

Lab 1 - Not E-lone Product Description

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1. Introduction

According to the American Psychological Association, “anxiety is characterized by worried and intrusive thoughts and tension but also triggers physical changes, including sweating, a rapid heartbeat, dizziness, and an increase in blood pressure.” Anxiety is the mind and body's reaction to stressful, dangerous, or unfamiliar situations.

A prolonged sense of sadness and loss of interest are symptoms of depression, a mood illness. In the United States, depression is thought to affect 17.3 million people, of which 7.3% are adults. The Anxiety and Depression Association of America estimates that there are 40 million American adults who experience anxiety. Anxiety and depression coexist. About 3.4% of the US population overall experience anxiety and desperation disorders. Young adults are more prone to developing anxiety and depression today than they were in their previous generation.

It's crucial to realize, though, that the transition from childhood to maturity can occasionally lead to fluttering. Sometimes, anxiety or depression may not stay for a long time and pass when the young adult finds their center in the new experiences that are part of their route. It's crucial for people who are experiencing anxiety or depression to pay attention to how long their symptoms last.

Adults experience at least five of the nine primary depressive symptoms daily for at least two weeks. Anxiety might sometimes take a while for some people to recover from it. At least six months of extreme, uncontrollable concern that young adults experience.

Anxiety problems are frequently ignored and undertreated in older persons, much like depression. Anxiety can make an older adult's physical health worse, make it harder for them to carry out daily tasks, and make them feel less happy. Adults who struggle with anxiety sometimes feel alone and fear being judged for their actions. They worry that others will think

poorly of them for what they do, which occasionally prevents them from completing their daily tasks. They tend to isolate themselves from the crowd. These people could believe that no one values them and feel unworthy as a result.

Each year, serious mental illness harms the US economy worth about \$190 billion. Both in the US and around the world, mental illness is incredibly common. It has an impact on society as a whole in addition to individual patients. According to the Psychiatric Services, the costs of mental illness are significant for both people and society. The authors of "The Economic Burden of Mental Illness" calculated that the total economic expenses of mental illness were \$103.7 billion in 1985 using information from national surveys and a newly created methodology for cost calculation. Direct treatment and support costs made up \$42.5 billion of this total or 11.5% of all personal health care expenditures for all conditions. The value of lost or reduced productivity due to morbidity was \$47.4 billion. The value of lost productivity as a result of premature death brought on by mental illness was \$9.3 billion, or 5.1 percent of the total productivity losses for all deaths. The cost of caregiver services and other associated expenses totaled \$4.5 billion.

People typically get disorganized when life becomes extremely busy. Even when they only miss a day of their regular activities or chores, most people can get overwhelmed. Adults who have schedules and routines often find solace in them during difficult times. Following a timetable and routine, every day helps you develop a relationship with the issues you face and also increases self-confidence.

Young adults with mental health issues frequently struggle with knowing where to begin when it comes to participating in an activity. When a person decides to do something but then

fears being judged, anxiety sets in. They may find all of these overwhelming, and as a result, they frequently refrain from taking part in anything.

2. Not E-lone Product Description

Not E-lone is a mobile application that offers support for many forms of self-help counsel. Its objective is to mentor young adults using time management techniques, journaling, and guidance. Machine learning techniques will be used to make recommendations to users to stimulate interaction with the application. All of this will be done while utilizing sprite art and a reward system akin to those found in earlier video games. By offering them a selection of quick, simple tasks they can accomplish right away, the Not E-Lone application will provide a helping hand to young adults trapped in a cycle of anxiety or depression.

2.1 Key Product Features and Capabilities

Note-passing will serve as a form of passing encouraging messages to those who have been diagnosed with depression or anxiety. One of the worst emotions experienced by young adults who are struggling with anxiety and depression is feeling alone. They feel a sense of belonging when they can relate to someone else's situation. They are inspired to persevere since they are not alone in their struggles.

Not E-lone will provide step-by-step messages that appear to be complicated to young adults going through anxiety and depression that will help them concentrate on finishing one task at a time.

Another feature that Not E-lone will offer is Journaling. Journaling is the practice of writing down your innermost feelings, ideas, insights, and more. People who are depressed enjoy

writing, especially when they can express their emotions, thoughts, and feelings in their writing. Writing helps them feel less anxious since it allows others to see what they're going through. Journaling will assist them in establishing order when they see chaos in the outside world. By sharing their most private fears, thoughts, and feelings, they learn more about themselves. Writing helps young adults going through anxiety or depression relax on a personal level.

Setting up a schedule is crucial when addressing any type of mental disease. Having an application to streamline daily duties is a terrific idea while dealing with business, personal, and family issues. People experience these days as being too stressful. Some tasks might be so difficult that most people lack the confidence to complete them. The Not E-lone application will assist young adults to concentrate on completing a particular task one at a time rather than worrying about too many things. By focusing the young adult's attention on developing a strategy to accomplish the main objective rather than on how the chores remain incomplete, organizing a list of activities can reduce stress.

Reconceptualization is the process of adopting a new viewpoint. Another method therapists employ to help their patients is to expose them to alternative ways of thinking. Not E-lone will provide young adults with parables and analysis from different schools of thought. You can sometimes readily understand another person's point of view by placing yourself in their shoes. This concept will assist young adults in placing themselves in circumstances that will force them to consider things from that perspective.

Not E-lone will offer a First Step feature that will assist young adults in beginning a set of activities. When using the First Step feature, young adults will be encouraged to begin their daily activities by moving forward incrementally. Young adults who find it difficult to finish difficult challenges will be provided with a step-by-step template. With the aid of that template,

they will be able to focus on one task at a time. This feature will also display a list of accomplishments for young adults, which will make them feel good about themselves and motivate them to accomplish more. Furthermore, the design of this feature includes the ability to use the information provided to generate suggestions for the young adult's schedule.

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2.2 Major Components (Hardware/Software)

Figure 1. Not E-lone Major Functional Components Diagram (MFCD)

