Indian Institute of Information Technology, Lucknow

भारतीय सूचना प्रौद्योगिकी संस्थान, लखनऊ

Mini Project on

BeSafe : Women Safety Mobile Applications

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Introduction

{ Introducing our app - **BeSafe }**

- Women’s safety is a big concern in today’s society.
-
- This project’s major objective is to ensure that every woman in our society feels safe and protected
- With increase in smartphone usage, app can efficiently provide personal safety or various other protection purposes with a click of a button.

Motivation

- 53% of working women in India do not feel safe, according to a survey; women work in the night shift (Bangalore-56 percent , Chennai-28 percent , Hyderabad-35 percent , Mumbai-26 percent). Compared to other cities, Delhi, Mumbai, Hyderabad, Kolkata, and Pune have a greater proportion of women facing obstacles among the 86 percent of working women in India

- There are numerous applications available for the protection of women in perilous situations but they do not completely satisfy their need.

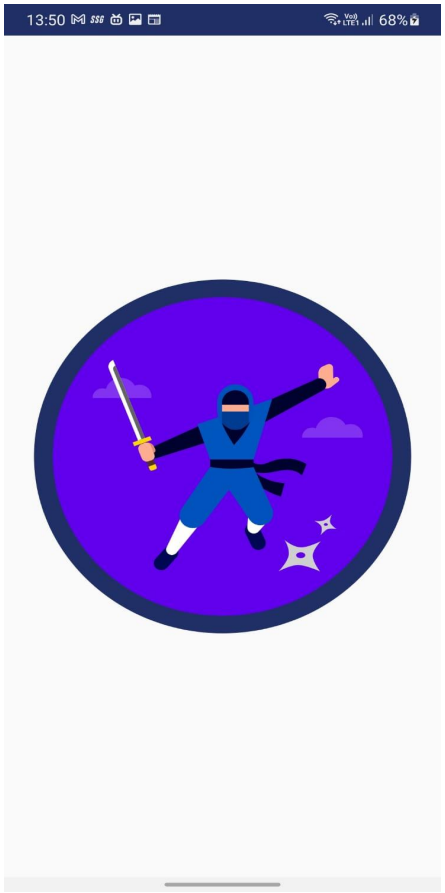
State-of-The-Art Techniques/Works

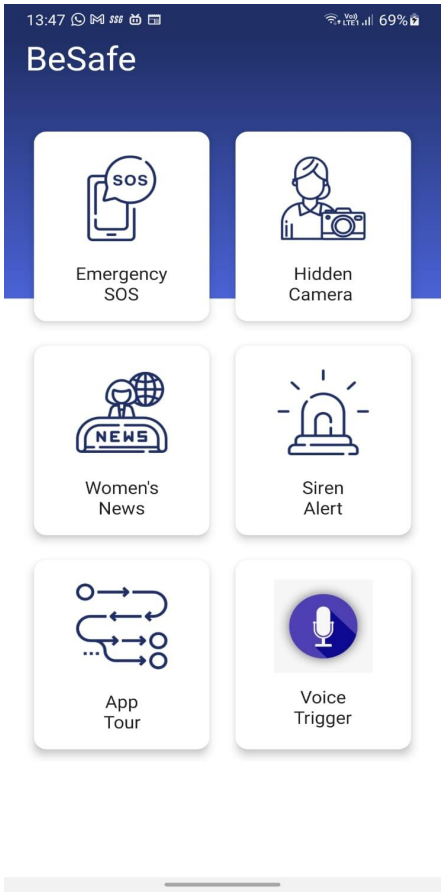
Technologies and Libraries used:	Android Components Used:
JAVA, XML, Python, Flask, Heroku	RecyclerView, Cardview, MenuBar
Implicit intents for sms, call and email	LinearLayout, GridLayout, ConstraintLayout
FusedLocationProviderClient API	Material Text Fields
Broadcast Receiver, Media Player API	Explicit and implicit intents
Magnetometer Sensor	Intent Filters, ProgressBar
SMS Manager API, Sensor Manager API, News API	FrameLayout, ScrollView, NestedScrollView
CNN Model	SpeedometerView
Airbnb's Lottie Animations	LottieAnimationView
Microphone, Siren,	Object Animation

