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hAPPy

"The app that helps you balance"

Abstract

- As of 2018, 47.1 million adults, equating to one in every five citizens, annually battle mental illnesses in the United States alone (NAMI, 2019)
- The main goal of this free app is to provide an opportunity to anyone who wants to work towards improving their mental health and daily lives by educating them on how each unique aspect of this app effects their health; research has proven that simply knowing these vital daily facts is effective.
- We are proposing to design a mental health app that monitors an individual's daily nutrition(water), hours of sleep, social media use, and exercise
- **Our Approach:** The project's basis is on the fact that the more information someone knows about they're habits, the better their habits become. Bad behavior can be largely based on misconception and lack of information.

Introduction

Our grand challenge is about preventable mental health issues with an emphasis on young people

The main aim of our app is to alleviate more avoidable mental illnesses, specifically the ones caused by bad habits through providing information.

Acknowledgements:

Joe Fleck - Apple, App Dev Consulting Engineer, Ava Hojreh, Ben van Zyll, Dr. Zhang, Dr. Hoover, Dr. Quides

RESEARCH CATEGORIES

Social Media Use

Prolonged social media use, as well as strong emotional connections to social media platforms lead to cut sleep durations and causes sleep interruptions (Scott A, et al. 2017) Provokes anxiety, low self-esteem, and depression (Bekalu MA, et al. 2019). Impacts sleep — later sleep times, shorter durations, and interruptions (Scott A, et al. 2017).

Screen Time

Screen time itself consists of blue light radiation which disrupts the circadian rhythm by inhibiting the production of melatonin, causing mood disorders and the inhibition of sleep (Heo et al. 2017). Studies have shown that screen time takes adolescents away from more important activities and affects their early developmental stages (Ma, et al. 2014) Rapid increase of adolescents with a negative mental health (Robidoux, et al. 2019)

Sleep

The effects of sleep deprivation on the body and brain are incredibly detrimental to health; higher levels of cortisol result, and disrupt synapse regulation, kill brain cells, reduce brain size, induce anxiety, and promote depression (Song H-T, et al. 2015).

Exercise

Exercise has a positive physiological impact on mental health: it bolsters the Hypothalamic-pituitary-adrenal axis' communication with the hippocampus, amygdala, and limbic system, benefitting the person's memory, motivation, mood, and effectiveness in responding to stress (Sharma et al. 2006).
Lack of exercise leads to lower self-esteem and higher levels of anxiety and depression (Mikkelson K, et al., 2017).

Nutrition

Nutrition and mental illness are bidirectional, meaning, with the lack of essential vitamins and minerals (omega-3 fatty acids, vitamin B, and antioxidants), the brain cannot healthily develop and maintain effective bodily functions, leading to an increase in mental illness (Lim S, et al. 2016).

Our Application
Literature Cited

Conclusion/Results

Studied and researched habitual processes that contribute to mental health.
Created an application that gives information based off of reported user statistics to promote good user habits.
Created application that provides great template for future development.

Application Design/Future

Our apps main topics were: Screentime, Water, Sleep and Exercise. As these can be simply defined in a one statistic to information basis and are some of the most important according to our research.
This application was programmed as a template with a direct correlation between doubles created from user reported statistics and output information based on research. By creating a rewritable base program it allows us to reuse the core fundamentals on multiple modules.
This process creates a multitude of if statements of necessary ranges given a text file and changing 1 line of code.
The Unity platform allows for a strong user experience and potential publishing to mobile and computer devices.
Per recommendation of our expert Joe Fleck, our application was focused on functionality instead of aesthetic in order to receive the best feedback from community surveys.
In the future we would create a better user menu, and begin to implement more complex data types like nutrition.
The biggest challenge with these kinds of apps comes from complexities in data types. Even some of the biggest apps that monitor health statistics, IE MyFitnessPal, can be clunky and aren't simplistic.
Moving forward, to sell this app it would probably be most effective to provide a gimmick or game aspect in order to make it a more user friendly experience as the market for health applications is complex and vast.

Application Highlights

Figure 1

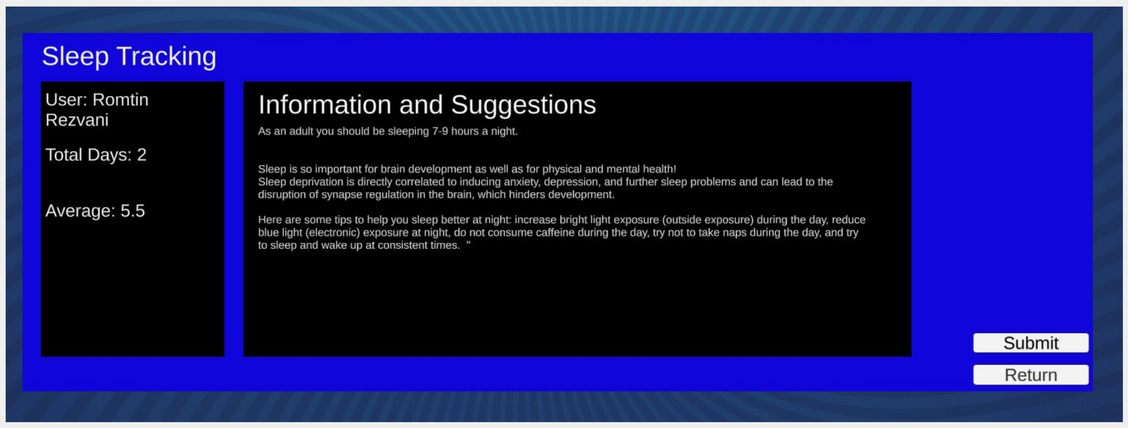

Figure 1: One of the four modules (sleep). Module consists of user information, as well as information and suggestions that are based on the user's input to give a research based output.

Figure 2 & 3: The code that handles all of our file input. We are able to recycle this code so that reading in our output ranges becomes simplified

Figure 2

```
public string decodeFile(string filePath, double value)
{
    double low = 0;
    double high = 1000;

    string informationString = "";
    bool keepGoing = true;
    //WRITE A STREAM READER TO GET HIGH AND LOW

    StreamReader sr = new StreamReader(filePath);

    string line = "REPLACEME";
    low = double.Parse(line = sr.ReadLine());
    high = double.Parse(line = sr.ReadLine());

    while((line = sr.ReadLine()) != null)
    {

        if (line != "+")
        {
            if(value >= low && value <= high)
            {
                informationString += line + "\n";
                keepGoing = false;
            }

        }
        else if (line == "+" && keepGoing)
        {
            Debug.Log("Line 55: Triggered");

            informationString = "";
            if((line = sr.ReadLine()) != null)
            {
                Debug.Log("Low: " + low);
```

Figure 3

```
                Debug.Log("Line: " + line);
                low = double.Parse(line);
                Debug.Log("Low after Parse: " + low);
            }
            if((line = sr.ReadLine()) != null)
            {
                Debug.Log("High: " + high);
                Debug.Log("High Line: " + line);
                high = double.Parse(line);
                Debug.Log("High after Parse: " + high);
            }
            else
            {
                informationString = "notfound";
            }
        }
        else
        {
            break;
        }

    }



    sr.Close();
    return informationString;
}
```