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Department of Electrical, Computer, & Biomedical Engineering
Faculty of Engineering & Architectural Science

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CPS888 Software Engineering
Winter 2021

Term Project: Proposal

January 24, 2021

1 Tasks

1.1 Task 1 – Problem Statement & Informal Requirements Description

Amidst the global pandemic, isolation has brought an increased emphasis on mental health as people are limited to staying indoors and required to limit social interaction. According to a recent study done by CTV, about 16% of Canadians said their mental health is worse or somewhat worse according to 24% of people than it was in April during the beginning of the pandemic [1]. Our proposed solution is an online journal system for users to track their feelings. This is an alternative to a therapist which is expensive for the average person and will serve as a mental health monitoring system.

The web application online journaling system will serve as a stand-alone application. In order to use the application, users are required to sign up if new or sign in if they have a registered account. Usernames created during initial use of the app will allow for anonymity as mental health is a personal issue. Some features of the online journal system include a homepage with options for motivation, anxiety, health issues, self-esteem and stress.

Next, the website would have a dedicated location of journal entries the user entered similar to an online drawer of journal entries. Due to the nature of the application and ensuring that the users only track the necessary information relating to their feelings that day, a constraint on the journal entry would be a limit of 250 words. This way users can only record the important aspects of their day and discard routine activities such as brushing teeth and eating breakfast. Users can access their previous journal entries arranged chronologically by dd/mm/yyyy. Another feature of the application would be a sentiment analysis of the journal entries. This feature would allow the user to know how they're doing on a daily basis. These feelings would include but would not be limited to sad, happy, angry and excited. This data would be used later in the system to provide some recommendations or tips that would help the user to overcome their negative feelings.

Moreover, Stats Canada research done in 2020 showed that regardless of age, gender, or ethnicity, changes in mental health and emotions increased compared to the past year statistics [2]. Due to the breadth of people that mental health affects, it is best to keep the target audience to everyone in order to cater to different kinds of users. This would allow the application to cover a larger user base and to be able to reach more users, rather than limiting the scope of the application to a select few.

In addition, one of the most important features of the application would include a Self Care area, where the user would be able to track their feelings and access recommended mental health resources. This can include, but is not limited to quotes of the day, posts on a bulletin-

board/dashboard and access to mental-health resources such as the Kids Help Phone hotline, Good2Talk, BounceBack therapy etc. This would allow the user to reach out to services that they may not have been aware of and would help provide immediate services.

1.2 Task 2 – Team Information

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1.3 Task 3 – Process Information

Due to the foreseen linear nature of the project, the Waterfall model [2] is selected for the forthcoming reasons. First, the deliverables are easy to estimate at each stage. Second, the Waterfall model is free of execution ambiguity. Since the customer is the developer in this instance, there will be no confusion regarding the direction of project development. Consequently, the project developers will execute their vision right from the initial requirements stage, negating the customer's involvement and thus the need for continuous modifications. As the process name Waterfall implies, each development phase is laid out sequentially. This provides a rigid structure of stages that will enable a better division, management, and execution of tasks amongst group members throughout the duration of the project. This is especially true, as each member is working on their own section of the project at home due to the COVID-19 pandemic and group collaboration is difficult.

Development processes that feature more Agile oriented methodologies were not selected for the following reasons. Since there is no customer with changing requirements to please, there is no reason to use a flexible approach, which is the primary advantage of Agile design processes. Furthermore, a more Iterative Development process may in fact add nonessential complexity to the project as iterative development by nature is more difficult to manage. This is due to the fact that the development process isn't as visible as Planning oriented process management models such as the Waterfall model. This is important, because there is limited time to organize and develop the project and consequently any iterative tasks could cause organizational problems amongst the development team, thus delaying completion of the product.

REFERENCES

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