



# HackOrbit 2025

## MindFlaires

# THEME & PROBLEM STATEMENT

## Raksha - AI Guardian for Women's Safety

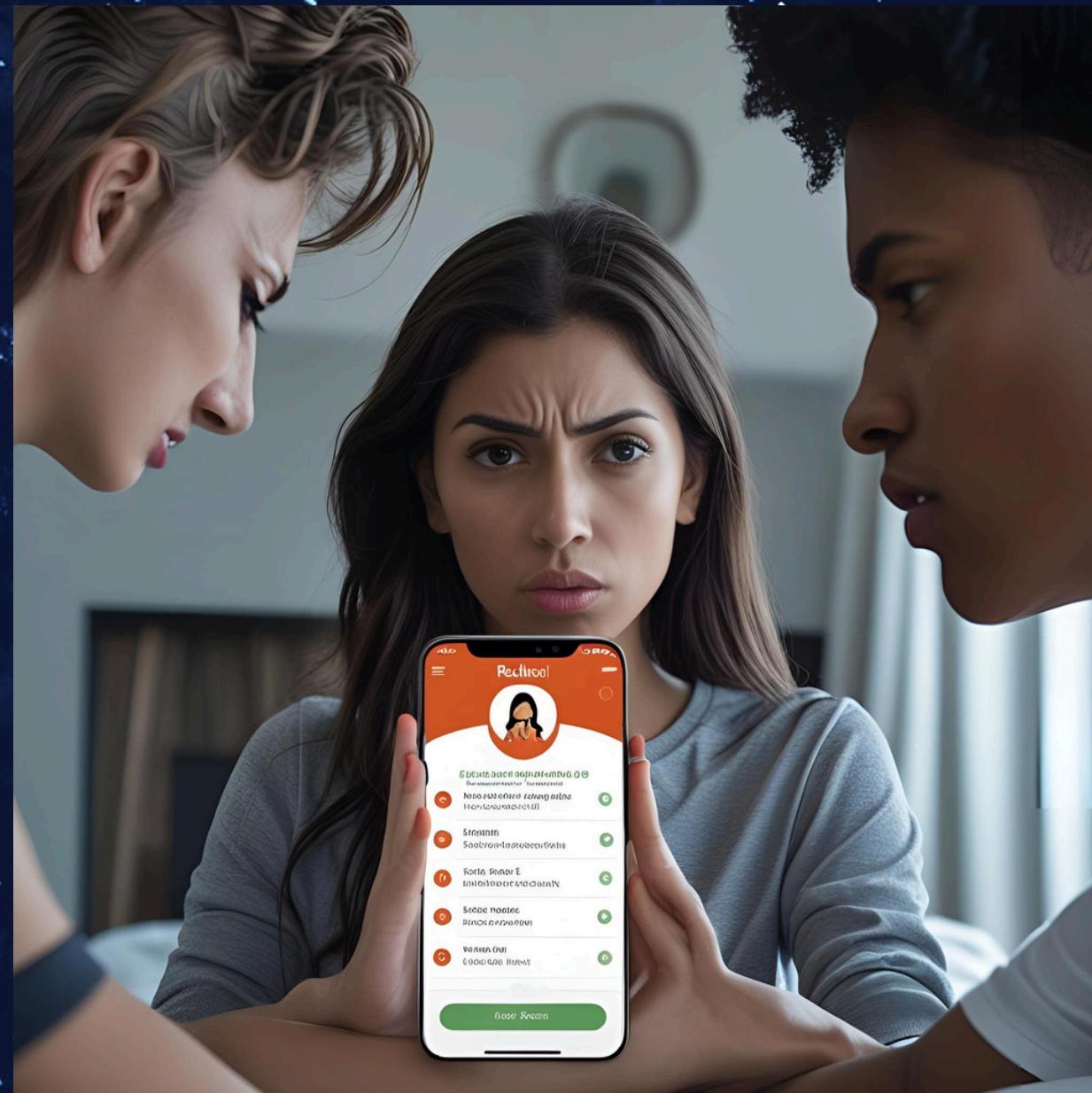
### Themes

- Artificial Intelligence and Machine Learning
- Open Innovation
- Women Safety (Social Impact)

