Project Name: Together

Asil Nader El Khamisy

TABLE OF CONTENTS

About Me

- Hello, I'm a Grade 11 Egyptian student currently residing in Lebanon. What defines me is my unique blend of passions and interests.
- **Scientific Explorer:** Science has always been my guiding star. As the research department head at our school's biology club, I lead a team committed to unraveling the mysteries of the natural world. It's my pride and joy, and it's where I've found a real home for my scientific curiosity.
- **Book Enthusiast:** Beyond the microscope and lab, I'm an avid reader, exploring an array of book genres. From the classics to the latest in science fiction, books fuel my imagination and keep my mind agile.
- **Tech Enthusiast:** I'm equally captivated by the world of technology. Coding is my canvas, where I craft ideas into reality, turning lines of code into functioning programs.
- **Basketball Lover:** When I'm not in the world of books, science, or tech, you'll find me on the basketball court. The fast-paced action and teamwork make it a deeply passionate pursuit.

- **Problem-Solver:** There's something inherently satisfying about solving mysteries and tackling challenging problems. It's not just in my academic life; it's how I approach everything.

In this blend of interests, science is my anchor, guiding my curiosity and inspiring my pursuits. It's a passion I intend to nurture and explore further, with each of my other interests adding its unique color to my journey.

App introduction

Introducing 'TOGETHER,' an innovative app designed to empower its users to take control of their health. With 'TOGETHER,' individuals can assess their risk for diabetes and a range of mental health conditions, thanks to its user-friendly features and comprehensive resources. This app is specially tailored to cater to students and individuals who may be at risk for diabetes.
My goal is simple yet impactful - to assist as many people as possible in managing their health and well-being through accessible and informative technology

Reason for choosing the project

Diabetes and mental health issues, while distinct, share a close relationship. Firstly, both present challenging recovery journeys, and not everyone successfully overcomes them. These conditions can affect anyone at any point in their life. In both cases, early detection significantly enhances a person's chances of successful confrontation and management, as it provides more time to address the issues proactively.

Technologies behind this project

- **Joblib:** A critical component in my project, this library excels at preserving and retrieving machine learning models. I use it to load pre-trained models for making predictions in the domains of mental health and diabetes, enhancing the accuracy of my assessments.
- **Pickle:** This versatile Python library for serializing and deserializing objects plays a pivotal role in my diabetes prediction feature. I use it to load a scaler, which is essential for ensuring that my diabetes predictions are finely tuned.
- **Scikit-learn:** The powerhouse behind my project's machine learning capabilities, scikit-learn, is a versatile library that handles various machine learning tasks. It becomes indispensable when I need to preprocess and scale the input data for diabetes prediction, ensuring the reliability of my predictions.
- **PhotoImage:** A nifty Tkinter component, PhotoImage allows me to display images directly within the main application window. This feature adds a visually engaging aspect to my application and enhances the user experience, making complex data and predictions more accessible and engaging.
- Incorporating these tools into my project empowers me to harness the potential of machine learning and AI to provide accurate mental health and diabetes predictions while ensuring an intuitive and user-friendly interface through Tkinter.
-

