Presented By Group 2

Tackling safety concerns for women, children, and mentally challenged individuals; The Role of GPS-Based Watches and Necklaces

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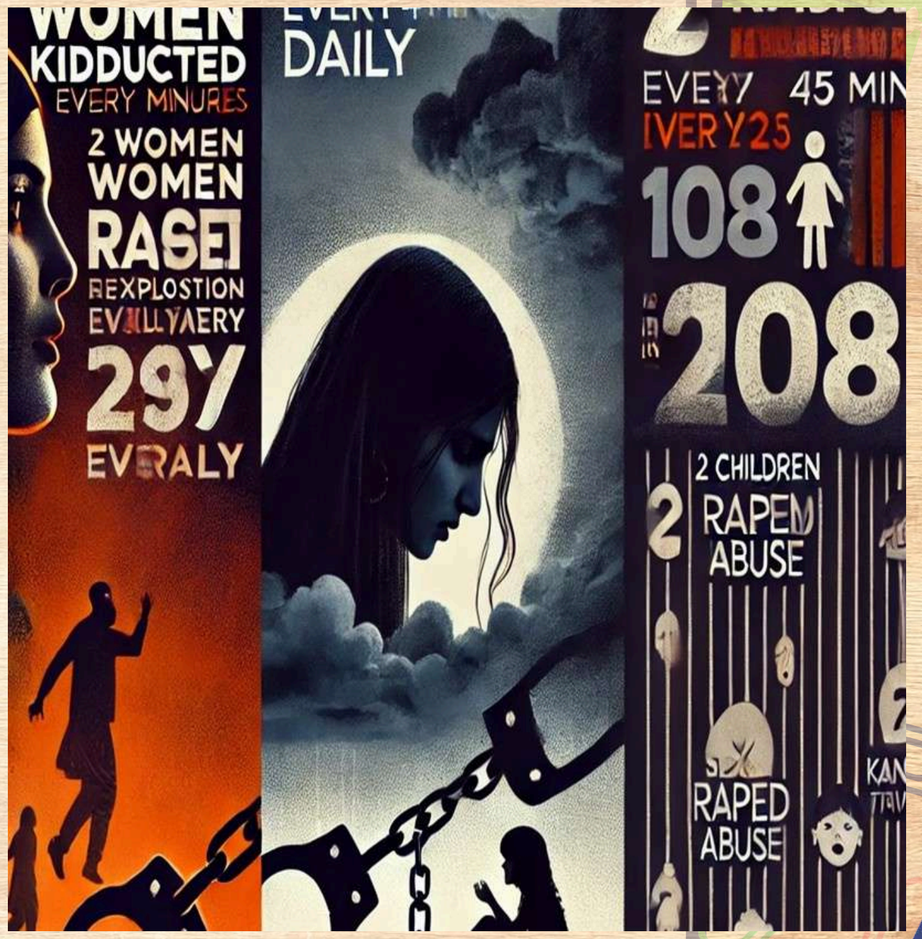
Statistical Analysis

Abduction Cases: In 2023, Punjab reported over 2,500 child abductions.
Violence Against Women: In 2023, there were 6,624 recorded cases of rape.

Vulnerable Populations: Mentally Challenged individuals face a 30% higher risk of exploitation



PROBLEM IMPACT

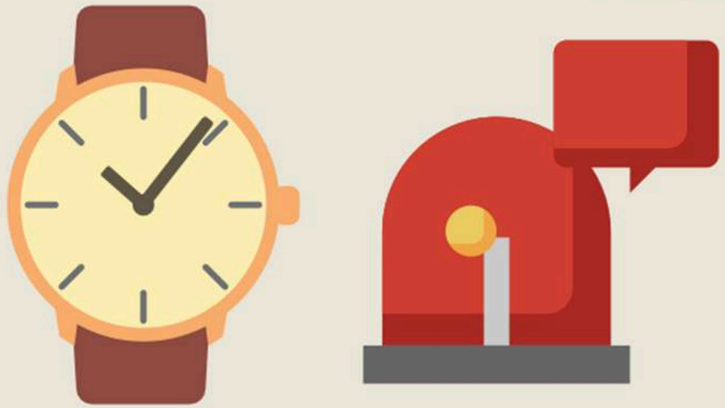
Impact on Victims:

- Anxiety and Fear
- Physical and Emotional Trauma

Call to Action:

Addressing these root causes requires innovative solutions like GPS-based devices for real-time protection and empowerment

GPS-BASED WRISTWATCH: A LIFELINE TO SAFETY



KEY FEATURES:

- Discreet, stylish design One-touch emergency alerts.
- Real-time location sharing & geofencing.
- Family connection with instant notification

EMPOWERING SAFETY & CONFIDENCE

WHY THIS DEVICE?

