PROJECT REPORT

TITLE :- Predicting the severity of Parkinson's Disease using Deep Learning

OBJECTIVE :-

- To Process Voice Recording.
- To Use Artificial Neural-Network.
- To provide a simple way to analyse the severity of PWP.

METHOD :-

We have developed an Android Application with fundamental features that provides a simple minimalistic UI to analyze the severity of Parkinson's Disease for the affected people. The patient first has to record their voice by reading the passage in the app. Then the voice recording will be saved under their account credentials in Firebase cloud storage. After that, they have to send the recording to the server which has been set up locally through Lampp. We have also developed a Python watchdog module that keeps tracking a specific folder whenever there is any file created in it. As soon as the recording gets transferred to the folder through the local server, the watchdog module executes the server-side python script which consists our Artificial Neural-Network which first of all extracts 16 biomedical features out of the voice recording through certain libraries, after the preprocessing is done which brings us to the final stage of calculating the result numbers though the Net. Last but not the least the numbers are stored directly in the user's account in firebase which can be accessed through the app.

FINDINGS / EXPECTED FINDINGS :-

- The Output is divided into 2 parameters both numerical, MOTOR UPDRS and TOTAL UPDRS which when compared with their respective range values provide us with the severity.
- The accuracy we are getting is approx 80% which is better than our reference paper and with more training it will eventually increase.