



PS ID
KVH-013

PROBLEM STATEMENT TITLE
TOOL FOR MONITORING GROUND PERSONNEL

TEAM NAME
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THAPAR INSTITUTE OF ENGINEERING AND
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Our Solution

Our app uses NFC tags to track on-duty ground personnel

Features

- Gets activated by **tapping NFC** card on officer's mobile.
- Requires a **fingerprint scan** for authentication.
- **Tracks Location** of the officer upon verification.
- Uses **Geofencing API** to verify live location.
- **Notifies Admin** when officer goes out of duty area.

Technology Stack



Express JS



MongoDB



NodeJS



React JS



Flutter



Arduino

W

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R

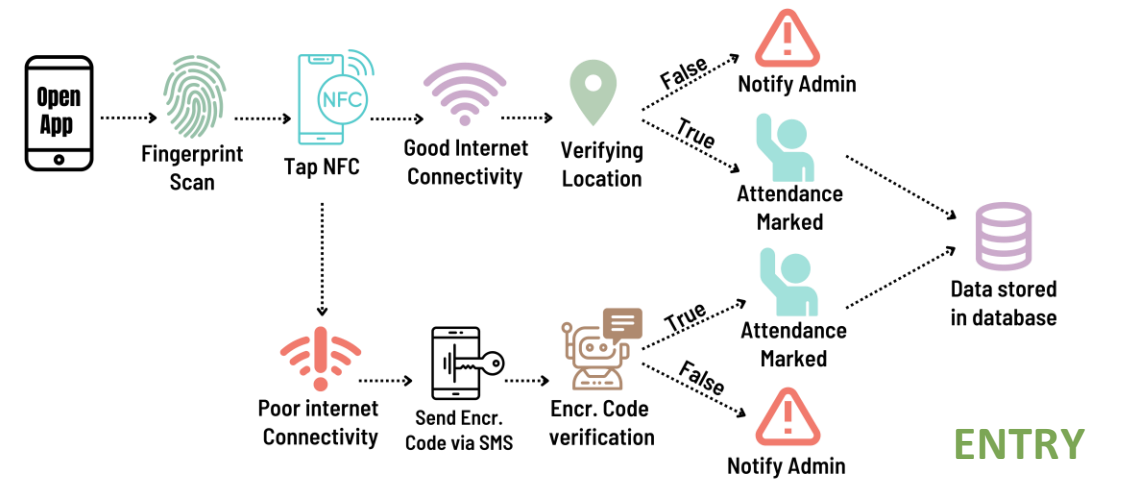
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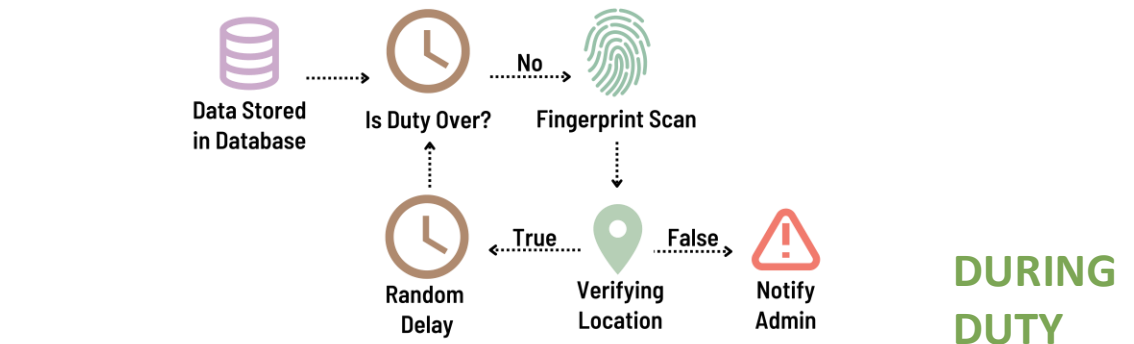
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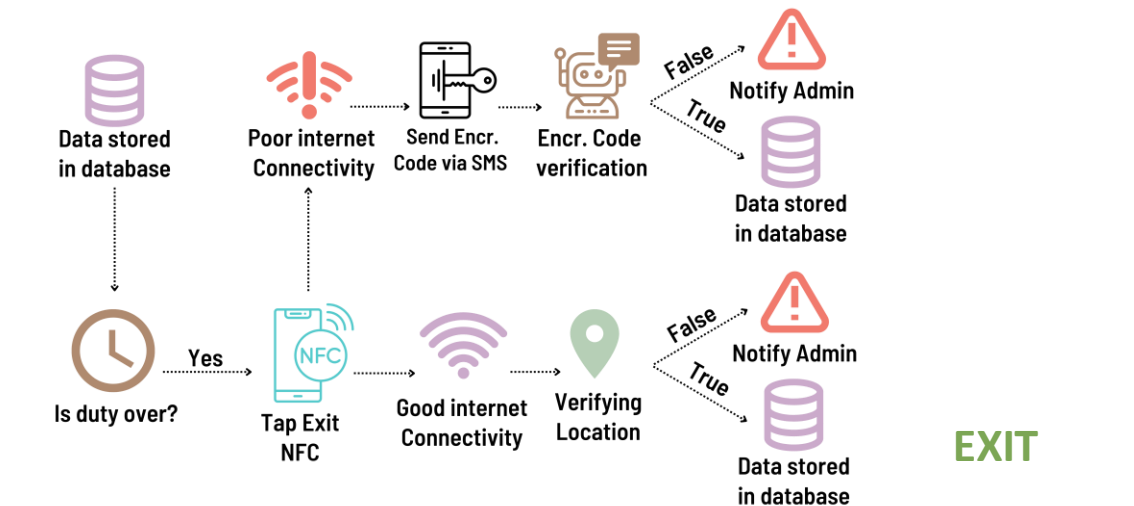
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ENTRY