- Immediate help with a single button press.
- Continuous monitoring for peace of mind.
- Reliable, Secure GPS technology.

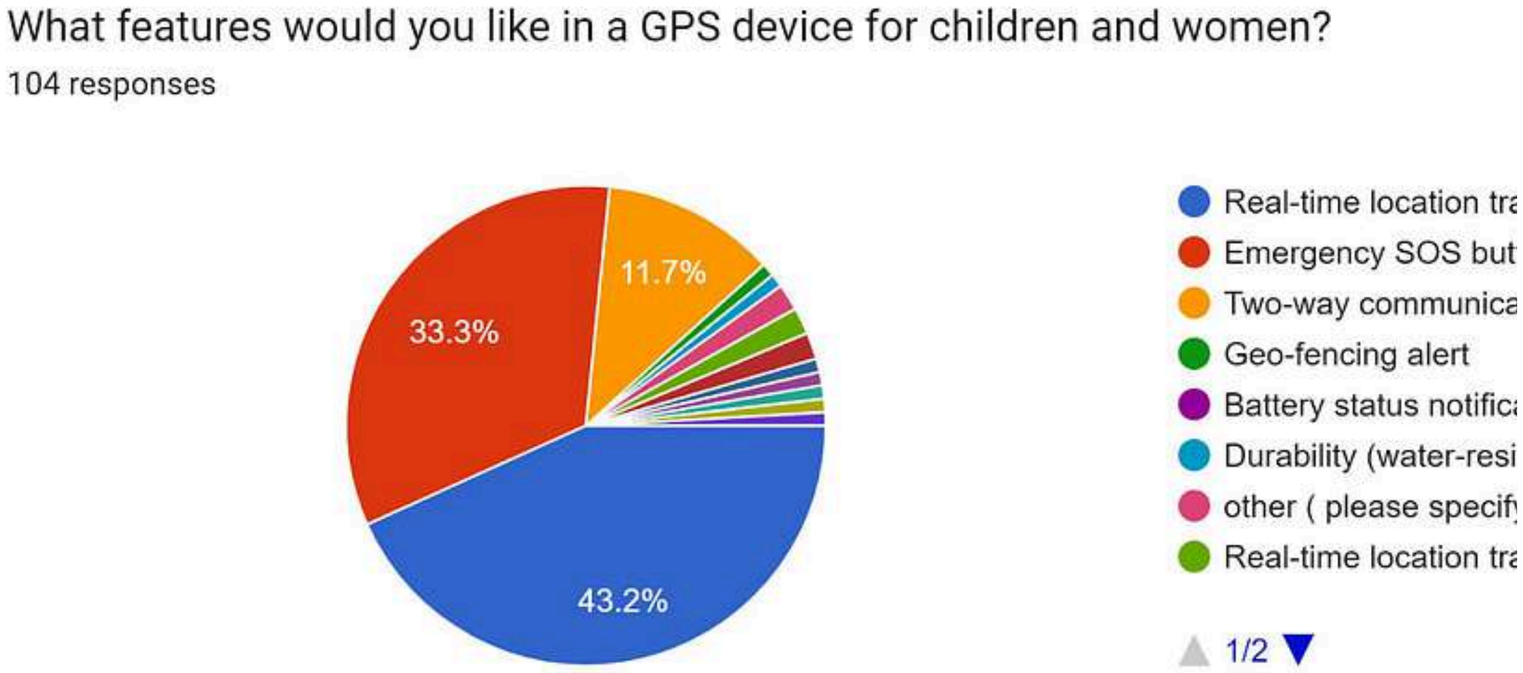
IMPACT

- Increases confidence
- Promotes personal Safety
- Empower women and children in any vulnerable situation.

