



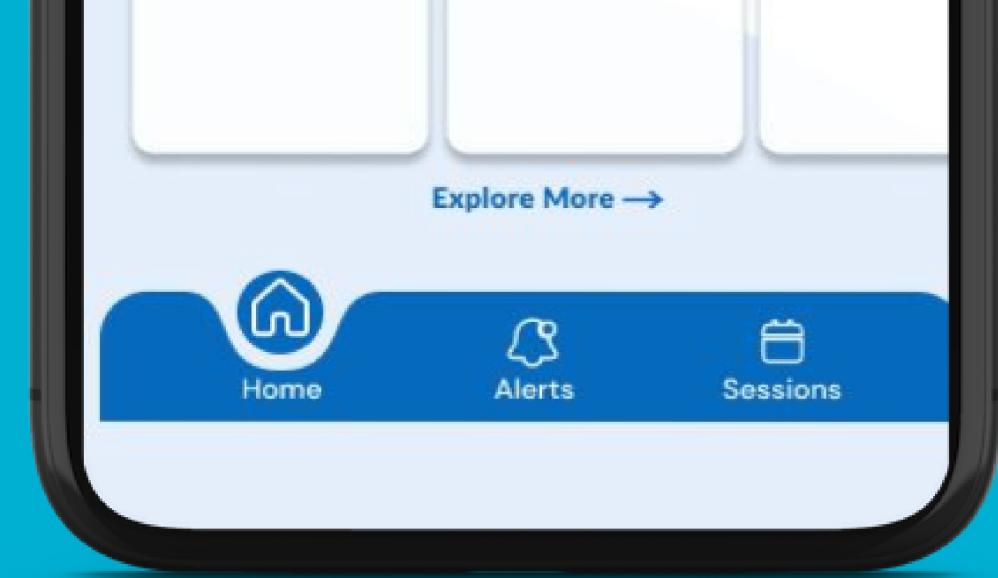
TOOL FOR MONITORING GROUND PERSONNEL

your Identity

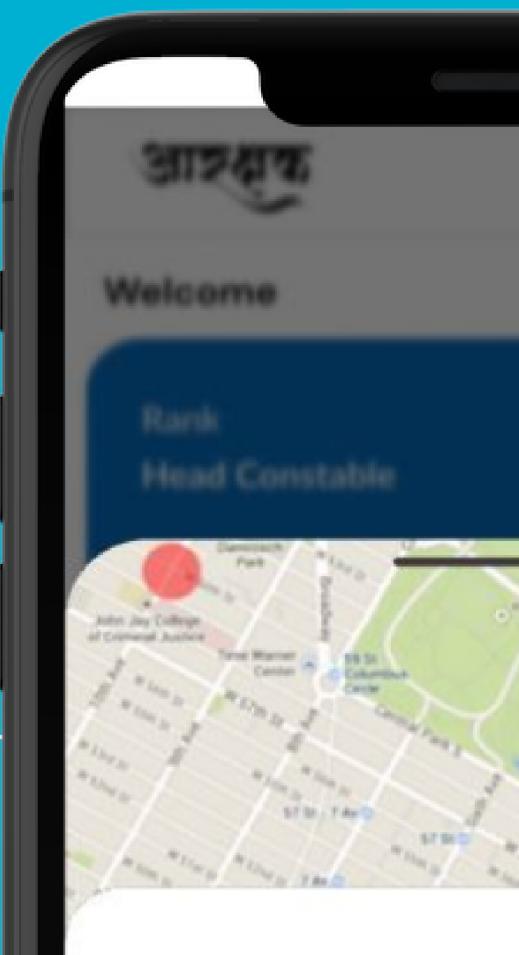


finger on the sensor

...



“Where bytes
meet Badges”



PROBLEM STATEMENT.

Sometimes, personnel assigned to a duty leave their designated location or provide a substitute. These actions may constitute a lapse in the planned measures, leaving the community they serve more vulnerable.



SOLUTIONS.

Aarakshak is an NFC-based solution for securely tracking and authenticating police personnel in real-time. It simplifies officer onboarding and duty assignment and enables effective responses to emergencies.

