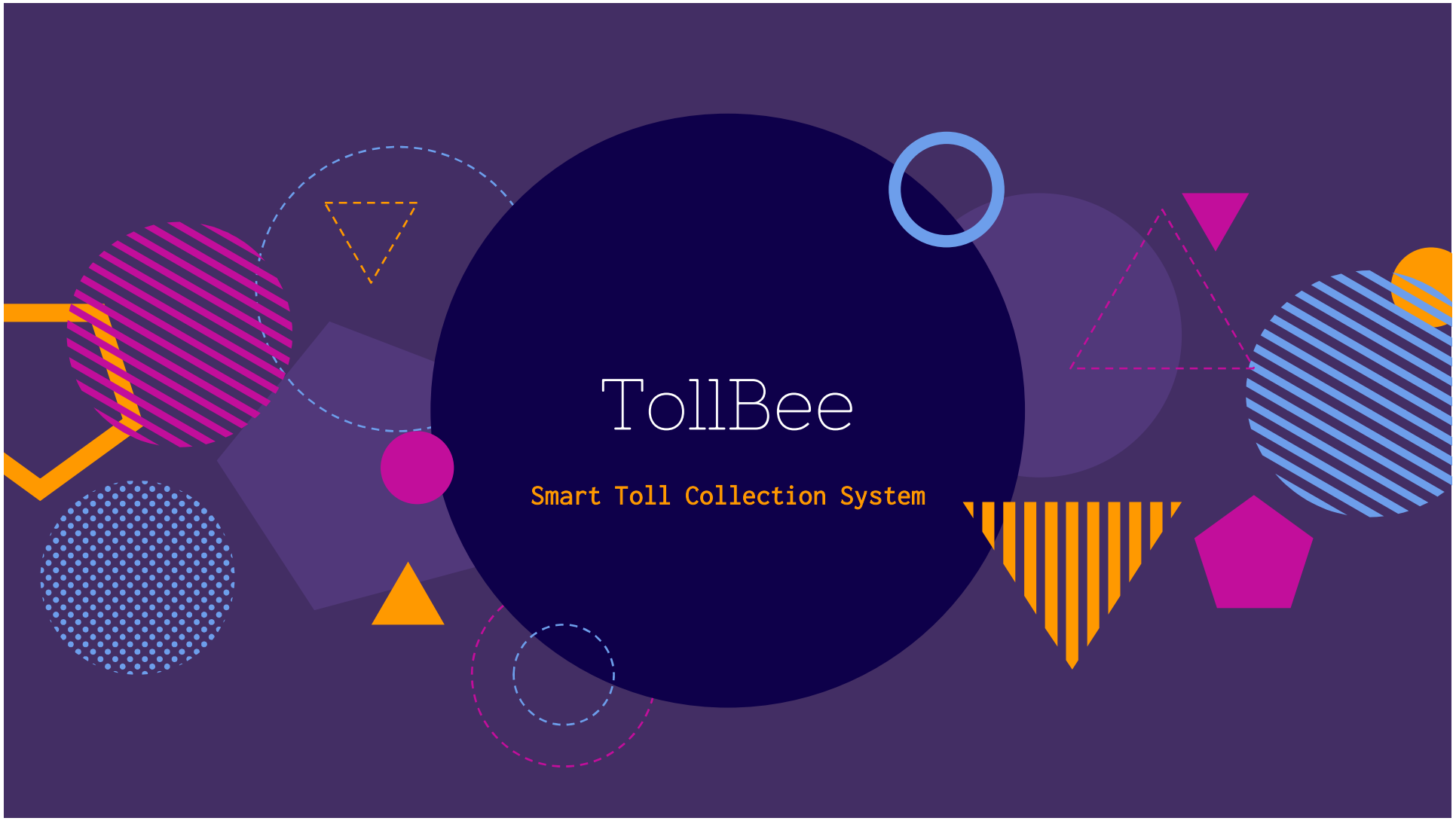

TollBee
Smart Toll Collection System

Problem Statement

1-2 km before the toll plaza, a notification should be received on the mobile phone of the approaching user with Toll Name and amount of applicable Toll Fee. Payment can be facilitated through mobile wallets and credit card payment integration. A list of all the toll plaza and respective services to be made available in the app.

Proposed System

- Smart non-stop Toll Management, by using RFID.
- Using RFID reader 1-2 km before toll plaza, we detect vehicle and notify for the further toll and payment confirmation via IVRS call or Flash message/notification.
- On the backend, we use centralized data and improvised version of DigiLocker and BHIM with analytical capabilities.

- Details of arriving vehicles would already be sent to Toll Plaza and as the vehicles enters any lane they would be allowed to pass.
- Additional sensors like proximity for vehicle type detection.

Innovation

- Implementing complete problem statement without any additional infra. Compare to existing system(Fastag).
- Easy payments by BHIM and on the go document verification by DigiLocker.
- Analytics that will provide data for smart city projects & Highway maintenance etc.
- Helps in detecting violators(theft, rules and regulations) and reporting to police.

