- Stoppage Density

Real Trip Monitoring
- Peak time Monitoring by location
- Stoppage Alerting
- Wait time monitoring
- Time variant analysis

Crowd Analysis
- Average footfall
- Gender ratio of the commuters
- Average Waiting Time
- Strategic decisions for Gender
USE SCENARIO 4 - CROWDING MITIGATION RAILWAYS

SOLUTION OVERVIEW

CROWD MANAGEMENT

PRE-REQUISITES

a. Train scheduling
b. Line network
c. # allowable passenger limit per train at any given time for each categories of coach/train/type

c. SOPs for
  • e-pass based process
  • Exception cases like delay or other incidents

COMMUTERS

 Generate slot-wise color-coded e-pass online

 Pathadisha Metro ePass

26-SEP-2020
6 PM TO 7 PM

Origin: MADAN
Destination: NAVI MUMBAI

Sandeep Dada Saxena
Booking Time/Trav: 26/08/20 08:12 PM

TRANSPORT AUTHORITY

a. Real-time demand and OD analysis
b. Operation planning w.r.t train timing, scheduling, slot duration & other influencing parameters like weekend, festivals etc.
Other Innovations – Freight Congestion Control

Truck appointments allow Ports to manage truck flow and spread the volume throughout the day and evening shifts.

QR code based e-pass solution for 5000 trucks a day
Success Story – Smart Pandemic Management at UC Berkeley

Source: http://spm.berkeley.edu/
Delivering freight is about to become easy for EV three wheelers in several Indian cities. The platform will allow EV 3 wheelers to manage their demand more efficiently to save money and reduce costs in logistics.
Partners and Clients

- WBTC
- THE WORLD BANK
- Metro Railway, Kolkata
- Kolkata Metro Rail Corporation
- Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH
- MSRTC
- KOLKATA PORT TRUST
- 150 years
- glories past - vibrant future
- gojek
Thank you!