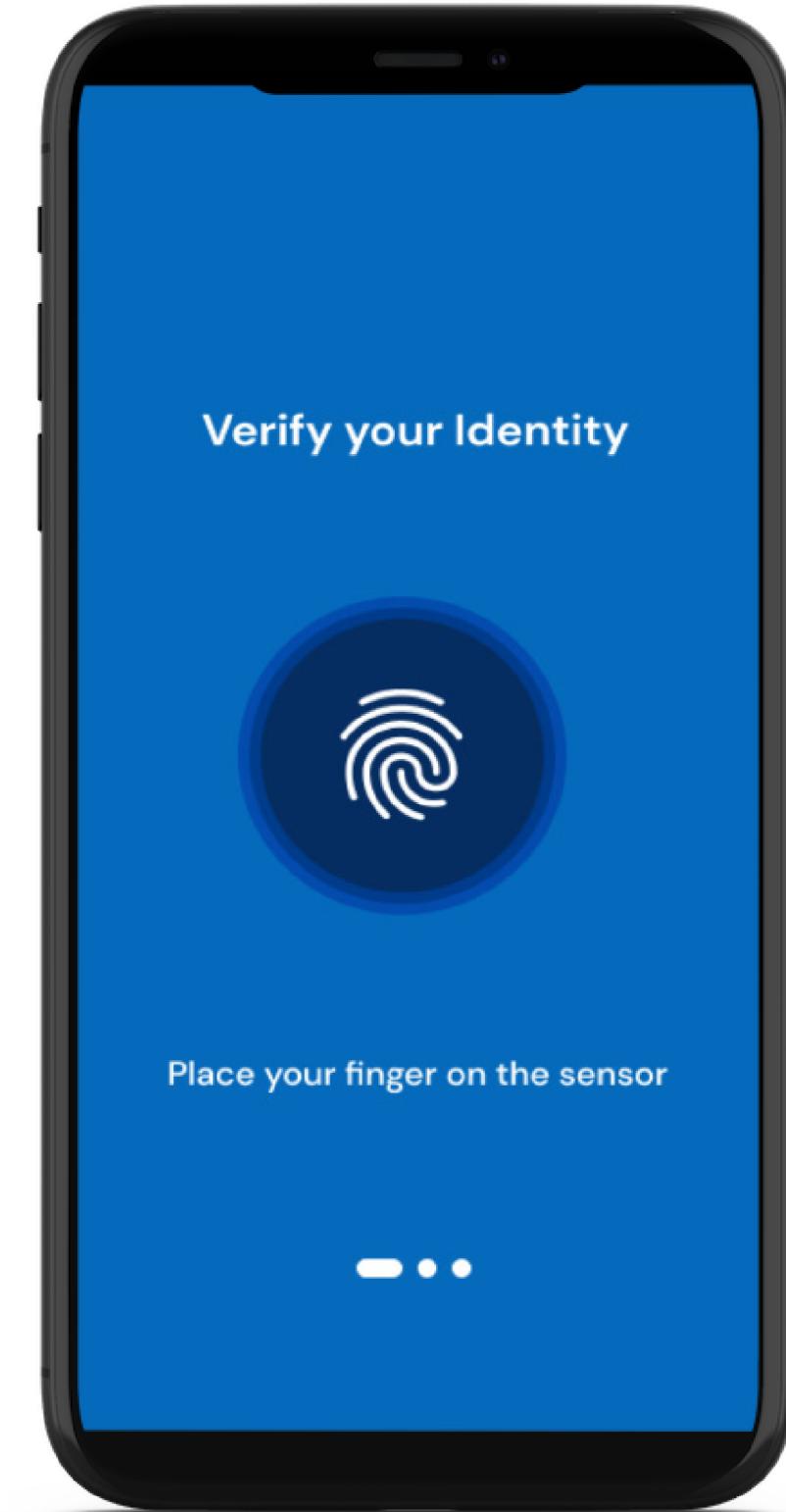
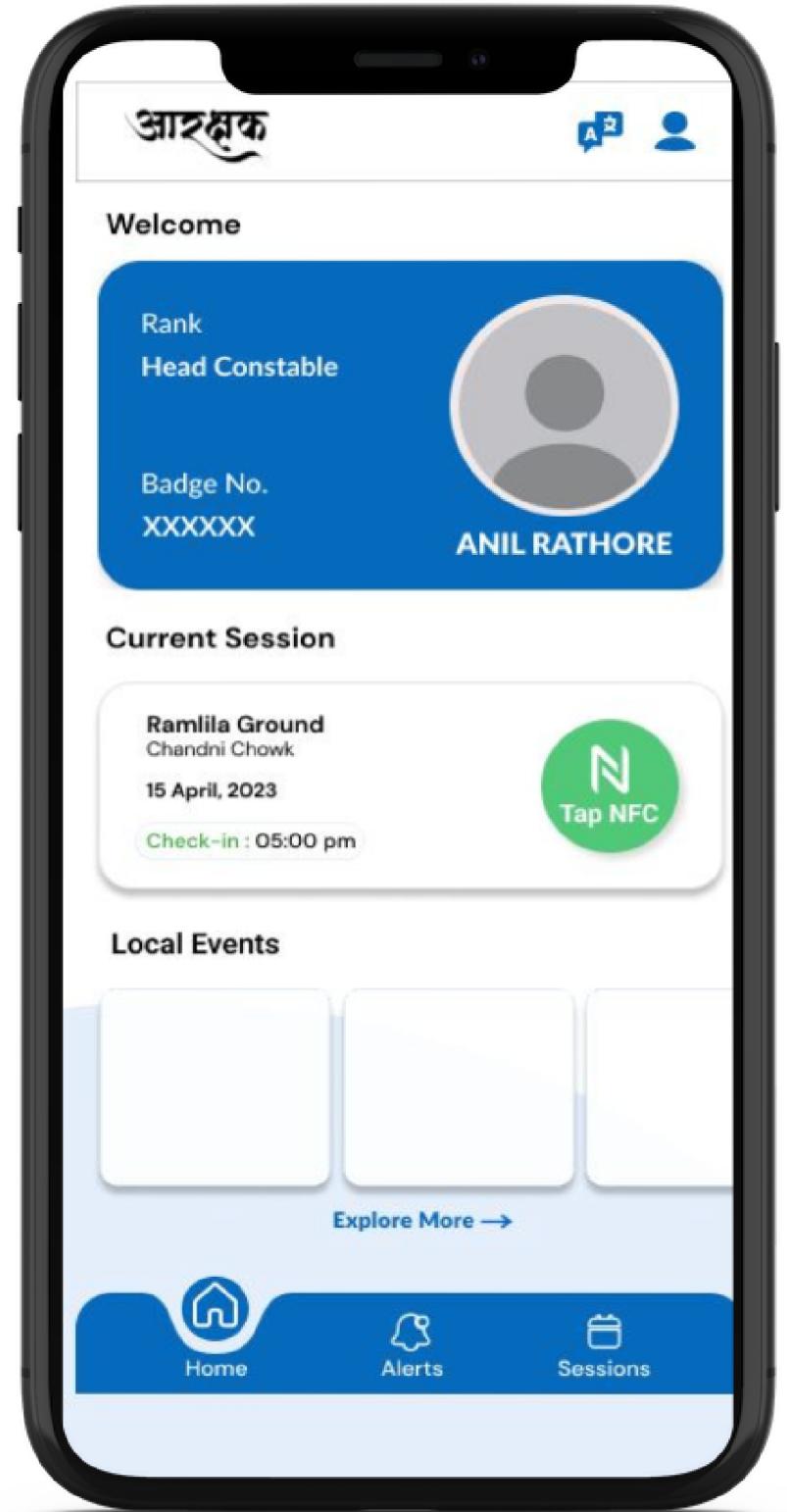