### Problem Statement

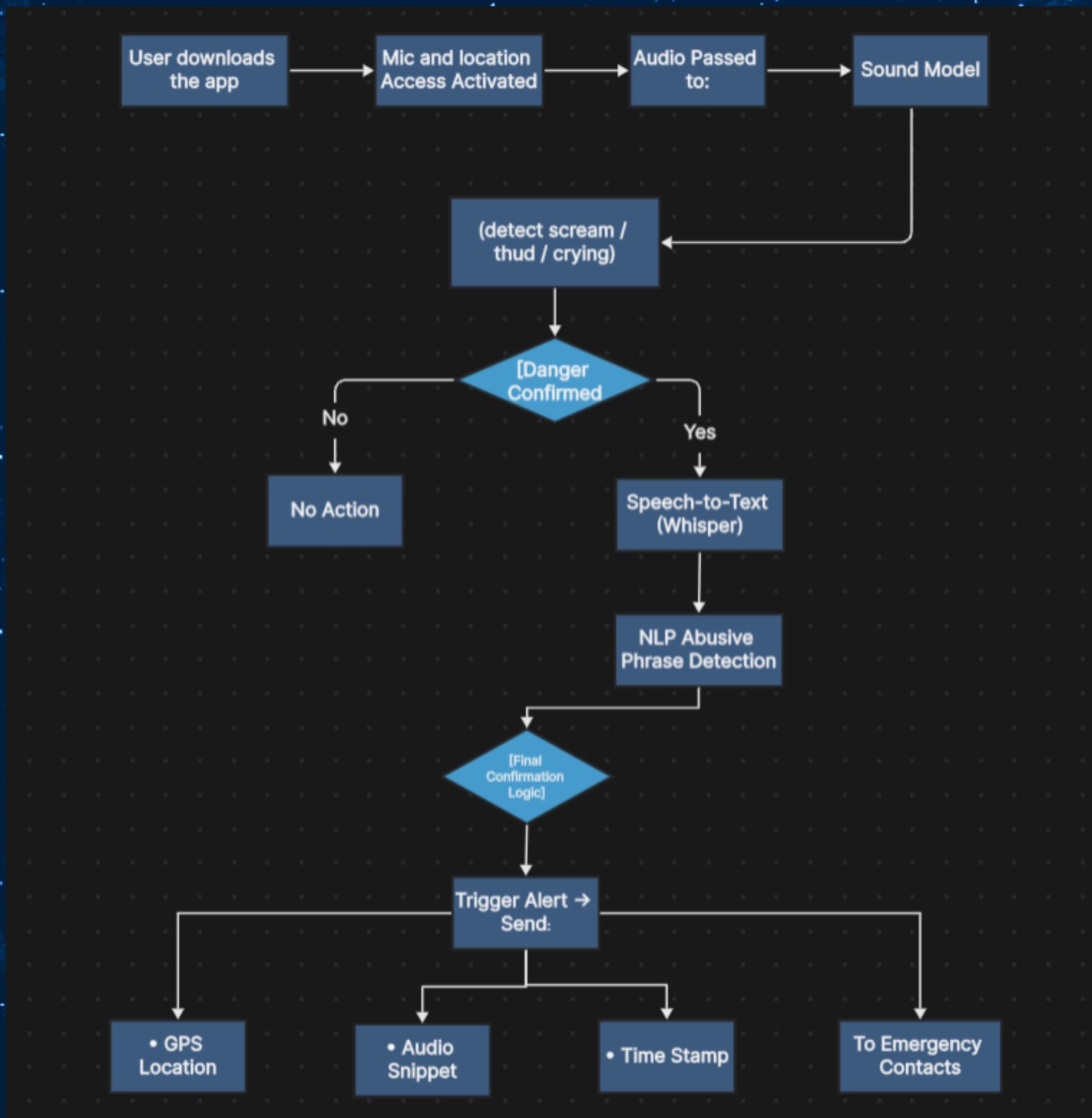
In India, on average, 86 rape cases are registered daily. A lot of women face threats, abuse, and even rape every day. In such an emergency, what can a woman do? Does a solution exist? There are several safety apps available, but in such a situation, will a woman be able to press any button for help, or will she try to rescue herself? Is there a solution that can directly detect such emergencies and call for help without any manual intervention?

# PROPOSED SOLUTION



Raksha is an AI-powered safety app that passively listens for distress signals like screams, aggressive language, or signs of physical abuse using on-device AI models. If a potential threat is detected, the app silently triggers an SOS alert, sends live location, and optionally records a 50-60 second encrypted audio clip as evidence – all without requiring the user to press a button.

# FLOWCHART / DIAGRAM



# FLOWCHART / DIAGRAM

1. Guardian Mode is turned on by the user (toggle switch).
2. The app listens passively using the mic, without recording continuously.
3. Incoming audio is passed to an AI sound classifier (YAMNet/Teachable Machine) that detects screams, crashes, crying, etc.
4. If danger is suspected, the audio is converted to text using Whisper or Google STT.
5. The transcribed text is passed to an NLP model or keyword engine to detect abusive or threatening language (supports Hindi/Marathi/English).
6. If both scream + abusive speech are detected, or repeated patterns match danger:
7. An SOS alert is triggered.
8. GPS + timestamp + 50 sec audio is sent to emergency contacts.

# FEATURES AND NOVELTY

 <b>AI Sound Detection</b>	Detects distress sounds like screams or crashes using on-device ML
 <b>Multilingual NLP</b>	Detects abuse in English + Hindi/Marathi using translation and keyword NLP
 <b>Silent Auto SOS</b>	Sends emergency alerts without needing user input
 <b>Location Sharing</b>	Sends real-time GPS to emergency contacts
 <b>Privacy Safe</b>	No continuous recording; only audio snippet is saved when real threat is detected
 <b>Stealth Mode</b>	Can be disguised / minimized for safety
 <b>Offline-first</b>	Works offline; sends alerts when connection resumes

# DRAWBACK AND SHOWSTOPPERS

Challenge	Mitigation
✗ False positives (e.g., kids playing)	Use <b>multi-layer detection</b> (scream + NLP + repetition)
✗ Local language NLP complexity	Use <b>translation + regex</b> for MVP; expand with AI4Bharat later.
✗ Battery drain due to passive mic	Use <b>intermittent wake cycles</b> and on-device lightweight models
✗ Privacy/legal concerns	No data saved unless threat confirmed, encrypted local storage, opt-in permission with
✗ Network issue during SOS	Queue alert offline; send when internet is back

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thank  
you