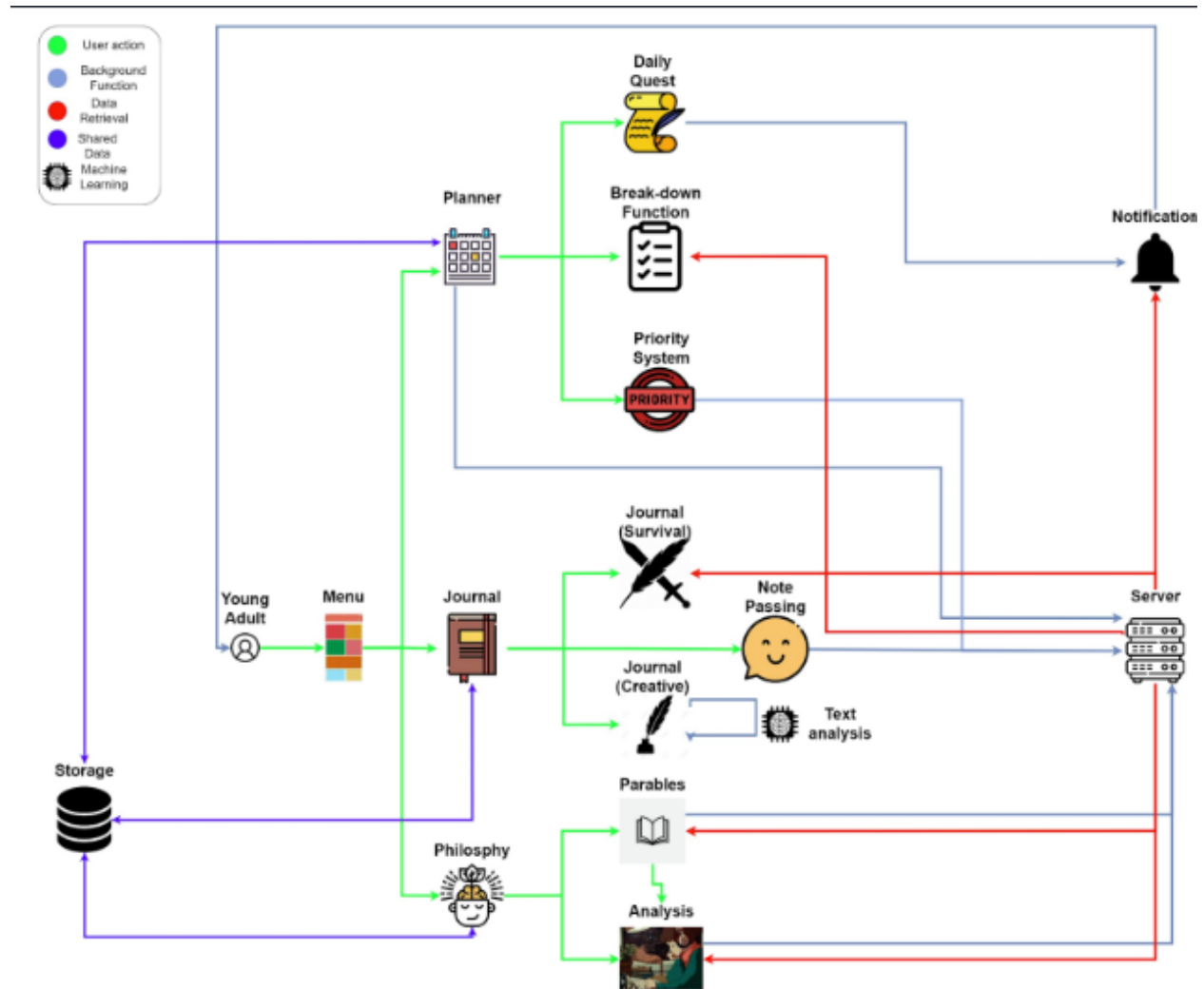


Figure 1 details the platforms' interface, processing, and storage components, as well as their interplay.

The hardware required to run the Not E-lone application will be any android mobile device.

Personal information will be saved on the Not E-lone database rather than saving data on a different database. Java programming and SQL database will comprise the software components of this application.

One of the libraries will use a collection of machine learning algorithms, such as Java-ML. Java.net* will be utilized for URL-based network communication.

Other types of third-party software, such as Gradle will be used for testing. Integrated Development Programs like Eclipse and Atom for developing applications that integrate standard developer tools into a single GUI, will also be used. Version control and software development services will be hosted on Github. The team will communicate via Discord, and the project will be managed using a trello-like system.

3. Identification of Case Study

The target audience for Not E-lone is young adults between the ages of 18 to 25. This includes the young adults' relatives, friends, and colleagues. The primary use of Not E-lone will be based on providing helpful tools to help young adults manage depression and anxiety.

For young adults, the transition from childhood to adulthood is important, especially when there is only one parent in the home. Most of the time, single parenting puts stress on both the parent and the child, which can frequently add to weariness. With the use of this tool, it will be possible to build healthy habits and practices that will ease anxiety and despair.

The application will notify and update young adults on the status of their tasks. It is essential for the application to keep young adults updated on their progress of the work. This will motivate them to work harder to achieve their goal.

There will be numerous information on the application that mental health professionals can use to their advantage. This tool is primarily intended for young adults between the ages of

18 and 25, but any adult suffering from depression can benefit from it. A single parent, for example, may experience depression when life becomes more difficult, confusing, and frightening.

Depression and anxiety are the most common obstacles for college students. College students' rates of depression and anxiety have risen significantly in recent years. Educational institutions can distribute this tool for the early detection and treatment of depression.

4. Not E-lone Product Prototype Description

4.1 Prototype Architecture (Hardware/Software)

- a. Hardware
- b. Software

4.2 Prototype Features and Capabilities

4.3 Prototype Development Challenges

Glossary

Android: Mobile operating system.

Amazon RDS: Cloud-based Amazon relational database service.

Creative Mode: A gameplay mode within the journaling feature that allows the young adult to express their thoughts.

Daily Quest: An objective provided to the young adult to encourage continuous use of Not-Elone and its activities.

Depression: A mood disorder that causes a persistent feeling of sadness and loss of interest

Database: An organized collection of data stored and accessed electronically

Eclipse: an integrated development environment used in computer programming

First Step: A Not-Elone activity that allows a young adult to focus on a single goal.

Gitlab: Provides version control and repository for software development projects.

Gradle: An open-source build automation tool that is designed to be flexible enough to build almost any type of software.

GUI: Graphical user interface.

IDE: Integrated development environment.

Java: High level object oriented programming language

Java-ML: Java Machine Learning Library

Java.net*: Java package used for communicating with networks through URLs.

Journaling: A Not-Elone activity where the young adult will be able to type their thoughts and feelings.

Machine Learning: Artificial Intelligence designed to solve problems in a similar way to how humans solve problems.

MySQL: IDE for database coding in SQL.

Note Passing: A Not-Elone activity where the young adult is able to write a message of support to another young adult.

Notification System: A system based on preferences that push certain notifications to the mobile device

Parable: A simple story used to illustrate a moral or spiritual lesson, as told by Jesus in the Gospels

Planner: A Not-Elone activity that allows a young adult to plan their day.

Priority System: Method used to determine what events you can and can't skip out on, used both for recommendations and the user.

Reconceptualization: conceptualizing a topic in a new or different way

Survival Mode: A gameplay mode within the journaling feature that gives a writing prompt to the user.

Stress: A feeling of emotional tension.

SQL: Structured Query Language, a programming language made for manipulating databases.

Trello: A collaborative project management tool.

User: Young adult experiencing feelings of depression, stress, or anxiety.

User Interface: An interface that allows the user to interact with the software.

Young Adult: A person between the ages 18 to 25

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