Industrial Internship Report on

"Woman safety"

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Executive Summary
This report provides details of the Industrial Internship provided by upskill Campus and The IoT Academy in collaboration with Industrial Partner UniConverge Technologies Pvt Ltd (UCT).
This internship was focused on a project/problem statement provided by UCT. We had to finish the project including the report in 6 weeks' time.
My project was (Tell about ur Project)
This internship gave me a very good opportunity to get exposure to Industrial problems and design/implement solution for that. It was an overall great experience to have this internship.

[Your College Logo]

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1 Preface

Summary of the whole 6 weeks' work.

About need of relevant Internship in career development.

Brief about Your project/problem statement.

Opportunity given by USC/UCT.

How Program was planned

Your Learnings and overall experience.

Thank to all (with names), who have helped you directly or indirectly.

Your message to your juniors and peers.

2   Introduction

2.1   About UniConverge Technologies Pvt Ltd

A company established in 2013 and working in Digital Transformation domain and providing Industrial solutions with prime focus on sustainability and RoI.

For developing its products and solutions it is leveraging various **Cutting Edge Technologies e.g. Internet of Things (IoT), Cyber Security, Cloud computing (AWS, Azure), Machine Learning, Communication Technologies (4G/5G/LoRaWAN), Java Full Stack, Python, Front end** etc.

i.   UCT IoT Platform ( )

UCT Insight is an IOT platform designed for quick deployment of IOT applications on the same time providing valuable "insight" for your process/business. It has been built in Java for backend and ReactJS for Front end. It has support for MySQL and various NoSql Databases.

- It enables device connectivity via industry standard IoT protocols - MQTT, CoAP, HTTP, Modbus TCP, OPC UA

- It supports both cloud and on-premises deployments.

It has features to

• Build Your own dashboard

• Analytics and Reporting

• Alert and Notification

• Integration with third party application(Power BI, SAP, ERP)

• Rule Engine
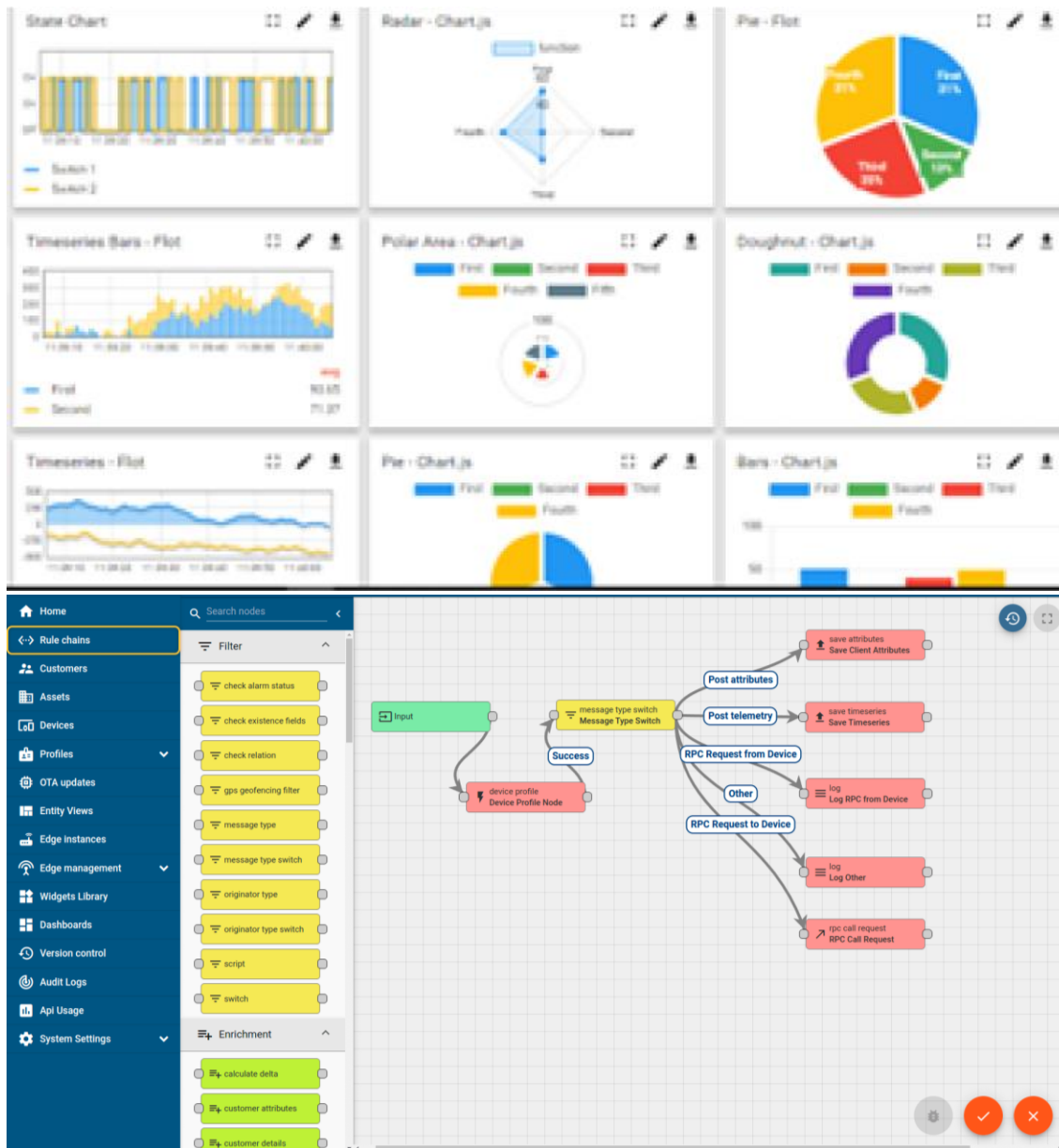
ii. **Smart Factory Platform (** FACT🔍RY WATCH **)**

