A comprehensive tracking solution to ensure a safe and secure environment for a company’s personnel while on the move

#Product Engineering #Mobility #Business Processes Digitization

The Client

One of the world’s most reputed and sought after companies whose primary aim is to ensure a safe and secure workplace environment for employees belonging to its client organizations. The company is currently active in 90+ countries spread across 6 continents around the world.

The Challenge

The company wanted us to build a global employee tracking application to ensure the safety & security of their personnel which they could bring to market as a service intended for their global clientele.

The Solution

- We leveraged our extensive exposure to Product Engineering to build the solution

- Developed a multi-layered solution to track the global location of every employee (on- & off-premise)

- Mapped the location related data on a customized interface

- Solution included a combination of live tracking updates & real-time notifications

- A platform-agnostic solution responsively designed for web & mobile (iOS & Android) platforms

- Solution hosted on AWS cloud servers

- Developed backend of the application using spring framework
• Used REST controllers to expose information via API to outer world

• Service layer was developed to implement business rules and validation on incoming / outgoing data.

• ElastiCache was used to hold latest geo-location of all mobile users.

• Spring security used to manage AAA i.e. for user’s authentication, authorization and accounting.

• RDS (MySQL) was used as primary database.

• DynamoDB was used to store Location data of mobile users.

• JPA with Hibernate was used to communicate with the database hosted over cloud.

• SNS was used to send Push Notification to Android and iPhone Apps. SNS further leveraged capability of GCM and APNS to send push notifications to Android and iPhone respectively.

• Developed well-structured front-end application using AngularJS.

• Agile methodology (SCRUM) was used for application development.

• Used Jenkins for Continuous Integration to ensure the build is deployed only when it passes all tests.

• Complete application has over 70% test coverage of unit, functional and performances tests

• Scheduled jobs were created to verify the data on a pre-defined time interval and based upon certain business logic.
Key Benefits

- Comprehensive tracking solution to ensure employee safety & security
- On-premise & off-premise tracking with live & future updates
- On-spot SOS communication through mobile interface
- On-premise tracking using geo-fencing & RFID sensors
- Off-premise tracking using mobile GPS tracking
- Ensured complete safety & security of every employee globally

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