IN PARTNERSHIP WITH PLYMOUTH UNIVERSITY

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Module Code: PUSL 2021	Module Name: Computing Group Project
Coursework Title: AI Mental Health Chat Bot	
Deadline Date: 25th of October	Member of staff responsible for coursework: Mr Pramudya Thilakaratne
Programme: Bsc (Hons) Software Engineering	

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Group work: please list all names of all participants formally associated with this work and state whether the work was undertaken alone or as part of a team. Please note you may be required to identify individual responsibility for component parts.

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We confirm that we have read and understood the Plymouth University regulations relating to Assessment Offences and that we are aware of the possible penalties for any breach of these regulations. We confirm that this is the independent work of the group.

Signed on behalf of the group: Ruwin Hettiarachchi

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Introduction

In an era where the demands and pressures on students have reached new heights, addressing the mental wellbeing of this vulnerable population is of paramount importance. Students frequently bear an immense burden as a result of the pressures of adulthood transition and their pursuit of academic achievement, which can worsen stress, anxiety, and depression. We propose the development of a unique and sympathetic Mental Health AI Chatbot for students in order to actively address their mental health needs.

Students represent a unique category of the population with special needs in terms of mental health. They deal with the stress of academics, social pressure, financial concerns, and the negative effects of the digital age on their wellbeing. On Academic Premises, there are sometimes few mental health resources available, and the stigma associated with mental illness discourages many students from seeking assistance. By giving them a convenient, judgment-free setting to talk about their mental health issues while also offering useful advice and resources, our idea aims to empower students.

The objective of this project is to create a specialized AI chatbot that understands the challenges and experiences of students, offering tailored support and resources. Our chatbot will be a reliable companion for students by utilizing artificial intelligence, assisting them in overcoming the challenges of both their personal and academic lives, and promoting good mental health.

This proposal outlines the key goals, strategies, and potential benefits of developing a Student-Centric Mental Health AI Chatbot. The main objectives, approaches, and potential advantages of creating a student-focused mental health AI chatbot are described in this proposal. Our chatbot intends to improve students' overall quality of life, academic achievement, and well-being by addressing specific mental health requirements of these students. We believe the use of this technology can significantly improve students' lives by promoting mental health awareness, minimizing stigma, and offering easily available support when it is most needed.

Objectives

1. Develop an empathetic and student-centric chatbot:

   Our chatbot will be specifically designed to understand and empathize with the unique challenges and emotional experiences of students thereby promoting supportive and relatable interaction.

2. Enhance Mental Health Awareness:

   Improve student awareness of the significance of mental health by giving them access to resources, knowledge, and self-help tools via the chatbot.

3. Provide timely and 24/7 support:

   Ensure that the AI chatbot is accessible 24/7 so that students can obtain mental health support whenever they require it, even during non-standard hours.

4. Offer confidential and non-judgmental conversations:

   Developing a safe, secure environment where students can openly express their mental health worries without being afraid of being judged or stigmatized.

5. Guide students to relevant resources:

   Guide students in the direction of appropriate mental health services, both on and off campus, such as counselors, crisis helplines, and community support groups.

6. Privacy and security compliances:

   Ensure that the chatbot complies with all relevant privacy and security regulations to protect students' private information and keep their trust in the service.

7. Integrate Machine learning:

   Enhance the chatbot's conversational skills using machine learning so that it can offer emotional support more effectively.

8. Evaluate and Iterate:

   Regularly assess the chatbot's performance through user feedback, surveys, and data analysis, and iterate on the system to enhance its effectiveness and user satisfaction.

Target Users

1. Undergraduate Students:

   Traditional college and university students who are pursuing bachelor's degrees face a range of academic, social, and personal challenges.

2. Graduate Students:

   Those obtaining master's or doctoral degrees in graduate school commonly experience increasing academic pressure and stress related to their studies.

3. Online and Remote leaners:

   Students enrolled in distant-learning or online programs may experience feelings of loneliness and a lack of campus resources.

4. Parents and Caregivers:

   Students' families who might reach out for advice and information on how to support the mental well-being of their kids.

5. Peer mentors and student leaders:

   Students in roles of leadership who can help other students and support those trying to maintain their mental health using the chatbot.

6. Educational Institutes:

   Academic institutions, colleges, universities, and schools looking to incorporate the chatbot as part of their student support and mental health services.

Application Description

The student-centric Mental Health AI Chatbot is an innovative and user-focused solution designed to address the unique mental health needs of students in academic settings. This innovative chatbot makes utilization of machine learning and artificial intelligence to provide precise support, resources, and guidance in a setting that is open to everybody and free from stigma. The program is carefully created to empower students and support their mental health throughout their academic careers.

Application Features

1. Emotional Support Chat:

   Provide a platform for students to have confidential, non-judgmental, and empathetic conversations with the chatbot to discuss their emotional concerns and feelings.

2. Information and Resources:

   Provide students with numerous examples of resources on mental health issues, such as articles, films, and connections to important sites, helping students better understand their own mental health.

