

Roads' Leasing and Maintenance through Crowd-Sourced Information

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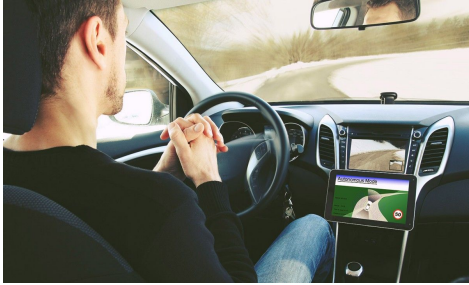
IDEA

ENGINEERING

BOLDNESS

DEMONSTRATION

IN A NUTSHELL



DAILY COMMUTER



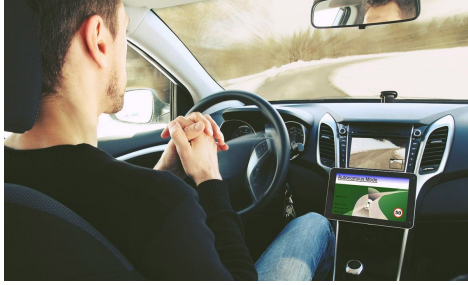
GOVERNMENT



PRIVATE
CONTRACTOR

1. **Private Contractor** leases a **Road** segment and collects tax for revenue collection.
2. **Commuter** shares location and **road conditions' Image Data**
3. **Government** uses this image to **identify the issues** in the road management.
4. Based on the severity of the road condition, the **commuter** is given **Rewards in form of Credits** that can be utilised to pay road/toll tax.
5. These credits are **deducted** as **penalty from the contractors'** lease period.

WHY INTERESTING?



DAILY COMMUTER

1. **Better Roads**
2. **Rewards**
3. Early Warning for Road Conditions on the route.

1. **Gain Profit** (They are here for Business :p)



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- IMAGE DATA - Obtained from **Reverse Parking Cameras**
- LOCATION - **GPS Data**
- CAPTURE WHEN
 - **Rapid Deceleration**
 - **Slight Lane Change**
 - **Specific Locations** (for Feedback and Confirmation Purposes)
- DATA TRANSFER
 - Transfer Requirement is **not urgent**.
 - So, data can be transferred in **bulk**, for example at the end of day, etc.

- IMAGE RECOGNITION
 - Identifying **Problem**: Holes, Under Construction, Accident, etc.
 - Some Corner Cases: Turnings, Manual Stop
- **DELAY ANALYSIS**
 - Based on Location Difference and Time Difference
- STATISTICAL ANALYSIS
 - General Traffic in a given area
 - Analytics help in Decision Making for new constructions

Data Collection

Road Severity
Identification

Credit and Penalty
Computation

Feedback and
Monitoring

- Statistical Model
 - Constraint **Credit Given = Penalty Levied**

Data Collection

Road Severity
Identification

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Monitoring

- Repairs to be verified
 - **Specific Locations' Trigger** for Data Collection.
- Penalty Increases with Repair Delays

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THANK YOU !!
ANY QUESTIONS?

FURTHER ADDITIONS

- Dynamic Traffic Lights with Importance given to those users who are sharing information.
- Toll Payments simplified by automatic credit deduction.
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