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Health Tracker Application

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Abstract
Mental and physical health disorders can have a significant, negative impact on sufferer's lives, as well as on their friends and family, healthcare systems and other parts of society. At present, health disorders monitoring relies on subjective clinical self-reporting. In this project, we discuss how mobile phones can support the treatment of mental and physical health disorders by implementing human–computer interfaces to support therapy and collecting relevant data from patient'sdaily lives to monitor the current state and development of their health disorders. We also assess how their key features and dimensions may be applied to other similar systems. With regard to the second point, we emphasize the feasibility of using mobile phones to gather full data. Machine Learning methods are also reviewed and discussed. Based on the studies presented, we summarize the advantages and disadvantages phone technologies for the detection of mood disorders like depression or bipolar disorder.

Keywords: *Prediction, Training, Machine Learning, Analyzing.*

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I. INTRODUCTION

This project involves building a simple app that tracks the health of its users and tries to help them get through their condition by suggesting tasks and keeping record of their progress. There are several reasons for people failing to seek treatment by far, the main reasons include people's wish to solve their problem on their own, as well as situational and financial barriers. Self-assessment and monitoring tools combined with professional help have the potential to reach more patients more efficiently and therefore decrease their suffering Mental health is an important issue in the world today. Many people now work from home and some staying away from loved ones, the mental health situation has deteriorated. It is important to track and resolve any problems before they get too serious. We try achieving this using this App. we design the app to be very friendly and welcoming. In this project, you'll have a beautiful and fast app that is fun to use and also serves your goal.

1.1 Proposed Approach

The project focuses on building a health tracker. You will try to get an idea of the health condition of your user (in the least intrusive ways, find out if they are suffering and then suggest measures they can take to get out of their present condition or to go consult a doctor. A user answers some questions and based on the answers that they provide, you will suggest tasks to them and maintain a record of their health state for displaying on a dashboard.

1.2 Methodology

Front end we will be using are using android studio. We will be creating a user-friendly app which helps us find the health state of an individual. This app will include selecting symptoms the user is experiencing from the drop box, then condition is diagnosed, steps to treat the condition and a dashboard that helps to keep track of the health state.

Backend we shall be using machine learning algorithms to predict the current health state of the person using predefined datasets. We will be using random forest because it gives us better results.

After this we will export the model using pickle. We are connecting it through a bridge called flask. Flask is a python library that is used to create API and convert python language to Json language that any programming languages can understand. With the android app we will be hitting the API to get the desired results.

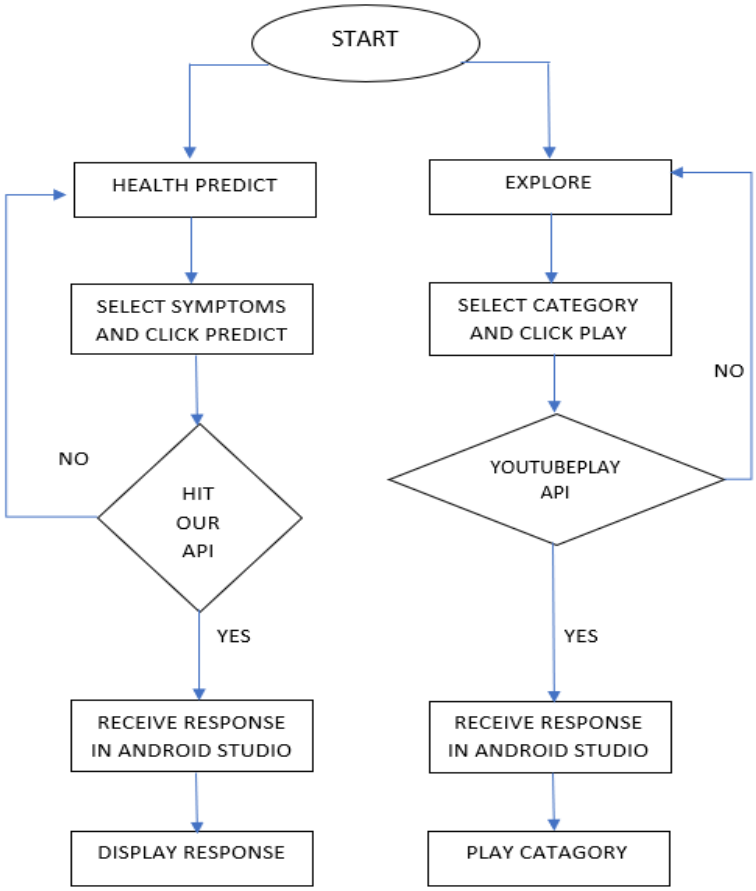

Figure1: Flow Chart of Working

1.3 Implementation

1.3.1 Hardware Implementation

The hardware components for implementation are

- Operating System:Windows 10
- Processor: 10th Generation Intel® Core™ i5-11300H Processor
- RAM: 8GB RAM DDR4
- Internal Storage: 20 GB Internal Storage
- Mobile Operating System: Android 10
- Mobile RAM: 12GB
- Mobile Storage: 16MB

1.3.2 Software Implementation

The software requirements for implements are

- Software: Android Studio, Anaconda and Jupyter Notebook installed from it.
- Compiler: Python to write codes.
- Libraries: NumPy, Pandas, Seaborn, Matplotlib.
- Data : Data Sets.

Machine Learning is used in the backend and android studio is used in the front End.Flask is used to connect machine learning and android studio.Machine Learning code is extracted as pikle and deployed in HERUKO and made and API which we use in the android studio. We have implemented and explore class where we give users different things to explore. We have used the YouTube play API to get access videos of

YouTube. Below are the photos of UI. After selecting the symptoms and clicking the predict API deployed in HERUKO is Hit and the result is sent. The result is collected and displayed in android Studio.

Figure 2: Opening of the application

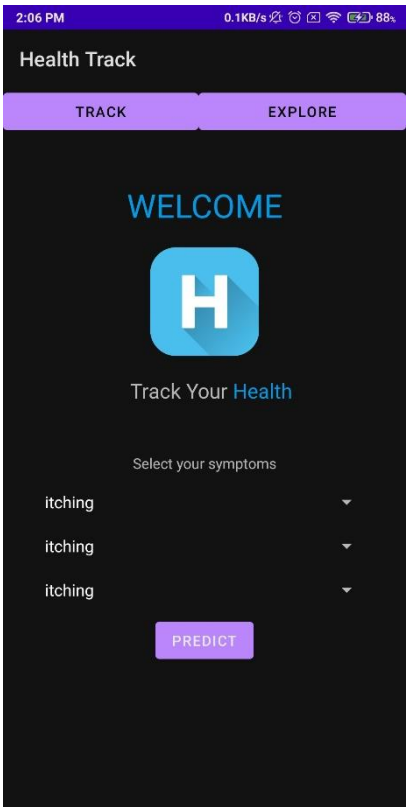

Figure 3: Drop Down menu for symptoms

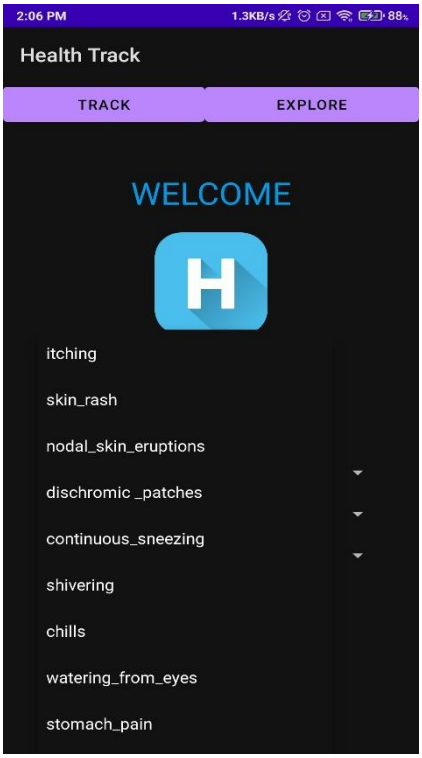

Figure 4: Selecting Symptoms

II. Results and Discussion

API send the results and Android studio collects it and displays it. Our API is Hit successfully and the result is displayed accurately. Below are some of the photos of the result.

