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Assignment 3-Open Source Software: Proposal and Specifications
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CSC 415-01

Osmosis

A common social justice issue is domestic violence and abuse. The application that is being proposed is one that will help to aid victims involved in domestic abuse. Some common hurdles faced by a typical victim of domestic abuse include: fear of telling someone, inability to keep a log of the abuse for fear of their partner finding it, incapability to contact the authorities in the event of an incident, and/or keeping a log secret from their domestic partner. Development of an app that could complete many of these tasks on an easy to use application that is available on the go would help the victims immensely. The proposed project is to create such an app that has the capability to do all these tasks and be secretive for safety reasons.

For this project, option II was chosen to develop a project that will implement an innovative computational solution to domestic violence and abuse. This application will be programmed entirely in Swift, which is a programming language used for application development on IOS Devices. This project will be done as an application because the user will want to be able to log events in an orderly and timely manner. In addition to this, the logs must be kept secret and this is more easily done within an application. Most of the testing for this project will be done using Xcode, an integrated development environment for macOS, or with the use of an Iphone. As for the framework for this project, there will be some form of front facing application that will work as a decoy or distraction from the real application behind it which is where all the actual domestic violence logs will be kept. After much thought, it was

decided that the front facing application be some form of simple water tracker that will allow for unintended users of the back facing application to use. This water tracker will simply keep track of water consumption of the user and give them the option of displaying it graphically for each month. This water tracker will have a login interface, if a certain login is used, it will then open the back facing application that holds the domestic violence logs. This back facing application will be much more complicated than its predecessor. This back facing application will allow the intended user to log via voice recordings, journal entries, and pictures. In addition it will also allow the user to store their own emergency contact information, which will solely be used in the event of the panic feature being activated. As for useful information, the application will provide the user with resources for domestic abuse, Women's Shelters in the area, and allow the user to set up a calendar to keep track of therapist appointments and events.

This project is innovative because this is something that society is in desperate need of. Many victims of domestic violence and abuse fail to keep logs of these events for fear their abuser will find them. These logged events or photos are vital when it comes to court cases and proving the abuse happened. The main issue facing victims of domestic abuse is finding the time to keep these logs and to keep them hidden from any unwanted viewers, which is why this application will come in handy. It will allow for these victims to easily keep timestamped logs of these events and to keep this information hidden underneath a visage. Additionally, these victims often times believe they are hopeless and that no one can help them or understand their situation. This application helps to provide these victims with the necessary resources that can help them to find help and keep track of therapist visits or appointments.

The data for the logs will be kept in some form of stack or queue in order to keep all the logs in chronological order and to ensure that all logs have the entry along with the timestamps. All this information on Users must be sorted in a way that can be visually displayed in a manner that is easily read by the User. For this reason some form of sorting algorithm will be implemented in order to display the correct user information in a aesthetically pleasing manner. In order to complete this project, knowledge of the Swift programming language and Xcode will be needed, since all Apple Iphone applications must be written in Swift, and Xcode is a good IDE for displaying these applications onto a virtual machine that will represent an Iphone screen. To learn about this language and programming tool, time will be taken outside of the classroom to further expand knowledge on these fields using tools such as Youtube tutorials and Apple Developer documentation on Swift Programming using Xcode. This documentation contains many useful examples of Swift code and useful guides for using Swift.

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Use Case Diagram: