THAPAR INSTITUTE
OF ENGINEERING & TECHNOLOGY
(Deemed to be University)

SPADE

SEIZURE PREDICTION AND DETECTION ENGINE

CPG - 77

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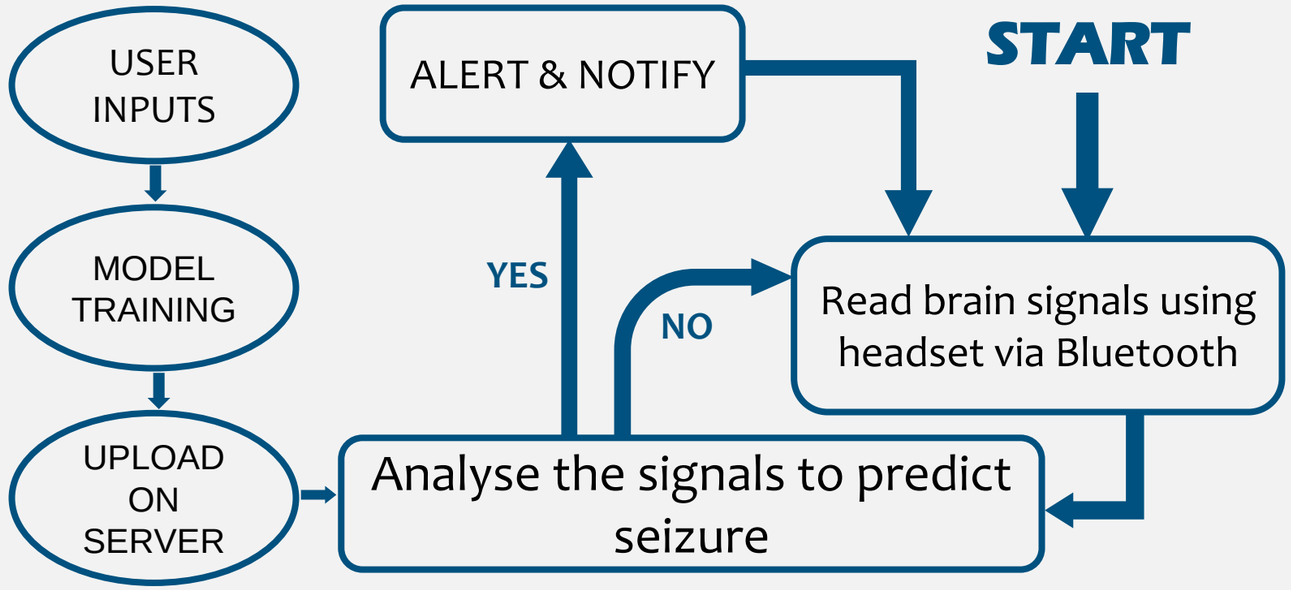
INTRODUCTION & OBJECTIVE

It is a system for epileptic patients which will predict the seizure by using the brain signals from the headset.

Objectives:

- To develop a non-invasive seizure prediction methodology to improve the quality of life of patients.
- To accurately classify pre-ictal and inter-ictal brain state in epilepsy.
- To predict the onset of a seizure, warn the patient and take necessary actions.



AREA OF USE

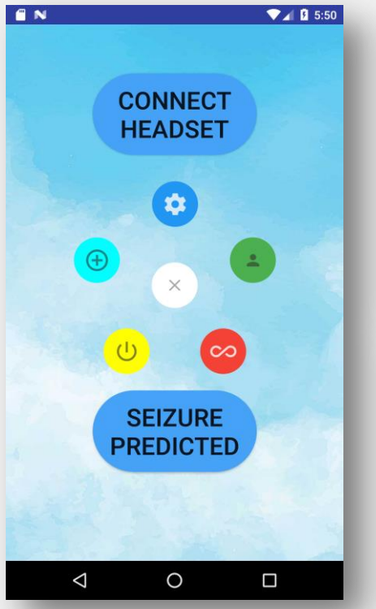
- Hospitals
- Rehab Centers
- Mental Health Centers

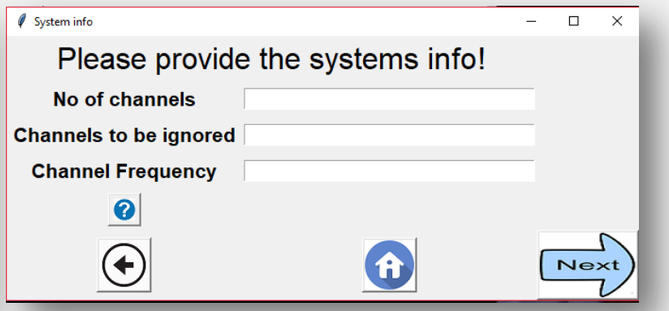
ADVANTAGES

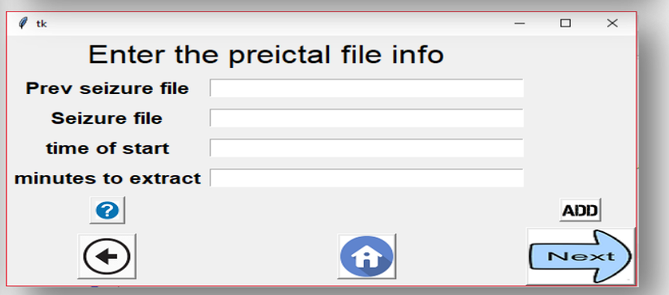
- Non- Invasive
- Real time operation
- Early prediction(>60 mins)
- Accuracy(>95%)
- Robustness
- Technologically advanced

TOOLS AND TECHNOLOGIES

- Android app developing
- Python Software developing
- Machine learning
- Google API
- Signal Processing
- SciPY







CONCLUSIONS

After predicting the seizure accurately, the mobile app will
1. Send a notification to the user
2. Call and send text to the emergency contacts

By early prediction of seizure, SPADE will help in saving many lives by preventing accidents and deaths and giving early care.

In this project we learnt about new technologies, software development, team work, inter-disciplinary knowledge, and researched as per industry standards.