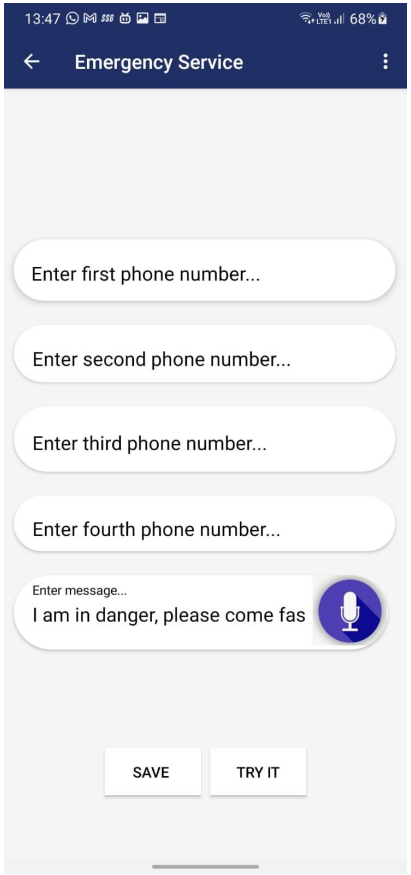
Features

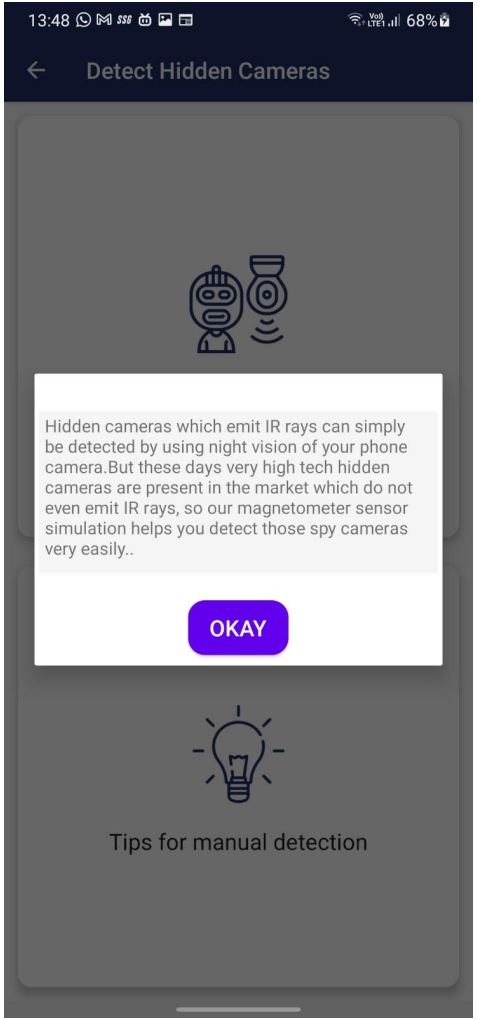
- Splash Screen.
- Save Emergency Contact Number
- SOS Service - Text or Microphone
- Siren Alarm
- Hidden Camera Detection
- Speech Emotion Detection
- Women Empowerment and Struggle Stories
- App Tour - user-friendly