Acknowledgements

- Gratitude to my wonderful family:
    - Provided a fantastic opportunity
    - Unwavering encouragement and support
    - Constant source of inspiration
- Sincere thanks to my outstanding and committed teacher:
    - Enormous help in navigating the path
    - Direction, mentorship, and dedication to my education
    - Enthusiasm for teaching increased my knowledge.
    - and motivation
- Profound gratitude to Mr. Ken Khan:
    - Gave me an amazing opportunity
    - Unwavering belief in my capabilities
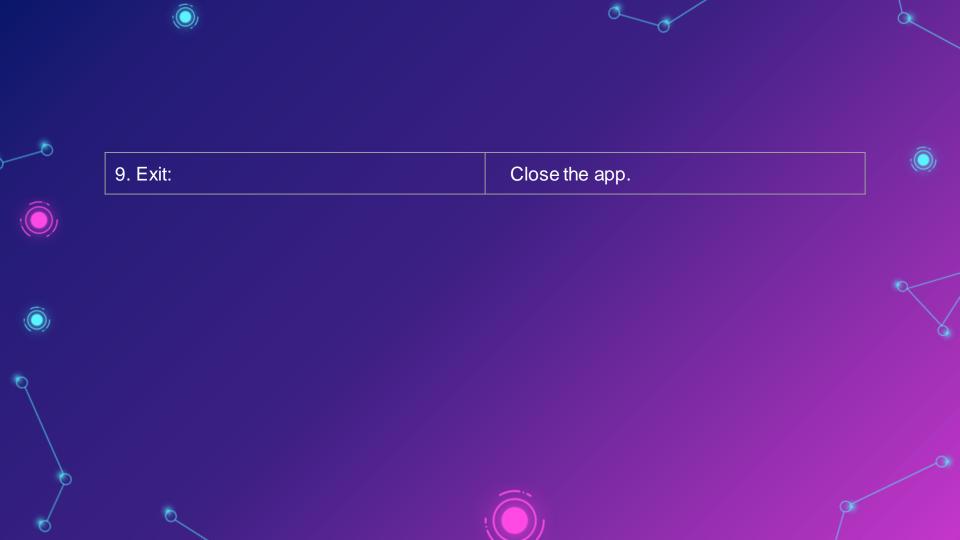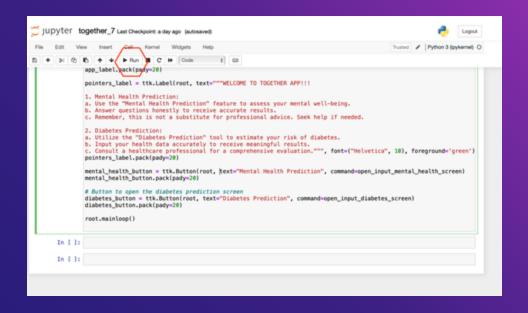   - Entrusted me with this incredible chance

App user manual - TOGETHER_

1. Diabetes Prediction:	Use this feature to estimate your risk of diabetes. Input your health data accurately to receive meaningful results.
2. Mental Health Prediction:	Assess your mental well-being with our Mental Health Prediction tool. Answer questions honestly for accurate results. Please remember, this is not a substitute for professional advice. Seek help if needed.
3. Predict Anxiety:	Use this tool to predict whether you are suffering from anxiety.

4. Predict Depression:	Find out if you are suffering from depression using this feature.
5. Predict Panic Attack:	Determine if you are at risk of a panic attack.
6. Seek Treatment Recommendation:	This tool helps you decide whether you should seek professional medical treatment for your health conditions.
7. Course List:	Display a list of courses along with their corresponding numbers for course selection.

| 9. Exit: | Close the app. |

How do I use the App?

Begin by launching the TOGETHER app on your device.

Together - Diabetes and Mental Health Prediction

TOGETHER

"Your Health, Your Priority: Discover, Decide, Thrive!"

Together - Diabetes and Mental Health Prediction

WELCOME TO TOGETHER APP!!!

1. Mental Health Prediction:
a. Use the "Mental Health Prediction" feature to assess your mental well-being.
b. Answer questions honestly to receive accurate results.
c. Remember, this is not a substitute for professional advice. Seek help if needed.

2. Diabetes Prediction:
a. Utilize the "Diabetes Prediction" tool to estimate your risk of diabetes.
b. Input your health data accurately to receive meaningful results.
c. Consult a healthcare professional for a comprehensive evaluation.
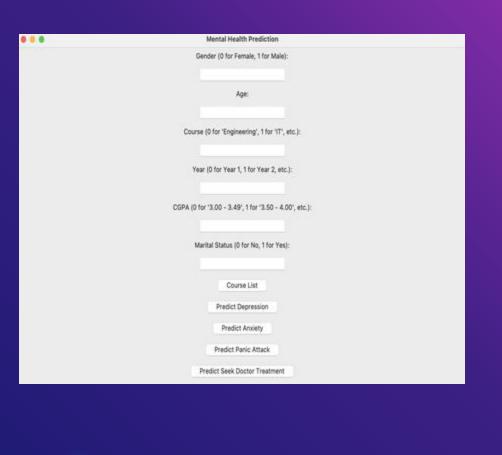
Mental Health Prediction

Diabetes Prediction

You will be greeted by the Main Menu, which serves as the gateway to various health prediction and support features.

Mental Health Prediction

Gender (0 for Female, 1 for Male):

Age:

Course (0 for 'Engineering', 1 for 'IT', etc.):

Year (0 for Year 1, 1 for Year 2, etc.):

CGPA (0 for '3.00 – 3.49', 1 for '3.50 – 4.00', etc.):

Marital Status (0 for No, 1 for Yes):

Course List

Predict Depression

Predict Anxiety

Predict Panic Attack

Predict Seek Doctor Treatment

Provide the required information honestly.