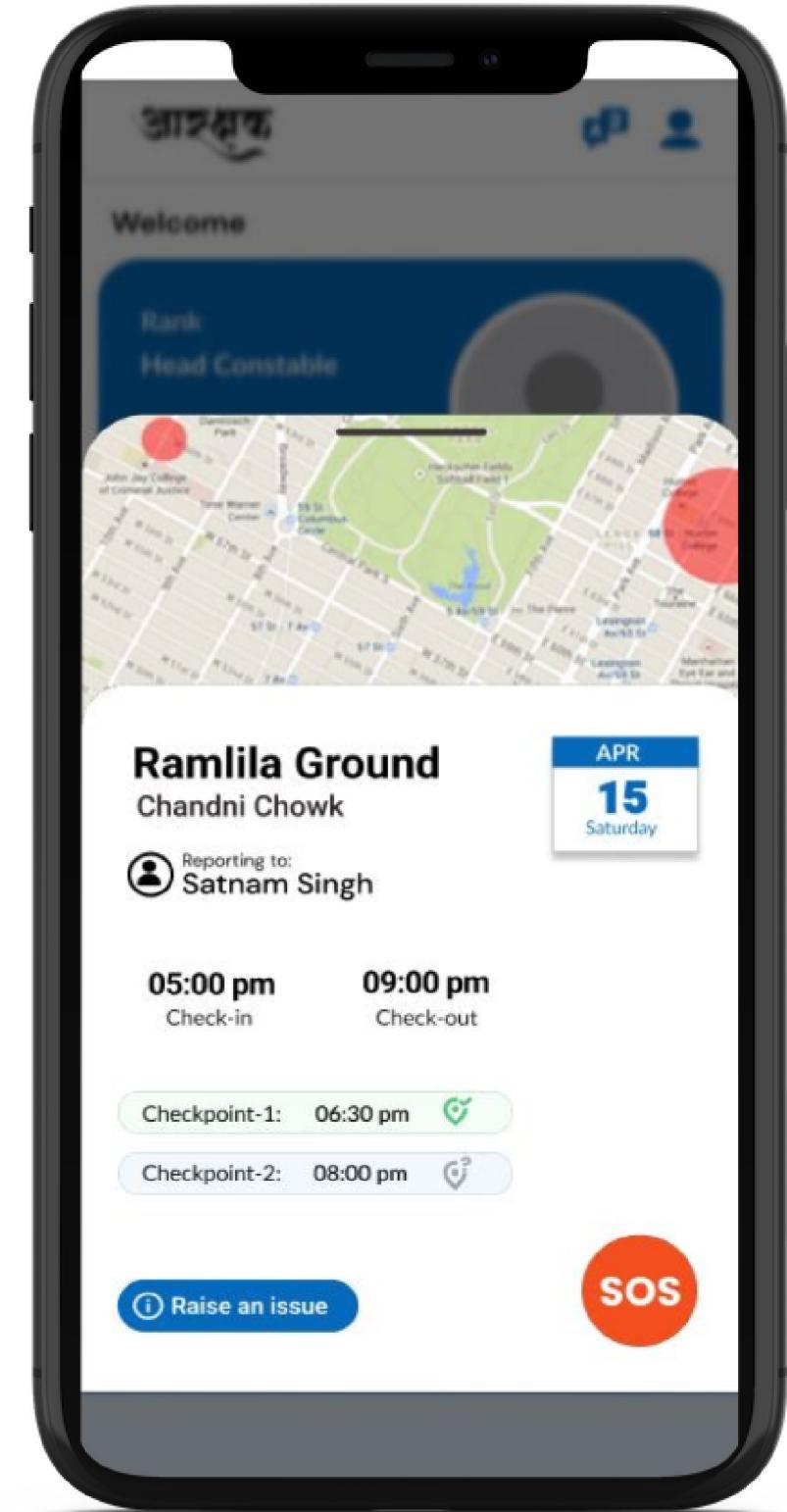
- Requires a fingerprint scan for authentication.
- Gets activated by tapping the NFC card on the officer's mobile.