DURING DUTY



EXIT

Use Cases

Security Personnel (USER)

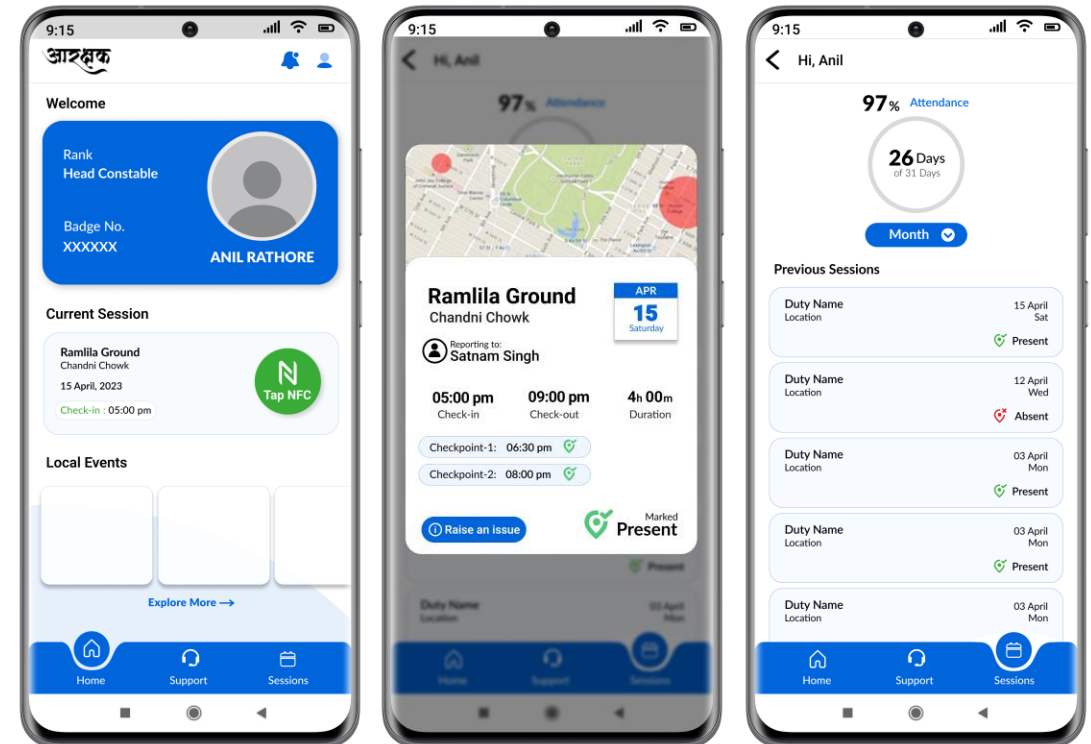
- **Fingerprint scan** will be used for authentication.
- Duty will begin by **tapping** device on **NFC Card**.
- While on duty, security personnel will **get alerts** at random intervals to **provide fingerprint scan**.
- **User's live location** will be **tracked** and **verified** simultaneously using the **Geofencing API**.
- In case of emergency, user can send **SOS** to nearby officers through the app.

ADMIN

- **Onboarding** process of new users will be **overseen by admin**.
- **Alert** will be sent to the **admin** if the personnel **goes out** of their **designated duty area**.
- Admin can **monitor ground-situation** through the app.
- The **previous record** of the on-duty **personnel** can be **accessed by the admin** as well.
- Admin can **notify personnel** about **prevailing situations**.

Show Stopper

- Simple onboarding process for new users.
- Ensures **presence of personnel** on the duty site.
- App is capable of running in **offline mode**.
- App is **secured** using **biometric authentication**.
- Can be used in various industries with minimal modifications.
- This prototype is in **testing mode** at Thapar University.



Team Details

SNo.	Name	Branch	Stream	Year	Position
1	Aarushi Abrol	B.E.	COE	3	Team Leader
2	Anshh Chaturvedi	B.E.	COE	3	Member
3	Arnav Barman	B.E.	COE	3	Member
4	Chinmay Agarwal	B.E.	ECE	3	Member
5	Prateek Rustagi	B.E.	COE	3	Member
6	Nipun Gandhi	B.E.	COE	3	Member

SNo.	Mentor Name	Category	Expertise	Domain Experience (in years)
1	Dr. Suresh Raikwar	Academic	Machine Statistical Learning	15
2	Dr. Prashant Rana	Academic	Machine Learning	10