Current Approaches to Tackling Safety Concerns

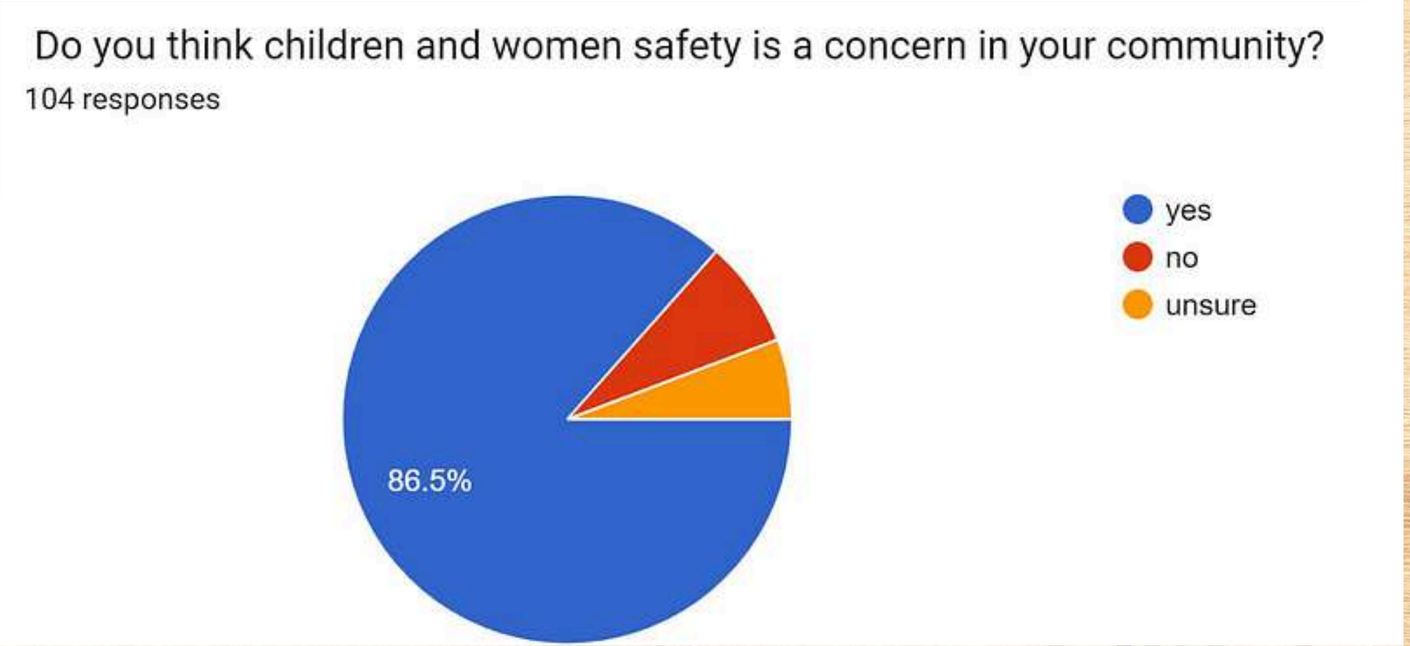
Comparative Overview

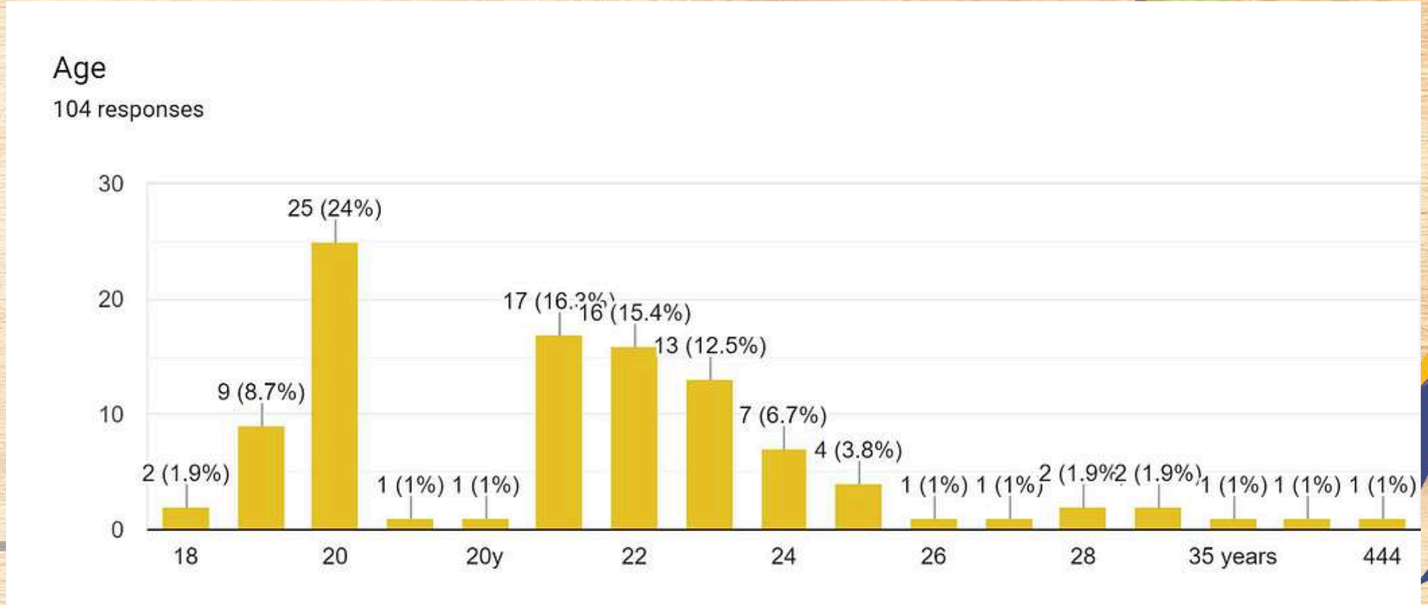
Next-Gen GPS Solutions:



Target Audience

1. Children (ages 7–15)
2. Women (ages 7–35)
3. People with Mental disabilities or special needs





Level of Understanding

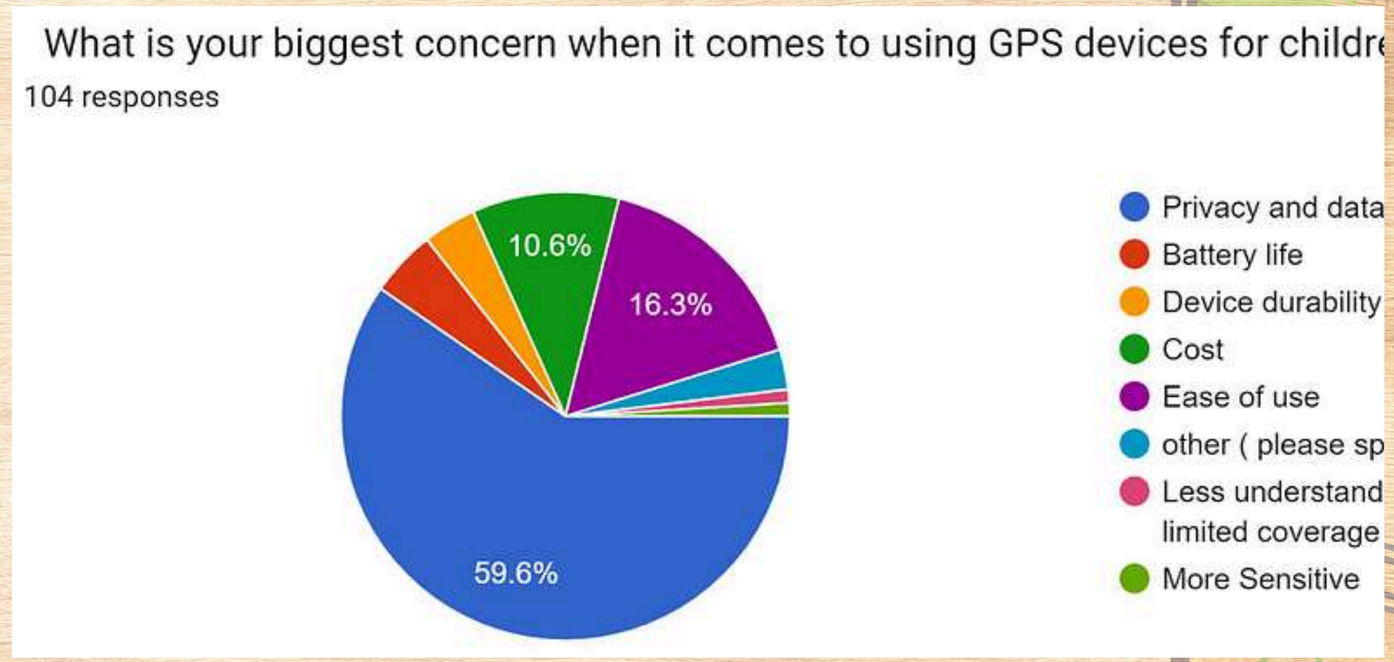
1 . High Safety Awareness

2.Psychological impact

3.Systematic Failure

4.Tech Familiarity

5.Need for Education



PROCESS

Understanding the Issue:
Reviewed public safety reports in Pakistan. Identified key challenges: harassment, abduction risks, and infrastructure gaps

Survey Development:
Created a detailed survey to gather community insights In public spaces and views on GP based solutions. Focused on women's & children's safety

Community Feedback
Distributed surveys via Google Forms to a diverse audience across regions (Islamabad, Lahore, Karachi, etc.).
Collected valuable safety concerns and preferences for solutions

RESEARCH TECHNIQUES

Group Discussions

In-Depth Interviews

Surveys

KEY TAKEAWAYS FROM THE RESEARCH

Strong Need for Technological Solutions

Overwhelming demand for features like real-time location sharing and emergency service access.