- Tracks the Location of the officer upon verification.
- Uses the geofencing API to verify live location.

- Notifies Admin when officer goes out of duty area.

- Tracking Emergency Situations and posting work related notifications is easy.





Why NFC?

The NFC cards act as a key that ensures the presence of personnel at the designated duty location physically.



Why NFC?

The NFC technology is extremely cheap and will get even more affordable in the coming times as the popularity of tap-and-pay cards increase!



The image displays three screens of a mobile application interface, likely for a police officer's duty management system.

Screen 1: Police Officer Onboarding

- Header:** WELCOME PRATEEK
- Section:** Police Officer Onboarding
- Fields:**
 - Police ID :
 - First Name :
 - Phone No. :
 - Officer Photograph : Upload Passport Image
 - Gender : Male
- Buttons:** Onboard

Screen 2: Main Dashboard

- Header:** WELCOME PRATEEK
- Top Right:** LOGOUT
- Statistics:**
 - Number of officers on duty: 0
 - Number of active sessions: 0
 - New issues in past 24 hrs:
- Actions:**
 - Police Officer Onboarding
 - Create Session
 - Assign Duty
 - Police Officer Supervision
 - Post Work Notifications
 - SOS
 - Delete Session
 - Delete User
 - Real Time Analytics

Screen 3: Officer Profile List

- Header:** WELCOME PRATEEK
- Officers:**
 - Nipun POLICE ID - 3
 - Nipun POLICE ID - 3
 - Nipun POLICE ID - 3
 - Prateek POLICE ID - 4
- Details:**
 - Nipun:** Location: , Duty Start Time: 05:00 PM, Duty End Time: 11:00 PM, Check-in Time: , Nearest Police Officer: [Get Nearest Police Officer](#)
 - Prateek:** Location: , Duty Start Time: 05:00 PM, Duty End Time: 11:00 PM, Check-in Time: , Nearest Police Officer: [Get Nearest Police Officer](#)

COMPETITIVE ADVANTAGE

Simple onboarding process for new users.

Ensures the presence of personnel on the duty site.

Our App is capable of running in offline mode.

Ensures confidentiality with encrypted storage.

Safeguard sensitive officer data securely

Boosts emergency response with reliability

Ensures officer's safety & enhances operational tracking efficiency

It can be used in various industries with minimal modifications.

This prototype is in testing mode at Thapar University.

USE CASES

- Ensure comprehensive surveillance coverage.
- Ensure safety in remote or dangerous areas.
- Manage large crowds during events and facilitate orderly gatherings.
- Assist local authorities in ensuring security.
- Aid search missions with real-time tracking.
- Monitor security in industrial complexes.
- Swiftly respond to critical situations.



Target Market

With minimal alterations, the Aarakshak system can be used in various other industries like construction, healthcare, and house management.

BUDGET

Development costs: Rs.55,000

Hardware costs: Rs.40/NFC card

INDIA

No. of sanctioned civil police: 18,14,675

No. of police stations: 17,643

For India (for the financial year 2021 - 2022, in crores):