Factory watch is a platform for smart factory needs.

It provides Users/ Factory

- with a scalable solution for their Production and asset monitoring

- OEE and predictive maintenance solution scaling up to digital twin for your assets.

- to unleased the true potential of the data that their machines are generating and helps to identify the KPIs and also improve them.

- A modular architecture that allows users to choose the service that they what to start and then can scale to more complex solutions as per their demands.

Its unique SaaS model helps users to save time, cost and money.

Machine	Operator	Work Order ID	Job ID	Job Performance	Job Progress		Output		Rejection	Time (mins)				Job Status	End Customer
					Start Time	End Time	Planned	Actual		Setup	Pred	Downtime	Idle		
CNC_S7_81	Operator 1	WO0405200001	4168	58%	10:30 AM		55	41	0	80	215	0	45	In Progress	i
CNC_S7_81	Operator 1	WO0405200001	4168	58%	10:30 AM		55	41	0	80	215	0	45	In Progress	i

iii. **LoRaWAN**™ based Solution

UCT is one of the early adopters of LoRAWAN teschnology and providing solution in Agritech, Smart cities, Industrial Monitoring, Smart Street Light, Smart Water/ Gas/ Electricity metering solutions etc.

iv.   Predictive Maintenance

UCT is providing Industrial Machine health monitoring and Predictive maintenance solution leveraging Embedded system, Industrial IoT and Machine Learning Technologies by finding Remaining useful life time of various Machines used in production process.