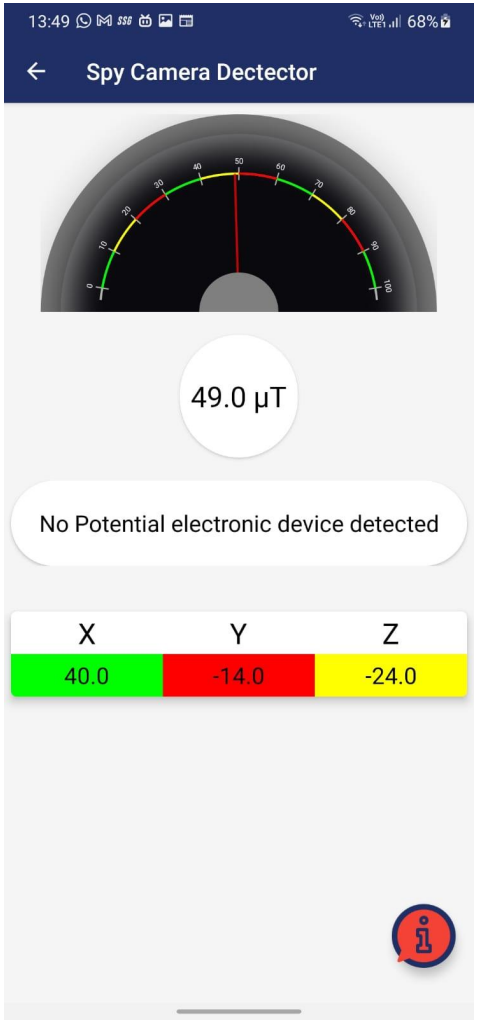
Screenshots

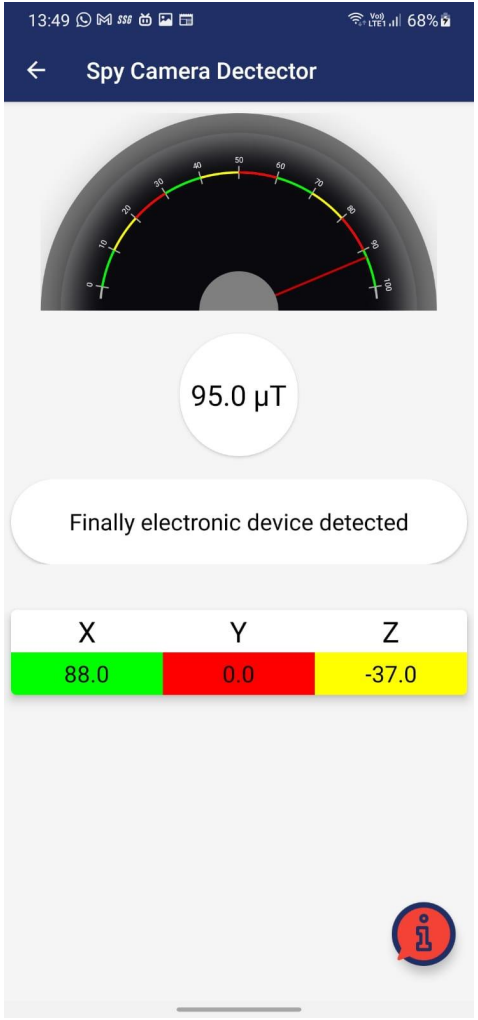







13:48
68%
Detect Hidden Cameras
Hidden cameras which emit IR rays can simply be detected by using night vision of your phone camera.But these days very high tech hidden cameras are present in the market which do not even emit IR rays, so our magnetometer sensor simulation helps you detect those spy cameras very easily..
OKAY
Tips for manual detection


13:49
68%
Spy Camera Dectector
49.0 µT
No Potential electronic device detected
X
Y
Z
40.0
-14.0
-24.0


13:49
68%
Spy Camera Dectector
95.0 µT
Finally electronic device detected
X
Y
Z
88.0
0.0
-37.0

13:47 69%

Emergency Service

Short Instructions

Step 1:- Save relative's phone no.s

Step 2:- Test the SOS Functionality

Step 3:- Run the app in background whenever you feel unsafe

Step 4:- Tap the power button 3 times Make sure for Emergency messaging and calling

Step 5:- Tap power button 3 times more to start the siren alarm and 3 times more to stop it