Privacy Concerns

Participants emphasized the need for data privacy, particularly around location info.

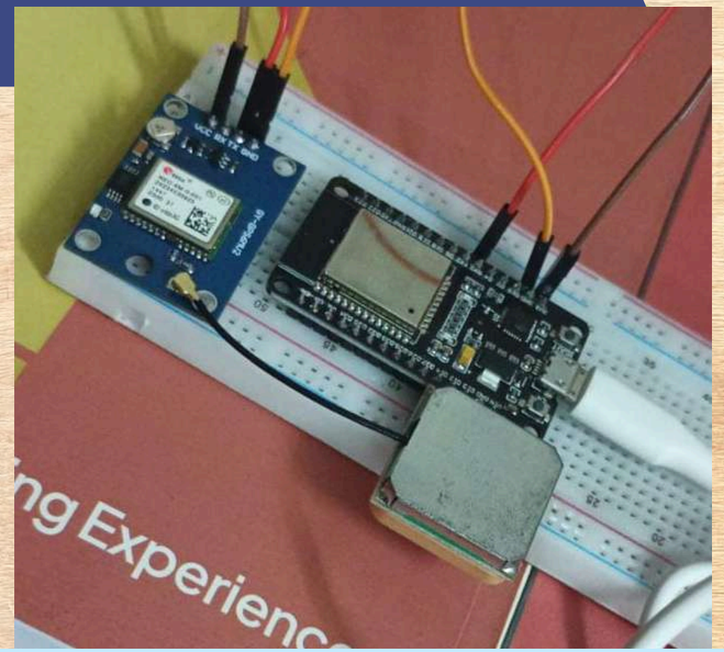
Preference for Discreet Design

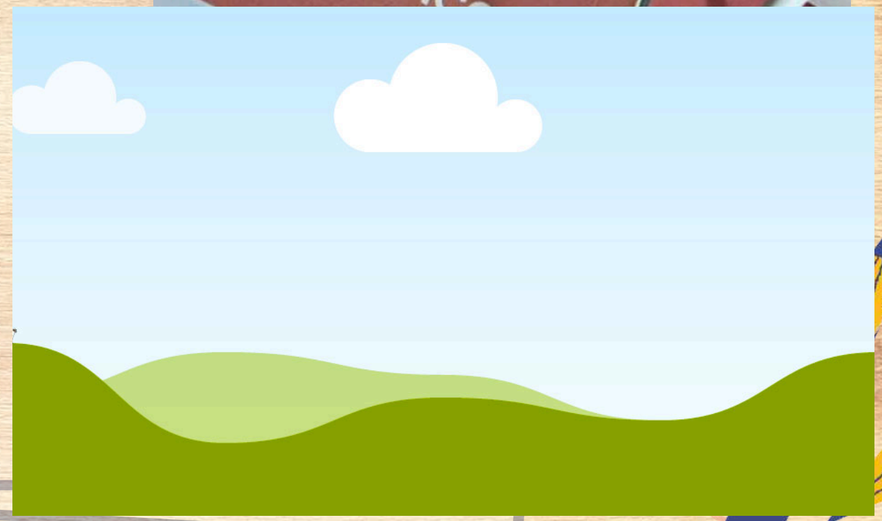
Strong preference for small, wearable devices that blend into daily life.

Plan of Action- GPS Prototype Development

Hardware Cost

- GPS Module: SIM808 (1000 PKR).
- Microcontroller: ESP32 (1300 PKR).
- GSM Module: SIM800L (3600 PKR).
- Battery: 9volt battery (150 PKR).
- Enclosure: 3D printed/plastic (~300-500 PKR).



