

# WOMEN'S SECURITY SOLUTION



Current scenario from the media shows that women are facing lot of troubles and they are not secure in untimed situation. Women are doing work in all shifts. Every day women and young girls are being assaulted, molested, and raped in streets, public transport, public places.



To overcome these types of women security issues and ensures their safety some mechanisms are needed in the society. This PPT illustrates how an IOT device be used to provide women with safety solutions.

# NOVELTY

Although there are some web or mobile applications available for women's safety, but the new features that can be added in the existing IOT devices are listed below.

- The device will not only alert the guardians and police stations, but also the nearby people who come in the circle of radius 0.5 km/1.0 km centered at the lady. As it may possible that the nearest police station is a bit far from the place where the crime is taking place. But through this way people who are much near to the lady's location may reach her in less time. Even a moving car can get the alerts via the app if it comes in the particular circle centered lady. It could be accessed by wireless technologies like GPS, GSM, GPRS, Wi-Fi etc.
- Sometimes the victim is not in the state to activate the advice on her own, in such situation , the registered contacts would get an option to activate it on her behalf.



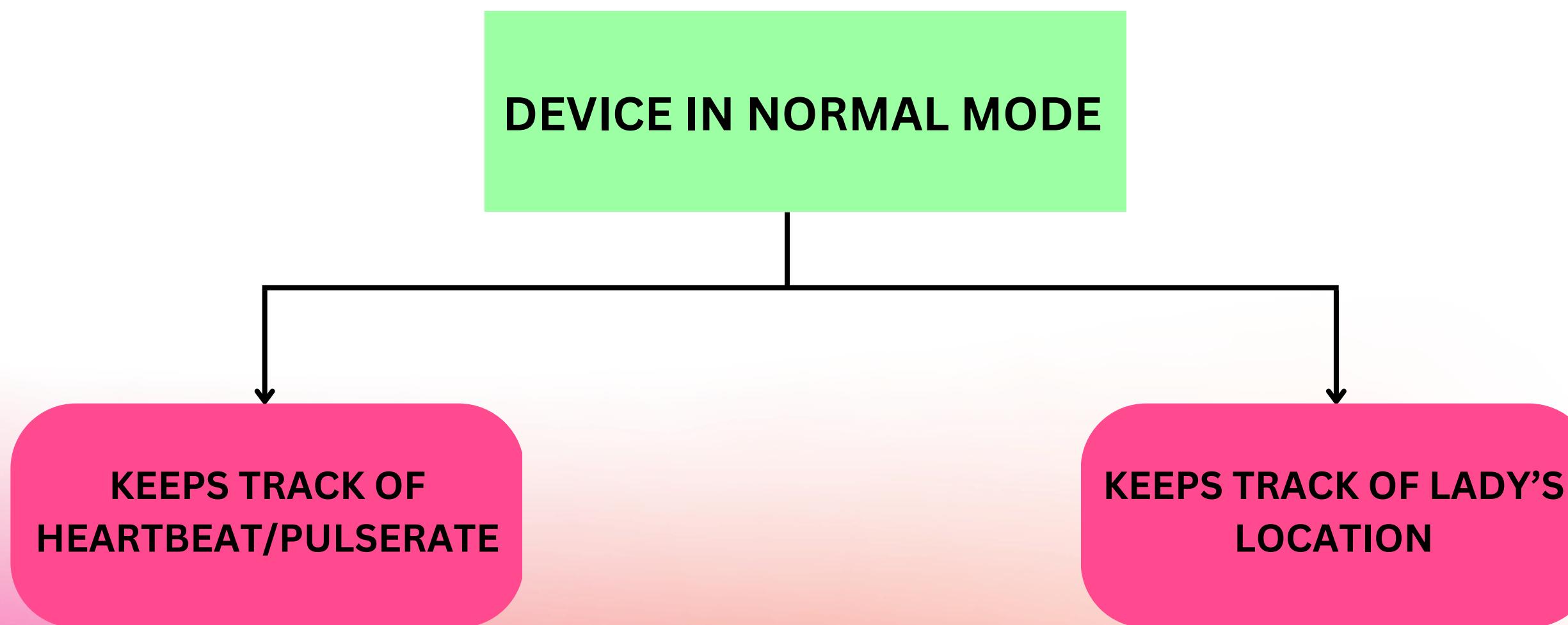
# **MODES OF THE DEVICE**

**The device will operate in two modes**

- **Normal Mode**

In Normal Mode the device will keep track of heartbeat and pulse rate of the lady and update the lady of her location and notify her when she enter the crime prone area and this data will also be accessible to the registered contacts.