Note:- Make sure that tapping power button means screen goes off or on

Read detailed instructions on the top right corner

OKAY

SAVE TRY IT

3:20 AM | 10.2KB/s

Women's News

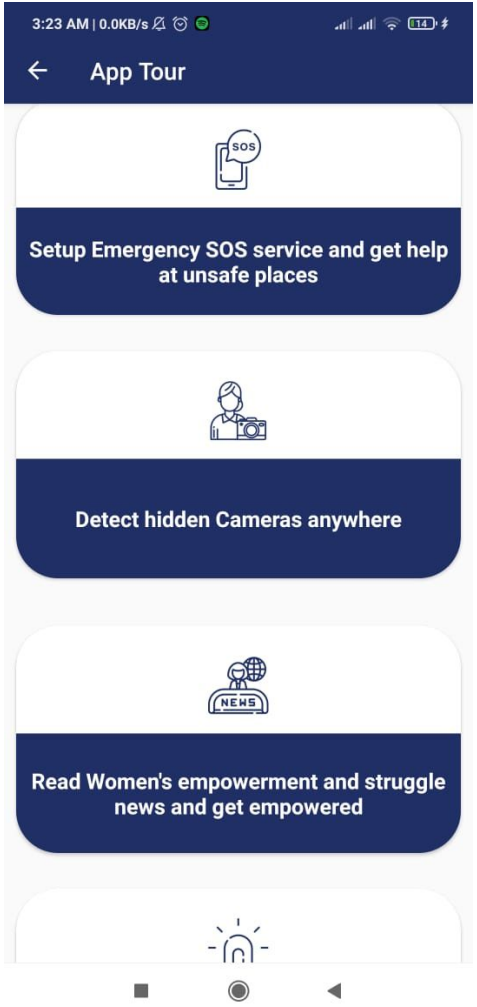
Women Techmakers educate India's next generation

Women Techmakers Ambassador Dhivya Krishna estimates she's taught about 5,000 students in India about technology. Dhivya has co-organized two WTM chapters, WTM Coimbatore from 2018-2021 and WTM Chennai since 2021. She has also co-led two Google Developer Grou...

Heat adds to despair of Indian women after decades of daily treks for water - Reuters India

India's scorching summer heat adds new risks this year to an energy-sapping challenge that tribal woman Munni Adhivasi has surmounted every day for two decades, by trudging for miles to carry home water.

13:48 68%



Sunday, 8 May 2022

I am in danger, please come fast...I am at 26.8017394,81.0246137, India,Ahmamau, R22F+MVJ, Ahmamau, Uttar Pradesh 226002, India