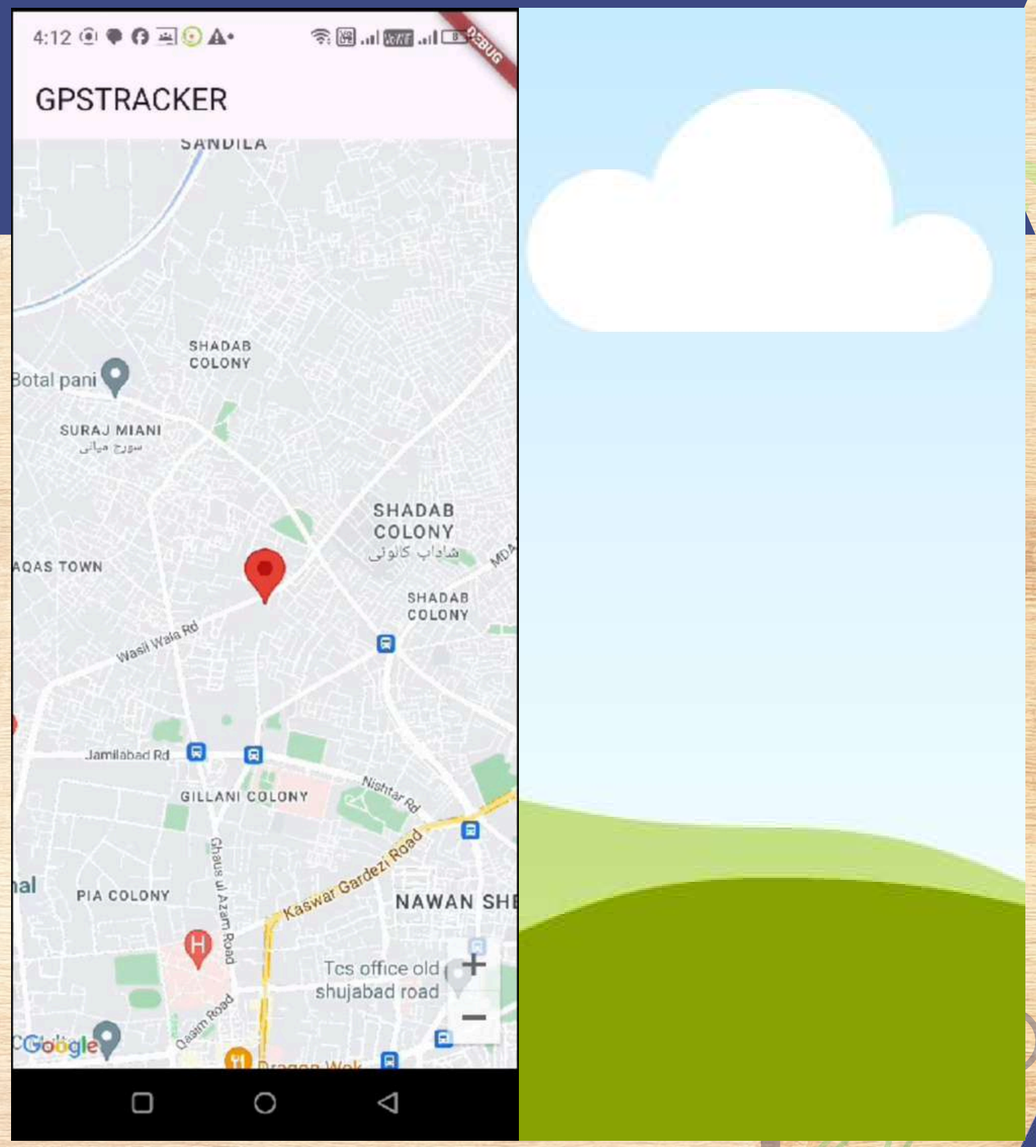


Total Device Cost= 7000

Self Funded Project; Each Member contributed PKR 2000 for this project

Software Development

- Received assistance from my cousin Hamza, a BS Computer Science student.
- A one-time payment of PKR 5000 was made to the developer to cover logistics costs.