3. Education Quizzes and Assessments:

   To assist students in understanding their mental health and identifying potential areas for improvement, providing quizzes and self-assessments.

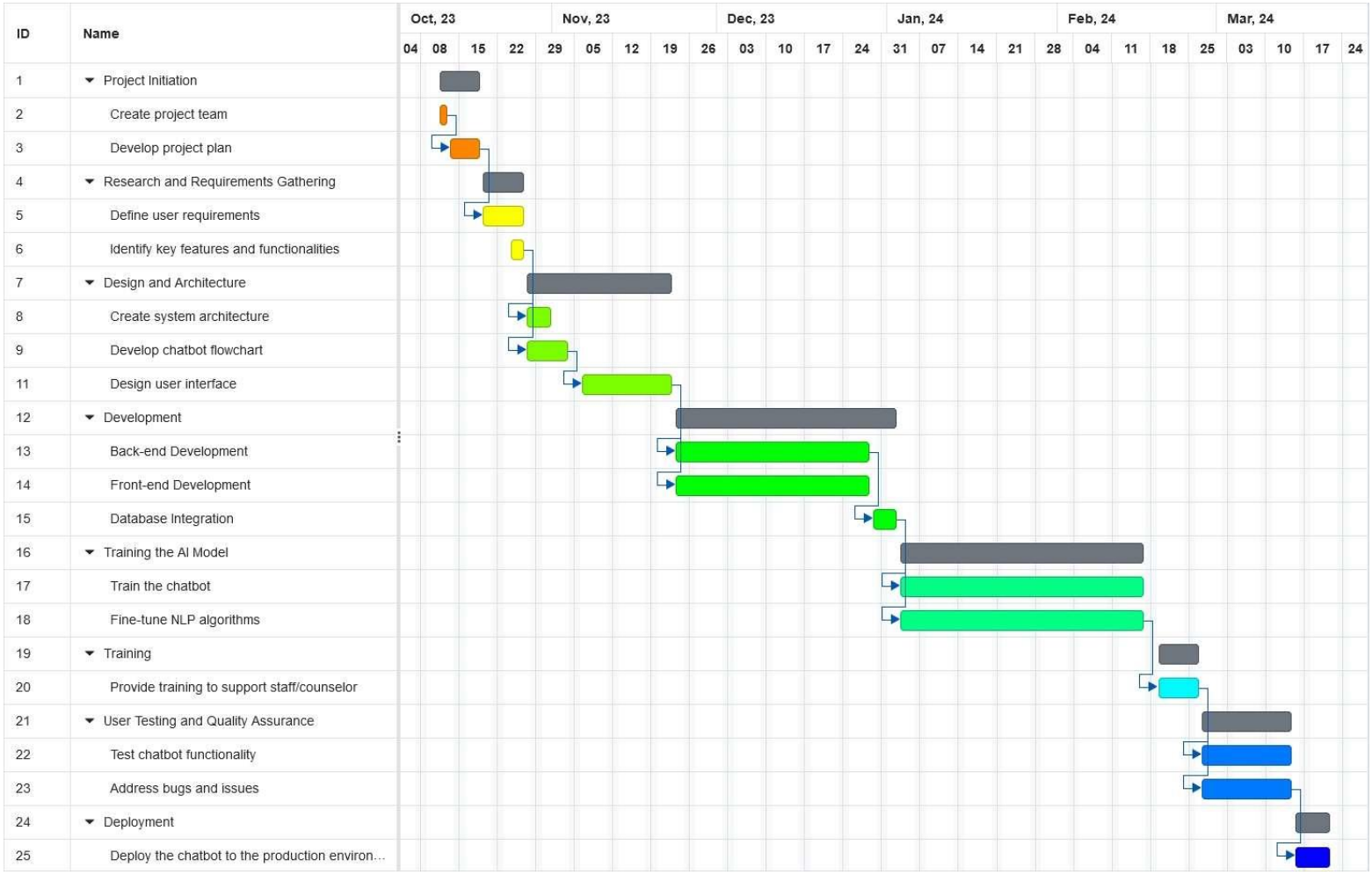
4. Customized Advice and Recommendations:

   Based on user interactions and self-assessment results, the chatbot will provide tailored advice, coping strategies, and self-help recommendations.

5. Integration with Campus Services:

   In order to promote a complete approach to mental health, collaborate with educational institutions to integrate the chatbot with existing student support services and resources.

Gantt Chart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1 Project Initiation
2 Create project team
3 Develop project plan
4 Research and Requirements Gathering
5 Define user requirements
6 Identify key features and functionalities
7 Design and Architecture
8 Create system architecture
9 Develop chatbot flowchart
11 Design user interface
12 Development
13 Back-end Development
14 Front-end Development
15 Database Integration
16 Training the AI Model
17 Train the chatbot
18 Fine-tune NLP algorithms
19 Training
20 Provide training to support staff/counselor
21 User Testing and Quality Assurance
22 Test chatbot functionality
23 Address bugs and issues
24 Deployment
25 Deploy the chatbot to the production environ…

References

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