Police budget: 1,94,116.34

Expenditure from police budget: 1,67,489.15

DELHI

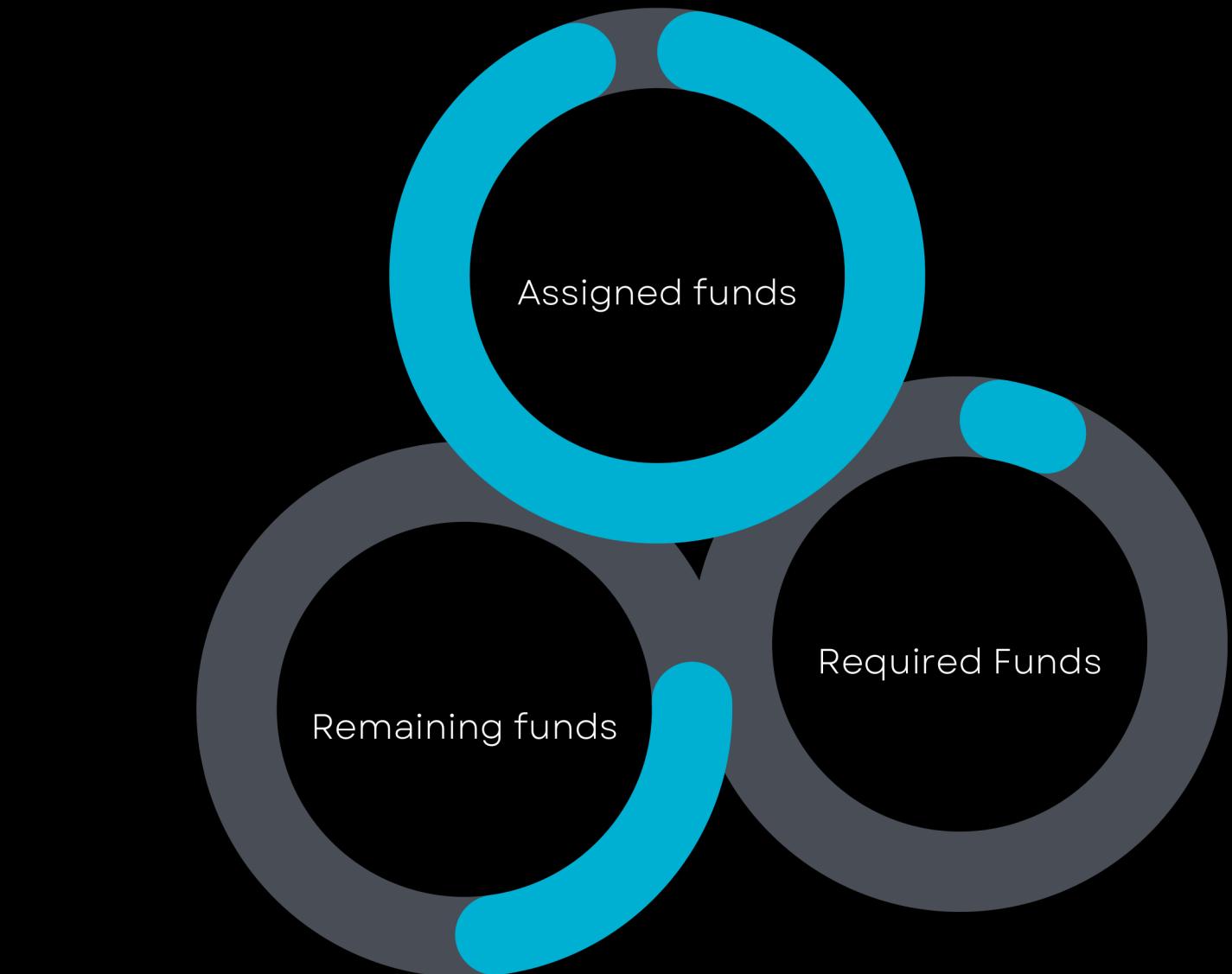
No. of sanctioned civil police in Delhi: 83,882

No. of police stations in Delhi: 182

For Delhi (for the financial year 2021 - 2022, in crores):

Police budget: 8,654.26

Expenditure from police budget: 6,781.97



$$\begin{aligned} \text{Cost for Delhi: Development cost + Hardware cost} \\ = (20 \text{ cards/station} \times 182 \text{ stations} \times \text{Rs.40}) + \text{Rs.55,000} \\ = 1,45,600 + 55,000 \\ = \text{Rs.2,00,600 for Delhi} \end{aligned}$$