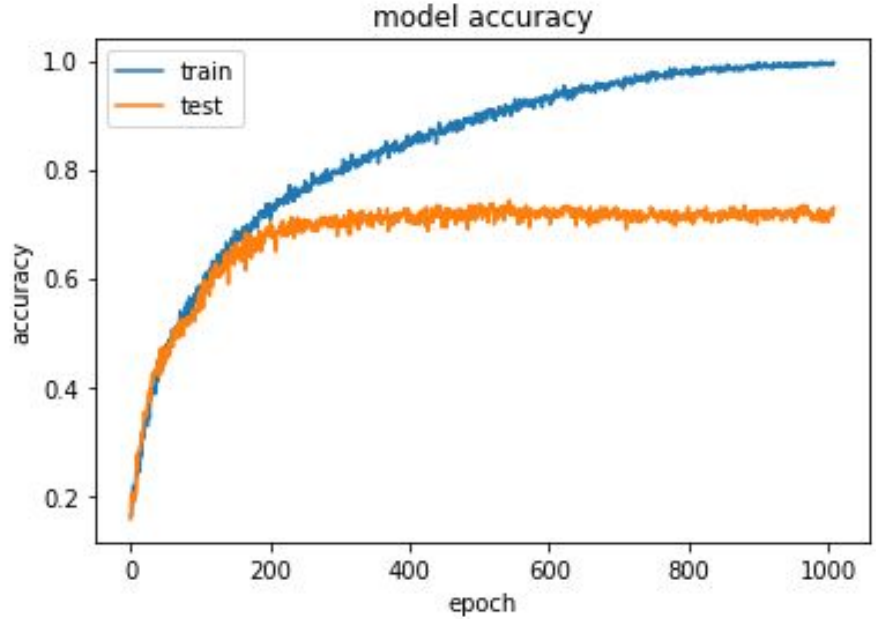
22:55

A

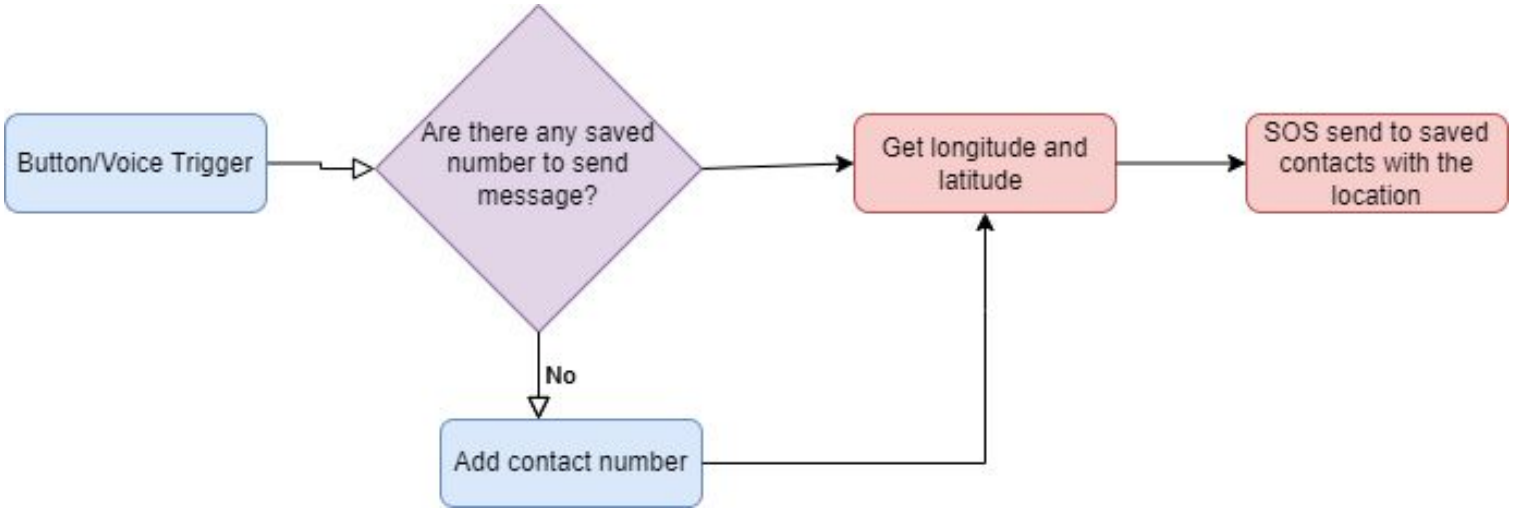
I am in danger, please come fast...I am at 26.8017394,81.0246137, India,Ahmamau, R22F+MVJ, Ahmamau, Uttar Pradesh 226002, India

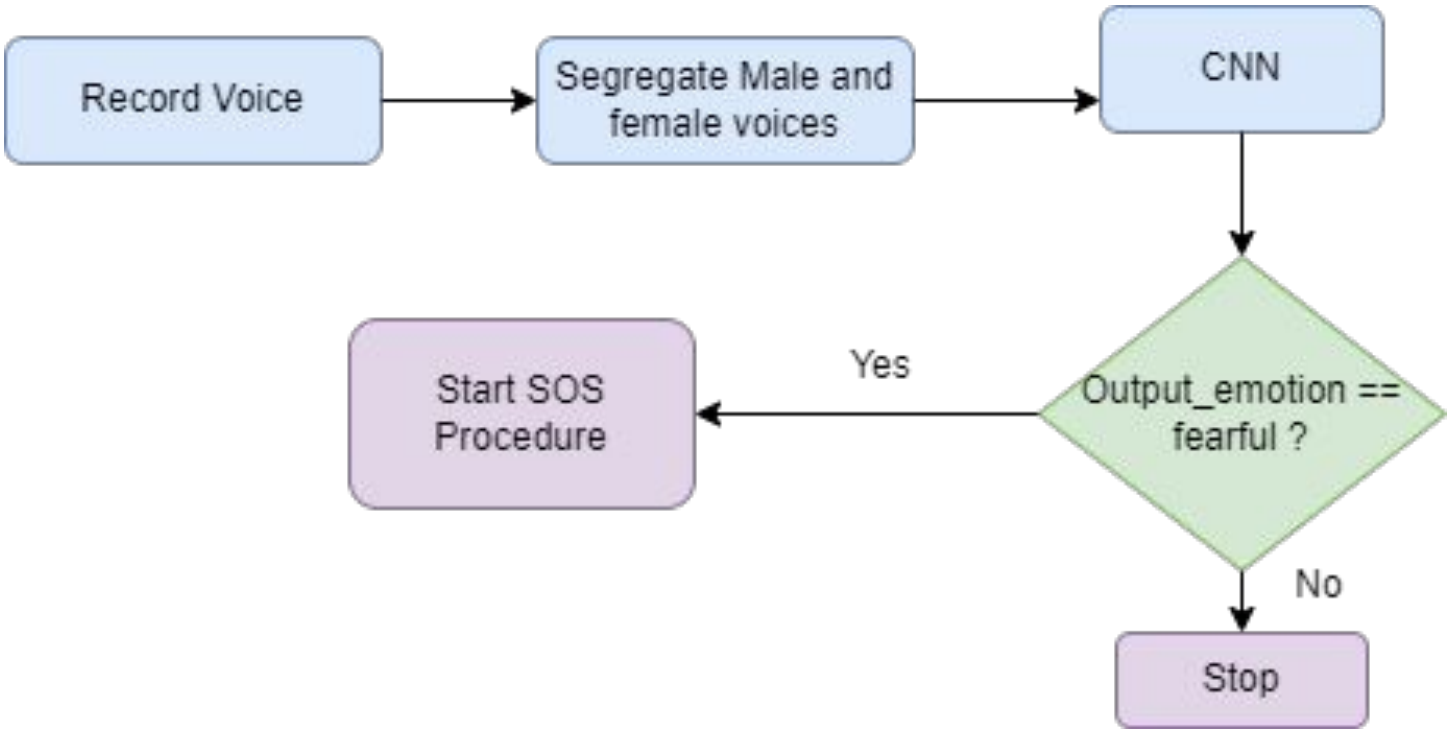
22:55

In [110]:
```
#sigmoid
plt.plot(cnnhistory.history['acc'])
plt.plot(cnnhistory.history['val_acc'])
plt.title('model accuracy')
plt.ylabel('accuracy')
plt.xlabel('epoch')
plt.legend(['train', 'test'], loc='upper left')
plt.show()
```



Potential Solution




Record Voice
Segregate Male and female voices
CNN
Output_emotion == fearful ?
Yes
Start SOS Procedure
No
Stop

Problem Observed on the State-of-The-Art Techniques/Works

- API Merging - FusedLocationProvider Client
- Integrating CNN Model
- BroadCast Receiver
- Sensor Manager API
- Speech Emotion Detector
- Animations

Exact Problem We are Trying to Solve

Provide safety to women using:-

- **SOS service**
- **Microphone for speech-to-text**
- **Hidden Camera Detection**
- **Speech Emotion Detection**
- **Women Empowerment and struggle News**
- **Siren Alert**
- **App tour to user friendly**

Novelty of Work

1) Speech Emotion Detection
2) Hidden Camera Detection
3) Women Empowerment and struggle News

Apps\ Features	SOS Services (live location + make phone call)	Speech-to-text Message	Sired Alert	Hidden Camera detection	Women's News	SOS Using power button	API	ML Model
VithU	✓		✓			✓		
Scream Alarm			✓			✓		
Women Safety Secured	✓							✓
Himmat						✓		✓
RadarBot				✓				
Besafe	✓	✓	✓	✓	✓	✓	✓	✓

Limitation

- The voice triggering may fail if the distance from mic increases.
- Accuracy of model is low.
- The user need to click the mic button to trigger which may take time and be inconvenient.

Conclusion

- BeSafe may make a significant contribution by providing women with a safe environment in all situations, such as (detection of hidden cameras, physical threats, harassment, robbery, and stalking), among others.

- Can integrate the concept of IoT.

References

[1] Dr. B.Bharathi Dantu Sai Prashanth Gautam Patel. *Research and development of a mobile based women safety application with real-time database and data-stream network.*

[2] Abhijit Paradkar and Deepak Sharma. *All in one Intelligent Safety System for Women Security.*

THANK YOU!