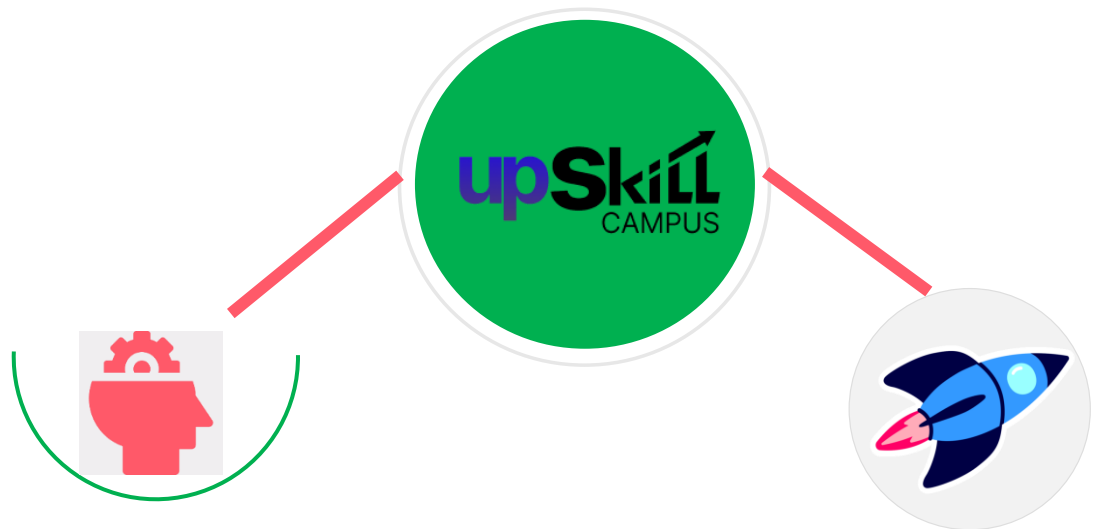

2.2   About upskill Campus (USC)

upskill Campus along with The IoT Academy and in association with Uniconverge technologies has facilitated the smooth execution of the complete internship process.

USC is a career development platform that delivers **personalized executive coaching** in a more affordable, scalable and measurable way.
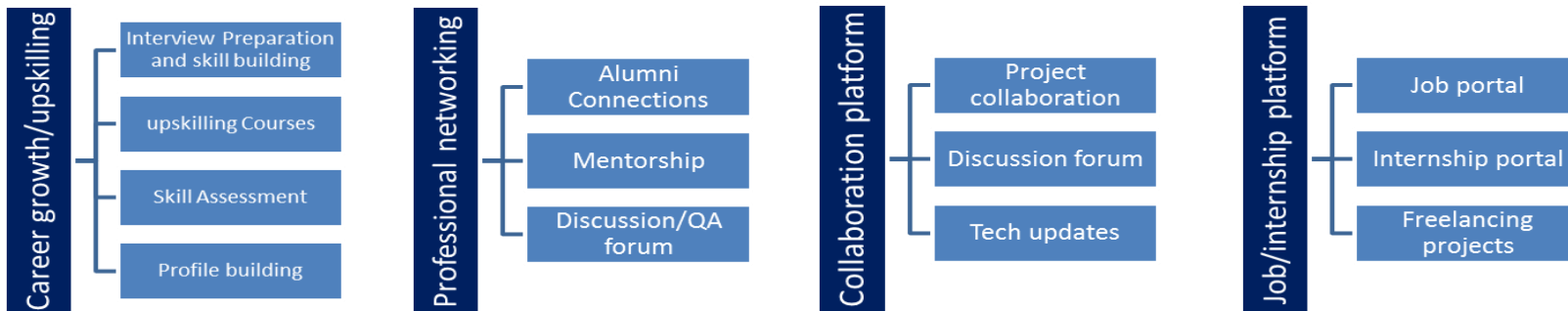
Seeing need of upskilling in self paced manner along-with additional support services e.g. Internship, projects, interaction with Industry experts, Career growth Services

upSkill Campus aiming to upskill 1 million learners in next 5 year

https://www.upskillcampus.com/

Career growth/upskilling
- Interview Preparation and skill building
- upskilling Courses
- Skill Assessment
- Profile building

Professional networking
- Alumni Connections
- Mentorship
- Discussion/QA forum

Collaboration platform
- Project collaboration
- Discussion forum
- Tech updates

Job/internship platform
- Job portal
- Internship portal
- Freelancing projects

2.3 The IoT Academy

The IoT academy is EdTech Division of UCT that is running long executive certification programs in collaboration with EICT Academy, IITK, IITR and IITG in multiple domains.

2.4 Objectives of this Internship program

The objective for this internship program was to

☛ get practical experience of working in the industry.

☛ to solve real world problems.

☛ to have improved job prospects.