# TASK PERFORMED BY DEVICE IN NORMAL MODE



- **Alert Mode :**

In Alert Mode the device will perform the following tasks simultaneously:

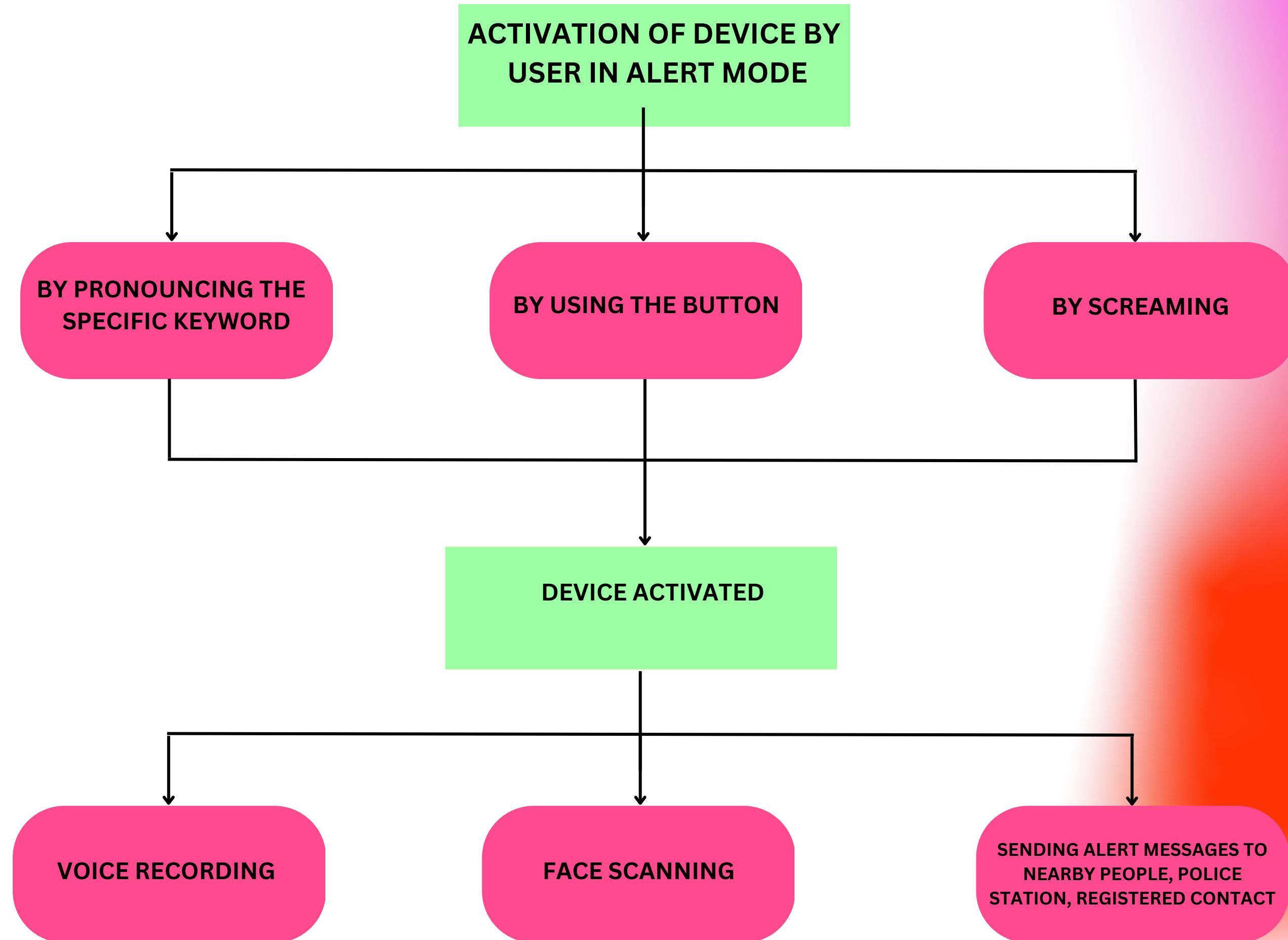
- Send alert messages to nearby people, nearby police stations and all the registered contacts.
- Scan surrounding faces and store the data on the cloud.
- Capture surrounding voices using audio recorder and store the data on the cloud

# How the device can be activated by the user?

Woman can trigger the device by the following ways :

- Screaming
- Pressing button
- Pronouncing some specific keyword when she is not in the situation to speak loudly. Here, Sound Recognition Technology is used to detect the scream and keywords whenever the device is triggered.