Pilot Testing & Feedback Summary

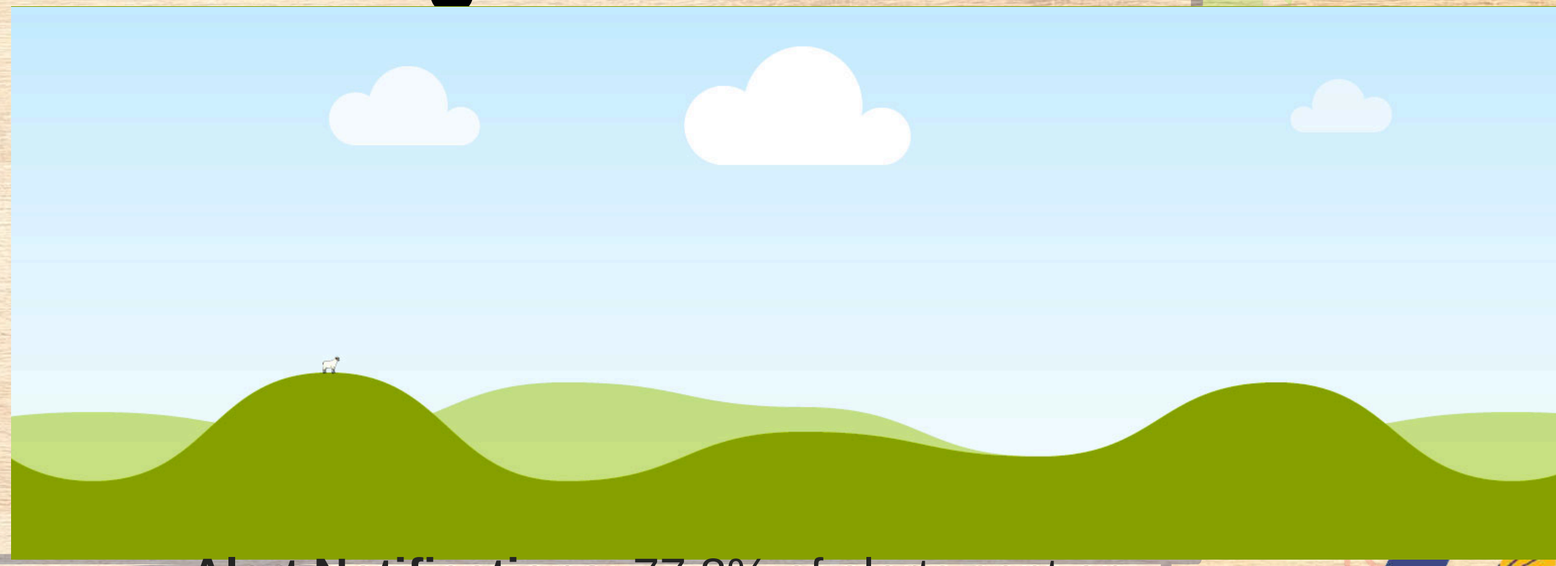
Pilot Testing

- Tested with friends, family, and research participants.
- Feedback on usability, reliability, and design.

Participants: 10 users (77.8% female, 22.2% male).