☛ to have Improved understanding of our field and its applications.

☛ to have Personal growth like better communication and problem solving.

2.5 Reference

[1] https://www.geeksforgeeks.org/project-idea-women-safety/

[2] https://projectworlds.in/android-projects-with-source-code/women-safety-app-android-project-source-code/

2.6 Glossary

Terms	Acronym

3 Problem Statement

The problem statement for a woman safety Android app would revolve around addressing the prevalent issue of ensuring the safety and security of women in various situations, especially when they are alone or feel vulnerable. The app should aim to provide features that empower women to quickly seek assistance, alert trusted contacts or authorities in case of emergencies, access relevant resources such as nearby safe locations or support services, and offer tools for proactive safety measures like location tracking and real-time monitoring. It should also focus on fostering a sense of community and solidarity among women by facilitating communication and sharing of safety tips and information. Ultimately, the app should strive to contribute to creating a safer environment for women, both online and offline, by leveraging the capabilities of modern technology.

4 Existing and Proposed solution

What is your proposed solution?

The proposed solution for a woman safety Android app involves developing a comprehensive platform that combines essential safety features with user-friendly interface and robust functionality. This includes functionalities such as emergency SOS alerts, real-time location tracking, trusted contacts integration, access to nearby safe zones and support services, as well as educational resources on self-defense and risk mitigation. The app will prioritize user privacy and data security, with options for discreet usage and secure communication channels. Additionally, it will incorporate community-driven elements like forums for sharing safety tips and experiences, fostering a supportive network for women. Through continuous updates and user feedback integration, the app will evolve to adapt to the changing needs and technological advancements, aiming to provide a reliable and effective tool for enhancing women's safety and well-being.

What value addition are you planning?

In the woman safety Android app project, the key value addition lies in its comprehensive approach towards addressing the multifaceted aspects of women's safety. By integrating advanced features such as real-time location tracking, emergency SOS alerts, and access to nearby safe zones and support services, the app aims to offer immediate assistance and support to women in distress. Furthermore, by fostering a sense of community through forums and educational resources, it not only empowers individual users but also contributes to creating a culture of solidarity and awareness around women's safety issues. With a focus on user-centric design and continuous improvement based on user feedback, the app seeks to provide a reliable and indispensable tool for enhancing women's safety and well-being in various contexts.