Problem Handling

- No smartphone using while driving - flash message/notification or IVRS calling.
- Prepay(Plan your travel) in case of no access of your phone during trip etc.
- Violator - their data is maintained and reported to police.
- Easy to use for the User & logical application.

Problem Handling

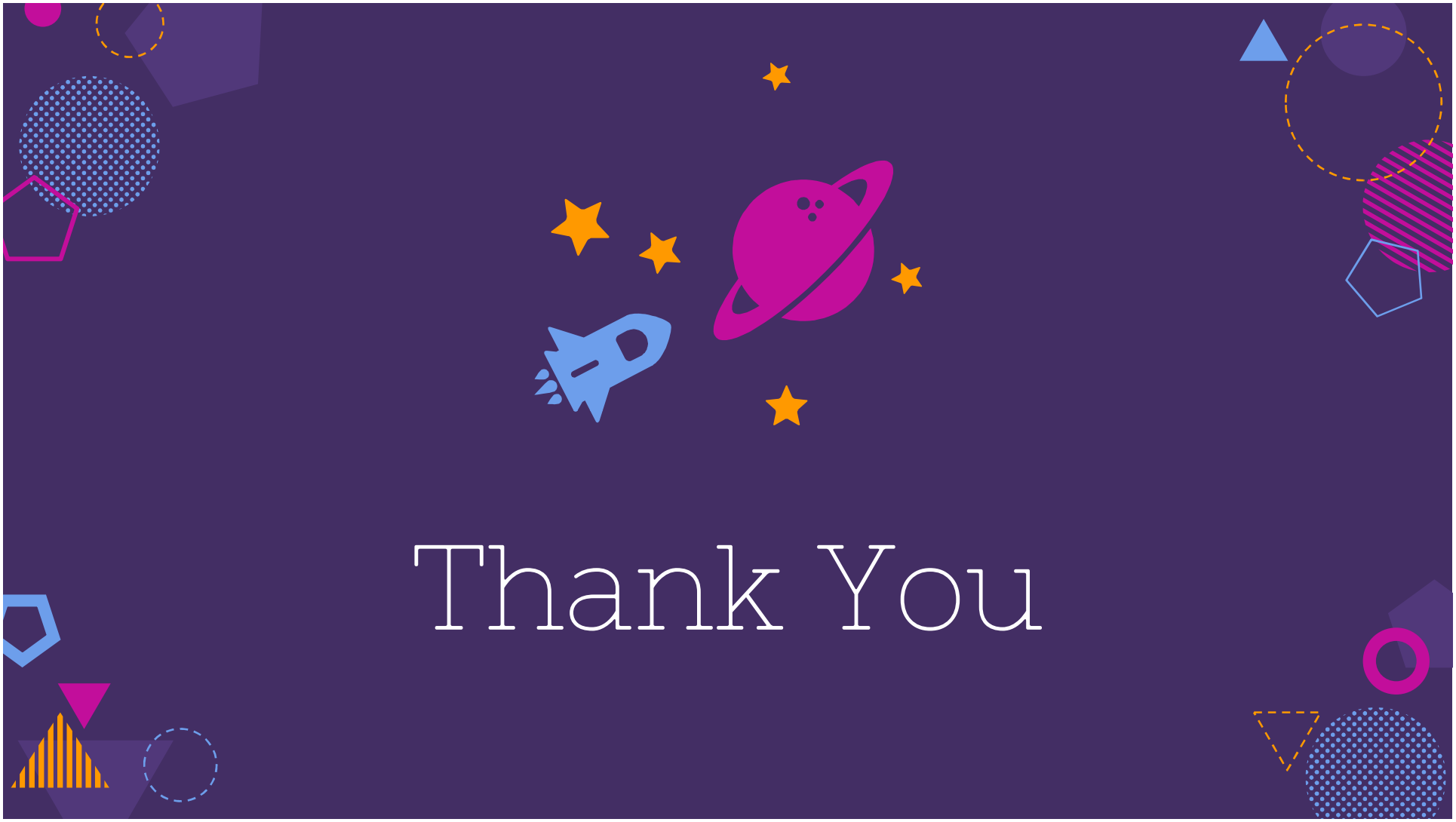
- Manned v/s Unmanned - Until all vehicles are on RFID, we recommend it is not feasible to impose unmanned system.
- Driving other person's vehicle - We have payment enable/disable button (in our proposed BHIM app add-on) for owner of vehicle.
- Cloning - Vehicle type cross detection by Proximity or axle etc. sensors.

Cost Effective

- Current system (Fastag) has two readers, CCTV surveillance, proximity sensors, by utilizing same hardware we are implementing problem statement.
- Centralize data system and servers.
- Overall, we are reusing already applied fund and implementing as much required.
- Proposing new features for BHIM app so no new app required.

Scope

- Helps in smart city planning with its analytics implementation.
- Same RFID can help in parking problems across country.
- It advances the potential of DigiLocker and BHIM app.
- Speed check by using speed measurement with RFID.


Thank You