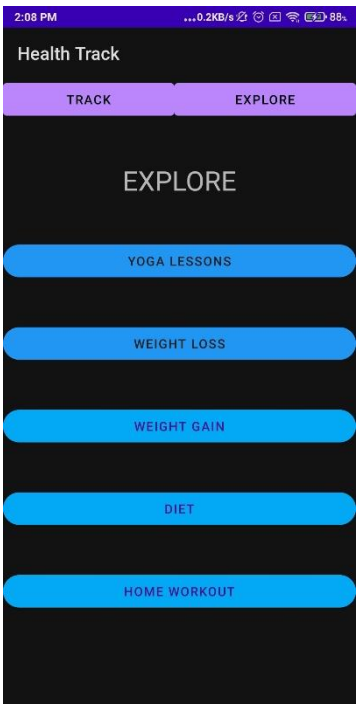

Figure 5: Explore Interface

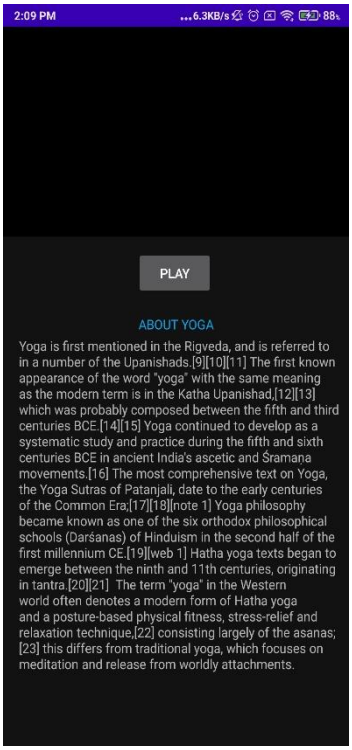

Figure 6: Opening explore categories

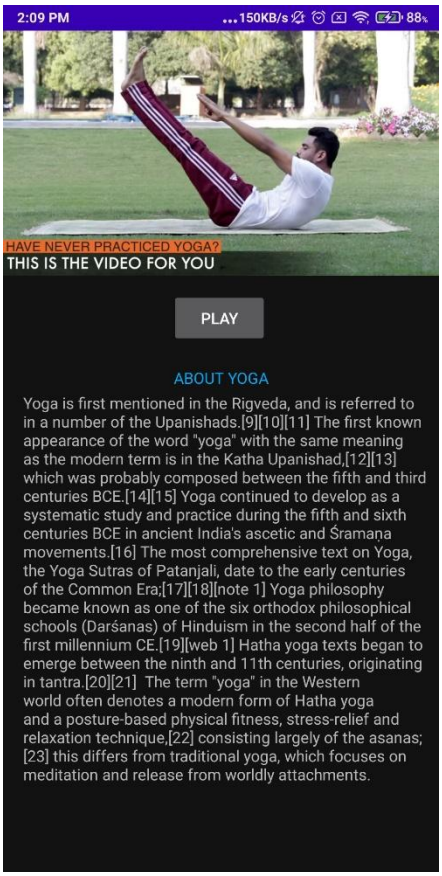

Figure 7: Playing Videos

Figure 8: Disease Display

III. CONCLUSION

To conclude, Mental disorders are a challenge in the developed as well as developing world, which is forecasted to continue rising. As such, developing effective and efficient treatment is important, research in the field of ML for an individual's health has revealed exciting advances, particularly in recent years. Overall, it is clear that ML can significantly improve the detection and diagnosis of health conditions. Research into other fields of ML, such as public health, treatment and support, and research and clinical administration, have stated demonstrating positive results. However, the work is at present is limited and future research is required to identify further benefits of ML to these areas. ML tools are becoming more attainable for researchers and clinicians, it is anticipated that this field will continue to evolve and these health disorders are identified and treated before they get too serious.

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