4.1 Code submission (Github link)

https://github.com/Dhanu361/android-woman.git

4.2 Report submission (Github link) : first make placeholder, copy the link.

5 Proposed Design/ Model

Given more details about design flow of your solution. This is applicable for all domains. DS/ML Students can cover it after they have their algorithm implementation. There is always a start, intermediate stages and then final outcome.
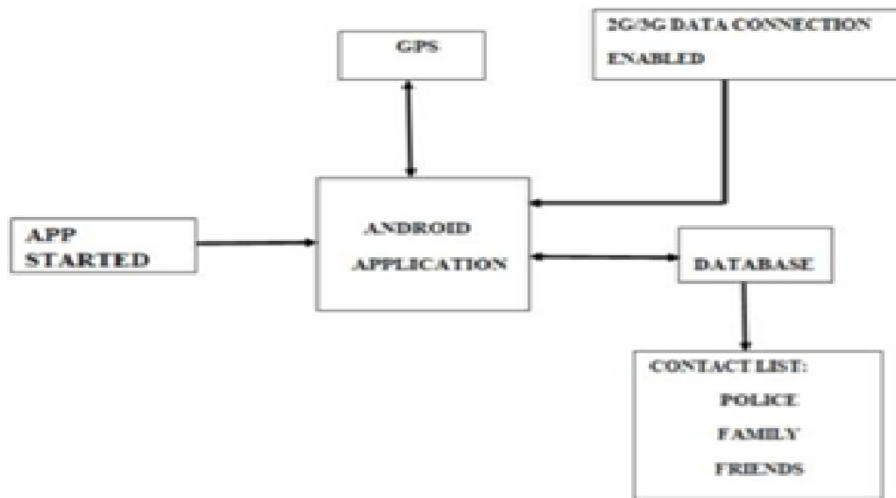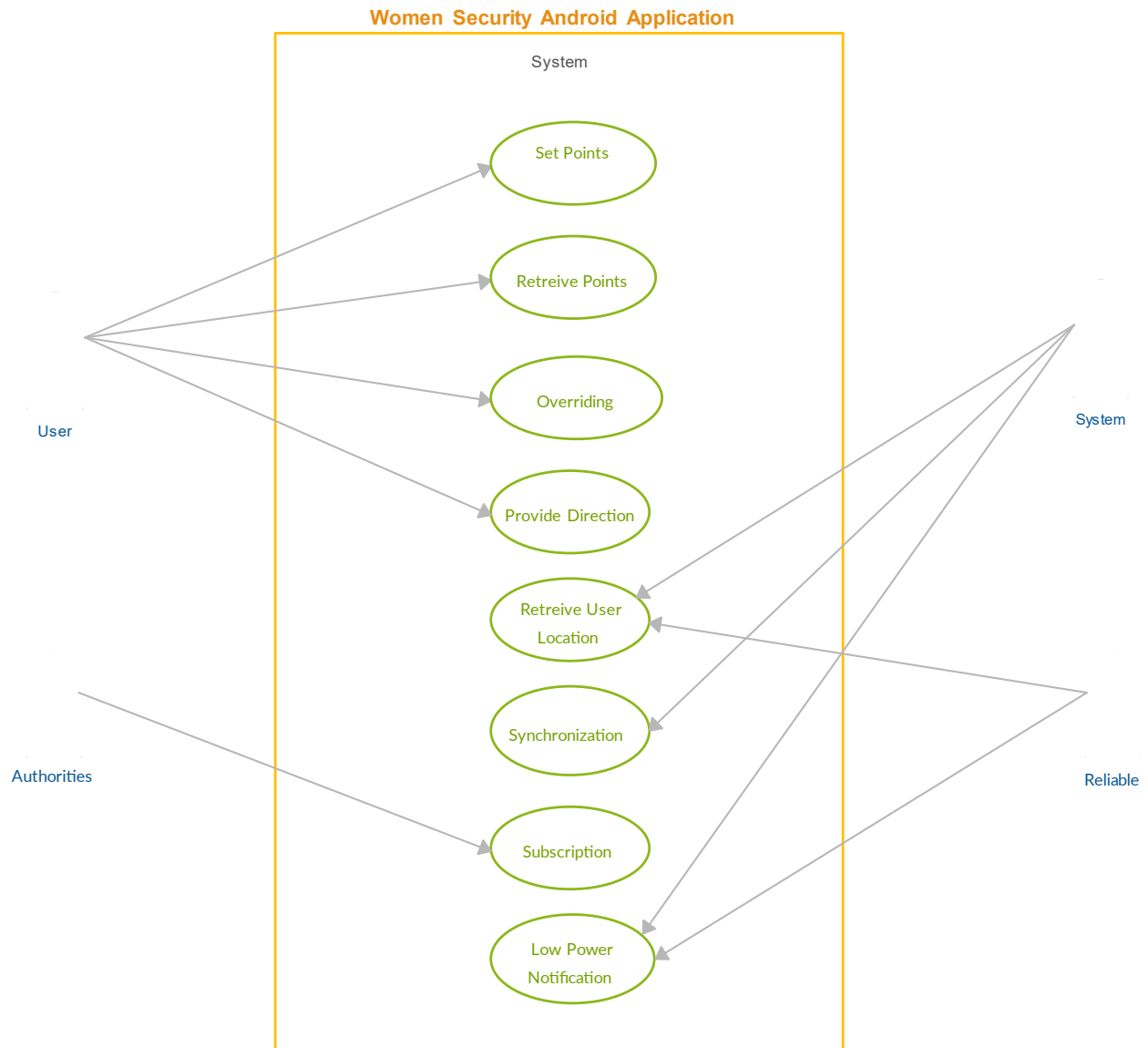
5.1 High Level Diagram (if applicable)

Figure 1: HIGH LEVEL DIAGRAM OF THE SYSTEM

5.2 Low Level Diagram (if applicable)

Women Security Android Application

5.3   Interfaces (if applicable)

6 Performance Test

This is very important part and defines why this work is meant of Real industries, instead of being just academic project.