# **How will the registered contacts get to know that the lady is in danger?**

- The device will keep track of the lady's location, heartbeat/pulse rate and by using crime APIs the device will let the lady itself as well as the registered contacts know that the lady has entered the crime prone area.
- It may happen that the lady is in danger and is conscious but unable to switch the device to alert mode, then the registered contacts will get the option to activate the device in alert mode.



# ACTIVATION OF DEVICE IN ALERT MODE BY THE REGISTERED CONTACTS

FREQUENTLY CHANGING  
HEARTBEAT AND LOCATION IN  
CRIME PRONE AREA



NOTIFIES THE  
REGISTERED CONTACTS



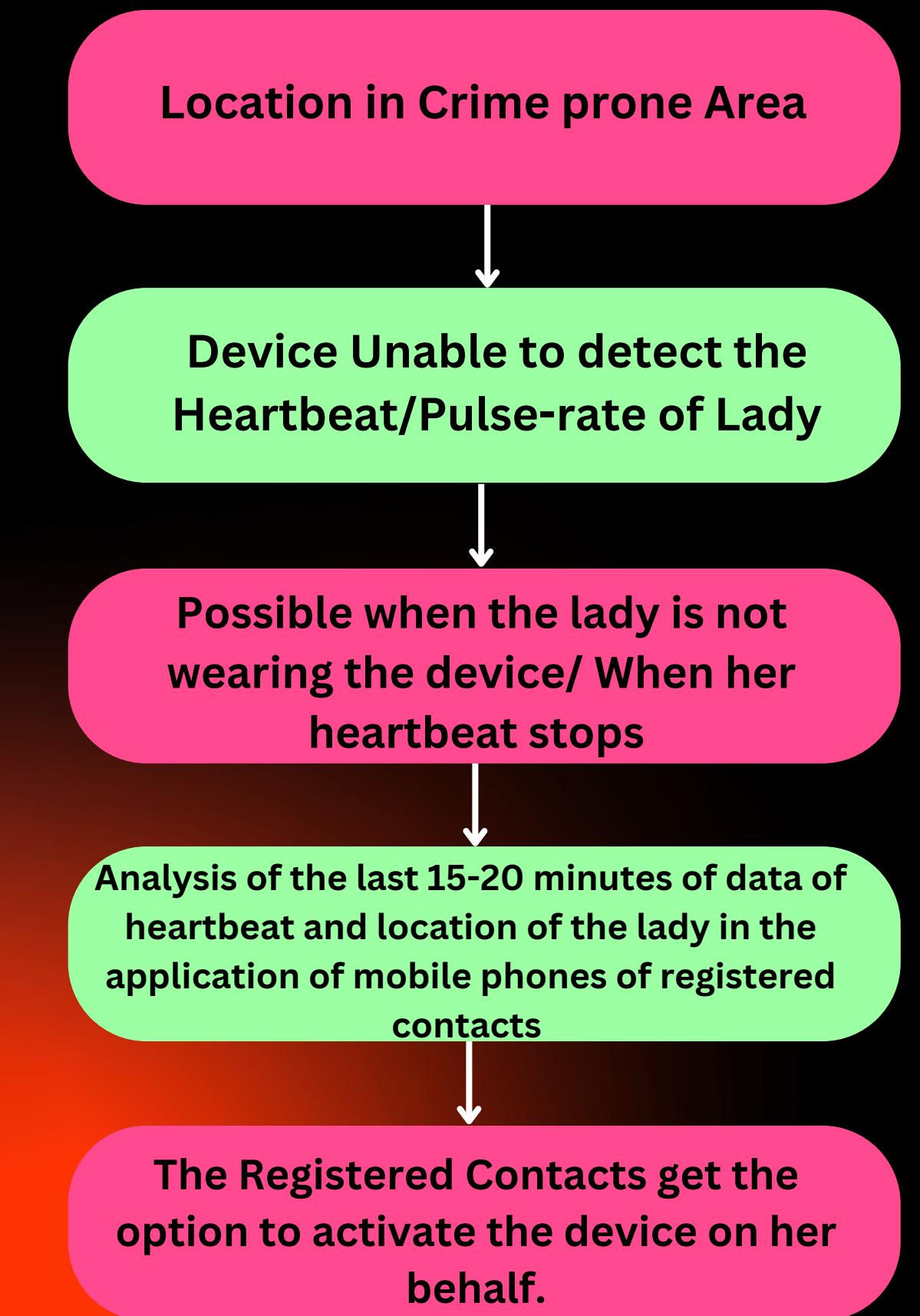
THEY GET THE OPTION TO  
SWITCH THE DEVICE IN ALERT  
MODE ON BEHALF OF THE LADY