Feedback Summary

- Ease of Use GPS
- Accuracy Design
- Battery Life



- **Alert Notifications**: 77.8% of alerts sent on

Impac
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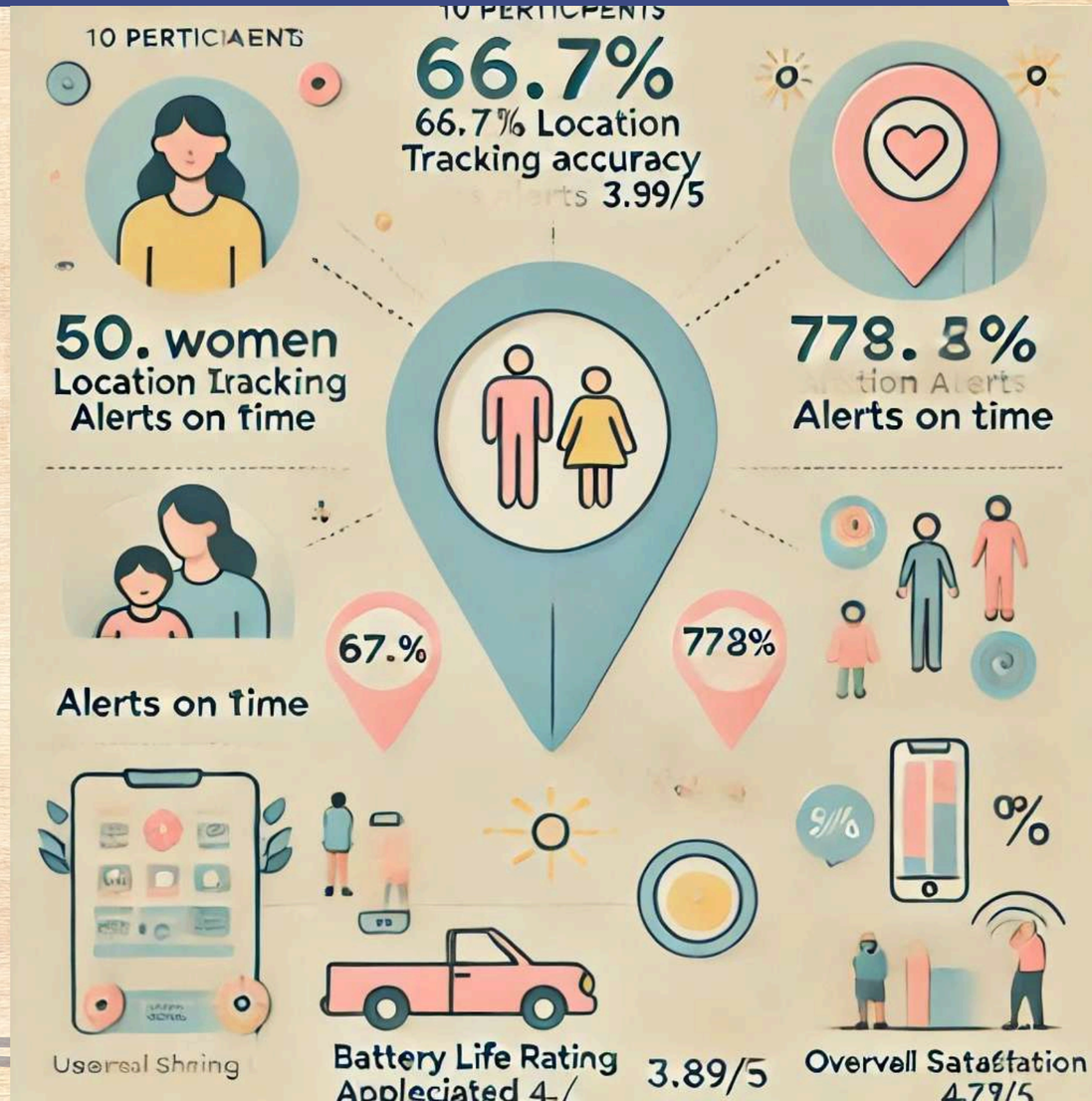
Quantitative Impact

- **Participants**: 10 users (77.8% female, 22.2% male).
- **Real-time Tracking**: 66.7% accuracy in location tracking.

Alert Notifications: 77.8% of alerts sent on time.
Battery Life: Average rating of 3.89 out of 5.
Overall Performance: Rating of 4.78 out of 5.



Qualitative Impact

- **User Demographics**: 55.6% women, 22.2% children, 22.2% caregivers.
- **Peace of Mind**.
- **Increased Awareness**
- **User Convenience**

Measuring the Impact

- **Key Metrics:**
- Success of task division and participation, with emphasis on effective communication and group dynamics.
- Meeting deadlines and overall project completion rates.
- Audience engagement through digital and face-to-face outreach.
- **Gaps:**
- Limited face-to-face interactions reduced deeper engagement with some audiences (especially non-digital users).

Sustainable Approaches

- **Long-term Sustainability:**
- Ethical considerations around privacy and GPS data were highlighted.
- Importance of including broader geographical scope for better reach.
- Refined public awareness and affordability of devices.
- Building trust through ethical planning and addressing privacy risks early.

Future Steps

- **Next Actions:**
- Prioritize direct engagement with underrepresented groups (like mentally challenged individuals).
- Implementing early-stage testing to reduce delays.
- Using project management tools for task tracking and improving timelines.
- Regular check-ins and better contingency planning for unforeseen leadership changes.

Launch Plan

Development Phase (Sept - Oct 2024)

Testing (3rd wee Oct 2024)

Marketing & Pre-Launch (Dec 2024)

Full Launch (Jar 2025)

Use of Social Media

Instagram & TikTok

Showcase style with influencers.

YouTube & Facebook

Tutorials, testimonials, and safety stories.

Hashtags & Challenges

Viral campaigns like #StaySafeSmart to promote community awareness.

Project Execution Overview

Timeline:

Start Date: Sept 15 - Project topic selected.

Funding:

Initial outreach to companies for sponsorship was unsuccessful.

App Development:

The initial cost for app development was estimated at 1 lakh rupees, but Ahmad's cousin volunteered

KEY MILESTONES ACHIEVED

- App Development
- Hardware Disruptions
- Diverse Skillsets
- Not a concept, Practical Soultion.

CORE CHALLENGES

- Geographical Barriers
- Funding Constrains Supply
- Chain Disruptions




Thank You!