Here we need to first find the constraints.

In the performance test phase of the woman safety Android app project, rigorous testing procedures will be employed to evaluate the app's responsiveness, stability, and efficiency under various conditions. This will involve simulated scenarios to assess how the app performs during emergency situations, including stress testing to gauge its ability to handle high user loads and concurrent requests. Additionally, performance metrics such as response times, resource utilization, and battery consumption will be closely monitored to ensure optimal performance without compromising the device's capabilities. Through systematic testing and optimization, the goal is to deliver a seamless and reliable user experience, particularly in critical moments where the app's performance can make a significant difference in ensuring women's safety.

6.1 Test Plan/ Test Cases

The test plan for the woman safety Android app project will encompass a comprehensive approach to validate its functionality, usability, and reliability. Test cases will be designed to cover various scenarios, including emergency situations, user interactions, network connectivity, and integration with external services. Specific test scenarios will include triggering SOS alerts, verifying real-time location tracking accuracy, testing the responsiveness of emergency contact features, and assessing the app's performance across different devices and network conditions. Additionally, usability testing will focus on evaluating the app's interface intuitiveness and accessibility, ensuring that it remains user-friendly and effective in high-stress situations. Through thorough testing and iteration, the aim is to deliver a robust and dependable solution that enhances women's safety and confidence in utilizing the app.

6.2   Test Procedure

The test procedure for the woman safety Android app project will involve a systematic approach to execute the defined test cases and verify the app's functionality. This will begin with setting up test environments representative of real-world usage scenarios, including various Android device models and network conditions. Test cases will then be executed step-by-step, with detailed documentation of expected outcomes and actual results. Emphasis will be placed on replicating emergency situations and validating the app's response accuracy and speed. Additionally, usability testing will involve real users navigating the app to identify any potential usability issues or areas for improvement. Continuous monitoring and feedback integration will ensure that any identified issues are promptly addressed, leading to a refined and reliable app that enhances women's safety and confidence in its use.

7   My learnings

In the woman safety Android app project, my learning has been multifaceted and enriching. Firstly, I gained a deep understanding of the nuanced challenges and considerations involved in developing technology solutions for addressing social issues, particularly women's safety. This project highlighted the importance of empathy-driven design, where user needs and experiences take center stage in shaping the app's functionalities and features. Additionally, I honed my skills in mobile app development, including proficiency in Android app development tools and frameworks. From designing intuitive user interfaces to implementing complex functionalities such as real-time location tracking and emergency alert systems, I acquired practical insights into the intricacies of building robust and reliable mobile applications. Moreover, collaborating with diverse stakeholders, including women's safety advocates, UX designers, and software testers, provided valuable opportunities for interdisciplinary learning and holistic problem-solving approaches. Through this project, I not only expanded my technical skill set but also cultivated a deeper appreciation for the potential of technology to make meaningful contributions towards creating safer and more inclusive communities.

8   Future work scope

In the future, the woman safety Android app project could explore several avenues for further development and enhancement. Firstly, incorporating artificial intelligence (AI) and machine learning (ML) algorithms could enable the app to analyze user behavior patterns and provide personalized safety recommendations or proactive alerts. Moreover, integration with smart wearable devices or IoT (Internet of Things) sensors could offer additional layers of safety monitoring and emergency response capabilities. Enhancing the app's community features by facilitating real-time communication and collaboration among users, such as peer-to-peer assistance networks or crowdsourced safety information, could further foster a supportive and empowered community. Additionally, expanding the app's reach through localization and multilingual support would ensure accessibility to a wider audience, including women in diverse cultural and linguistic backgrounds. Lastly, continuous refinement through user feedback and data-driven insights would be crucial for adapting to evolving user needs and technological advancements, ensuring the app remains relevant and effective in improving women's safety and well-being.