- **It may be possible that the device will not be able to detect the heartbeat/pulse rate of the lady. This could happen only in the following situation:**

**When the lady is not wearing the device/ When her heartbeat stops:**

- **In this scenario the application installed in the mobiles of the registered contacts will analyse the last 15-20 minutes of data of heartbeat and location of the lady. If she was in crime prone area and the heartbeat/pulse rate was not normal then there is a possibility that she may be in danger then the registered contacts will get the option to switch the device in alert mode on her behalf.**

# ACTIVATION OF DEVICE IN ALERT MODE BY THE REGISTERED CONTACTS



# **Events occur after the activation of the device.**

- Once the device gets triggered it will start generating alert messages via app to relatives and friends, nearby police stations and nearby people who are much near to the lady.
- Face scanner will also gets activated, Face recognition technology will be used to detect the surrounding faces and will save the data on the cloud.
- Besides the above events audio recorder will also get triggered simultaneously and will start recording the surrounding voices and save the data on the cloud. This can be used as a proof against culprit.

# TECHNOLOGY USED

GPS (Global Positioning System) sensor:

- This sensor gives the latitude value and longitude values, to determine the location of the person wearing the device.
- Current GPS locations are accessed by satellite signal and messaging services might be preprogrammed to generate the alerts and it sends to the nearby peoples as well as guardians, relatives or nearby police stations. By these measures immediate help could be given to the needy.



# **Heart Rate Monitor (HRM):**

- A personal monitoring device that allows one to measure /display heart rate in real time or record the heart rate for later study. It is largely used to gather heart rate data while performing various types of physical exercise.

# **Crime APIs :**

Crime API will be used to fetch the data of crime prone areas in order to send alert messages to specific registered contacts that the woman has entered the crime prone area and inform them of her leaving from that area via the app.

## **Face Detection and Recognition Technology:**

- Wi-fi cameras will be used to capture the surrounding faces and send data to the cloud. It can help the police in the investigation. and face recognition technology such as Deep-face will be used to recognize the face of the culprit.

## **Audio Recorders:**

- Audio recorders will be used to record the surrounding voices. This can help in further investigation process against the culprit.

## **Speech Recognition Technology:**

- Speech recognition technology will be used to recognize the specific keywords used to activate the device.

# FAQ

## **Who will be interested in using this app?**

Protection of women is one of the necessities of every person in the society, and in our country, where unfortunately the harassment of women has reached its peak, both the government and the nation are thinking of solving this problem, so there is no doubt that using a mobile app is the easiest way to prevent this big issue. So, it is clear that those who are aware of this facility, recommend all their family members. Also, the police can easily arrest criminals using this app, so we hope that this app will have countless users in a very short time.

## **How can this project improve further?**

The government can play a major role in the improvement of this program. You may remember that during the COVID-19, the government made the installation of some apps mandatory for all people, because it was needed at that time, and we saw that people installed them and they found many users within a few days, so the problem of harassing women is not even a temporary problem but a permanent one, so similarly for this case also the government can recommend install of this app to all women, parents, big men of families and police mandatory.

## **Is it possible to have access to this facility without installing the program on our phones?**

If it is felt that implementing this theory in the form of a mobile app will not be very successful, one of the best ways we can make it available to people is to cooperate with large and popular companies such as Facebook, Instagram, Twitter, etc... Because we know that these apps are already installed in most people's mobile phones and providing services through pre-installed apps can be very easy and effective, but it seems that the independence of this idea in the form of an independent platform is more effective. Because the mentioned apps mostly have an entertainment and informational aspect, while this idea has a criminal and protective aspect.

## **How will you ensure security of the project?**

By making it an open-source project.

# Thank You