Tech Stack



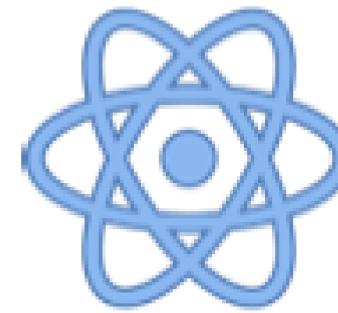
Express JS



MongoDB



NodeJS



React JS

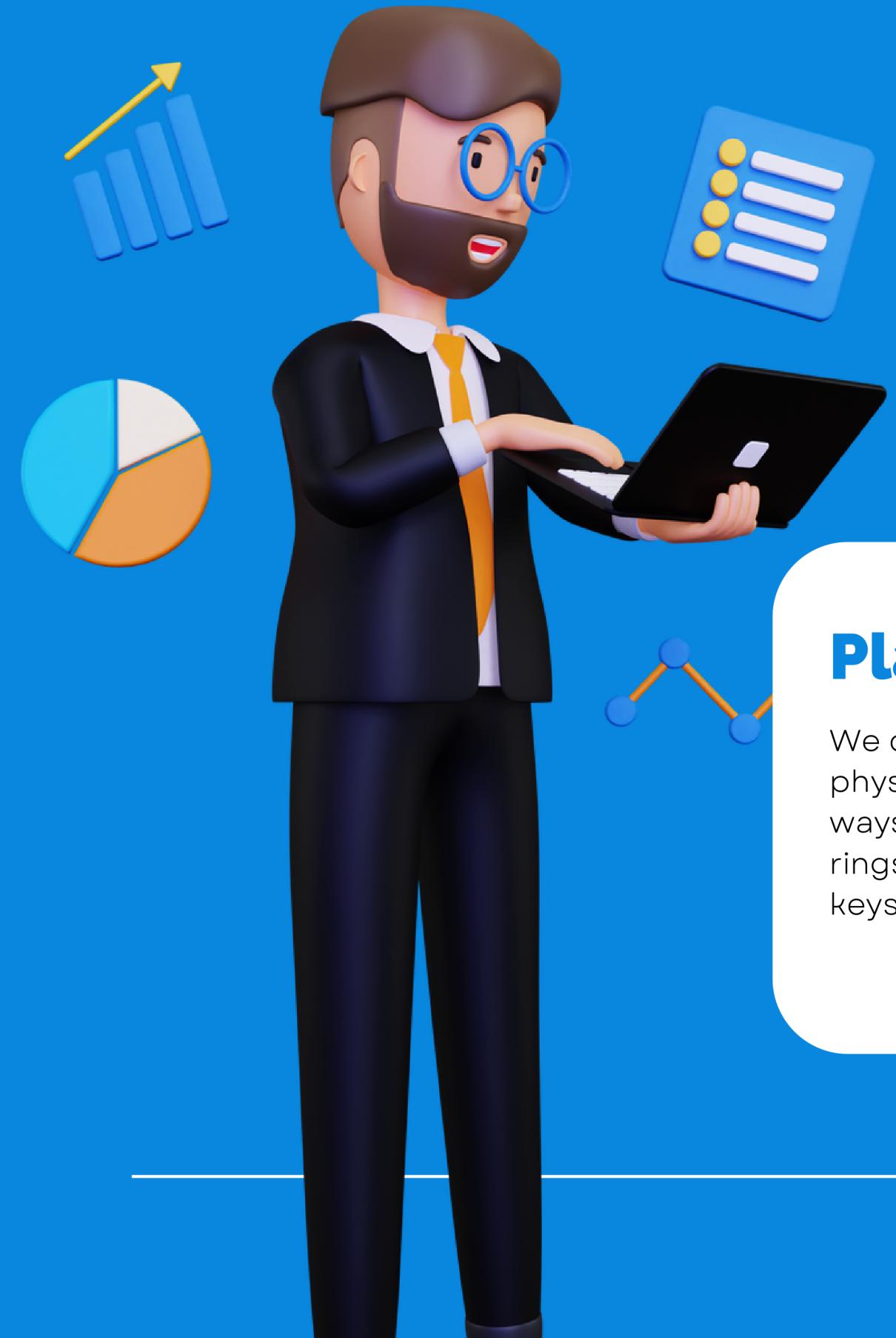


Flutter



Arduino

FUTURE PROSPECTS



Plan 1

We can implement the physical NFC key in various ways such as wearable rings/bands, chip implants, car keys, etc.

Plan 2

Integration with IoT and Cloud Services.

Plan 3

Asset and Inventory management.

OUR TEAM



Aarushi Abrol

Team Leader
Frontend Developer



Arnav Barman

IoT and UI/UX



Anshh Chaturvedi

Backend Developer



Chinmay Agarwal

Backend Developer



Nipun Gandhi

App Developer



Prateek Rustagi

Frontend Developer



THANK
YOU!

WE'RE OPEN FOR QUESTIONS!