Course List

0: Engineering
1: Islamic Education
2: IT
3: Law
4: Mathematics
5: Pendidikan Islam
6: BCS
7: Human Resources
8: Irkhs
9: Psychology
10: KENMS
11: Accounting
12: ENM
13: Marine Science
14: KOE
15: Banking Studies
16: Business Administration
17: Usuluddin
18: TAASL
19: ALA
20: Biomedical Science
21: Koe
22: BENL
23: CTS
24: Economics
25: MHSC
26: Malcom
27: Kop
28: Human Sciences
29: Biotechnology
30: Communication
31: Diploma Nursing
32: Pendidikan Islam
33: Radiography
34: Fiqh
35: DIPLOMA TESL
36: Nursing

OK

- Click the "Course List" button from the Mental Health Prediction screen.
- A list of courses with corresponding numbers will be displayed.
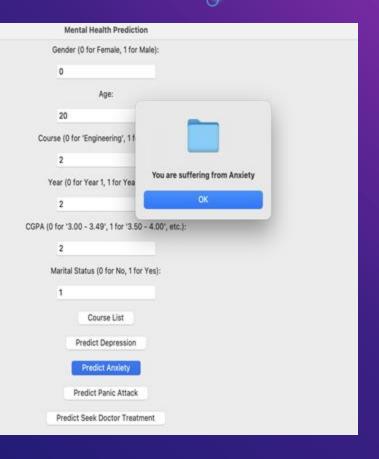- Use this list for answering

- Click the "Predict Depression" button.
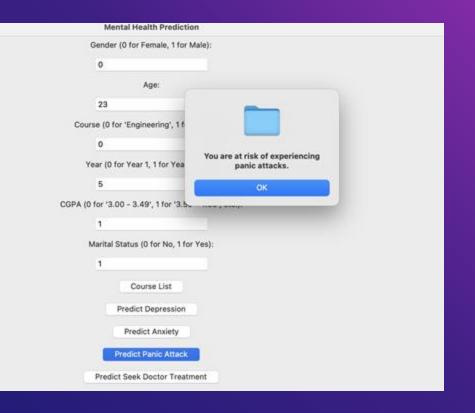- The app will predict whether you might be suffering from depression.

- Click the "Predict Anxiety" button.
- The app will predict your risk of anxiety.
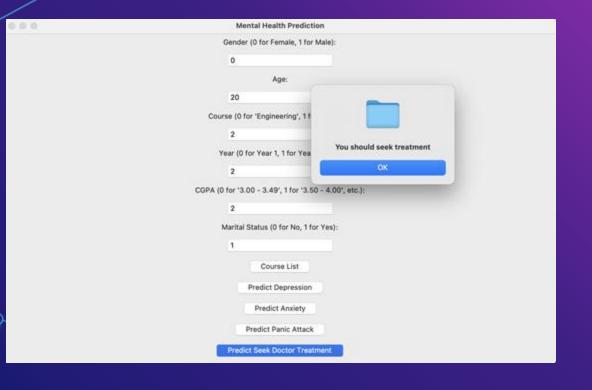
- Click the "Predict Panic Attack" button.
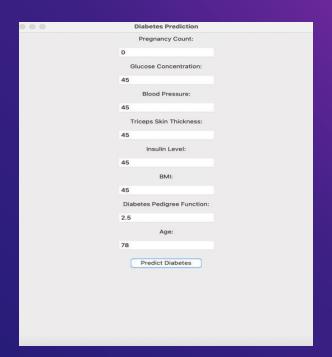- The app will predict your risk of a panic attack.

- Click the "Predict Seek Treatment" button.
- The app will suggest whether you should seek professional medical treatment.
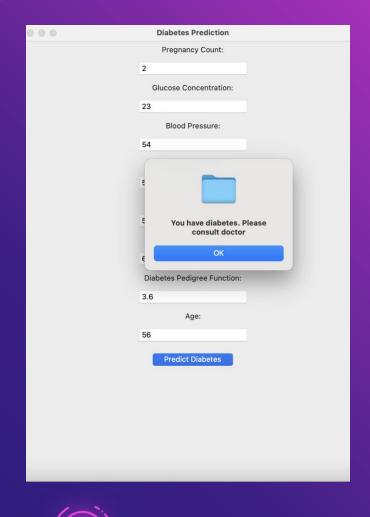
Diabetes Prediction

- Input your health data accurately.
- Click the "Diabetes Prediction" button on the Main Menu.

The app will estimate your risk of diabetes.

Exiting the App

If you have completed your tasks,
you can exit the app by selecting the
"Exit" option from the Main Menu.