A Women Safety Mobile Application

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Abstract: Women's personal security has always been a major concern, and numerous potential solutions have been discussed regarding how technology can be used to address the issue. Because of the rapid rise in smartphone usage, it is now possible to integrate personal security effectively using both hardware and software. Existing security methods necessitate some form of human input and the use of only pre-selected contacts. Many tragic occurrences have occurred in the case of women. Problems can arise from a variety of sources, including women walking on the street after work, going to the supermarket, or a variety of other reasons for which they go alone. There has been a spike in women related crimes in Malaysia as well. Therefore, to enhance women safety in Malaysia this project suggests a mobile application which can come in handy for women who find themselves in dangerous situations. This project which may be launched with a single click if the need arises.

A single click on this app recognizes the location of a place using GPS and sends a message to the registered contacts containing the location URL, as well as calling the first registered contact to assist the person in a difficult situation. Authentication of their identity is also provided by this application. The primary goal of this project is to ensure and enhance personal safety. As a result, the primary goal of this project is to make it easier for users to get assistance in a timely manner.

Index Terms— GPS, mobile application, safety features, Security, tragic situations

1. INTRODUCTION

1.1 Background of study

Women are a vital part of our society. In today's society, women play critical roles not only in the home, but also in politics, economics, and nation-building. Women's safety has long been a critical and sensitive issue in our society. There is not a single day that goes by without hearing of an attack on a girl or a woman. Females being murdered, molested, raped has become a recurring theme in emerging news headlines. Women's safety is a crisis in almost every underdeveloped, developing, and developed country. Women's violence is a serious act. The tragedy is that these crimes are frequently justified by blaming the victim (Annuar, 2019).

Despite being ranked fifth safest country in the Asia Pacific region by the 2018 Global Peace Index, Malaysia continues to lag behind in terms of legal protection and economic gender equity, according to a separate study. Some of the most prevalent crimes against women in Malaysia are similar to those in other countries, including sexual harassment, domestic abuse, and some workplace discrimination against women. Additionally, according to Malaysian government profiles, police took allegations seriously and efforts were made to raise awareness, but as long as women do not report crimes, offenders will be able to escape or feel encouraged to continue their behaviours.
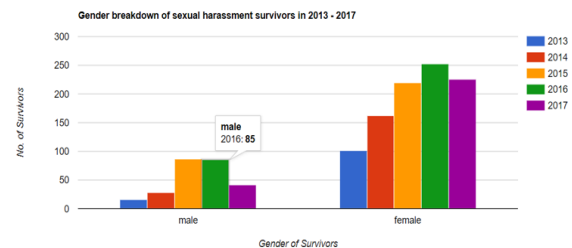

Figure 1: Gender based sexual harassment bar chart from 2013-2017

1.2 Objectives

The objectives this project aims to achieve are as the following:

To study on the existing mobile application for women personal safety features and carry out the study on the effectiveness of smartphone towards the purpose of women safety
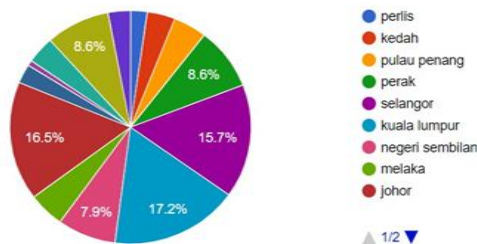
To develop a mobile application that enhances the safety of women by provide a reliable app which can used during threatening situations

To ensure personal safety and access to an emergency helpline with immediate assistance by using the application through one S.O.S. button whenever they need additional assistance on their journey back.

1.3 Scope of study

According to the previously stated objectives, this project will primarily focus on Malaysian women from urban areas in Malaysia. The study emphasizes the importance of women safety in Malaysia by using the data sets that are based on the statistics of women harassment & violence cases.

II SYSTEM ANALYSIS

2.1 LITERATURE SURVEY

2.1   Women safety in public places

The meaning of urban life is best conveyed in a public place. When people come together in public places like a park or a shopping mall, they meet each other, and at times they become victims of crime. It is essential for a person to be able to move around in a sustainable city in order to maintain a sense of place and improve one's quality of life (Cecato, 2017). According to Cecato (2017) several environmental characteristics affect the safety of public places, yet it is safety perception that plays a significant role in making places appear safe or unsafe to people.

2.2   Global status of women safety

Women are the most persecuted individuals in every culture, country, religion, and society, throughout history and around the world. They have fewer options, more limited political choices, less adaptability, less access to healthcare, fewer educational opportunities, and are more vulnerable to violence. Women's crimes are not declining but are increasing at an alarming rate, particularly harassment, molestation, eve-teasing, rape, kidnapping, and domestic abuse.

In conclusion, we cannot advance as a nation until women feel secure and confident; women play a critical role in the economy and society.

III SYSTEM ANALYSIS: METHODOLOGY

3.1   Introduction

This project will follow the SDLC methodology, which is an abbreviation for "software development life cycle." Agile SDLC is a method for developing software with the highest possible quality at the lowest possible cost and in the shortest possible time. This project requires the collection of data on crime rates in three different cities, which requires a significant amount of work, and the use of a GPS system to pinpoint unsafe and safe areas in order to develop a mobile app in a short amount of time. As a result, for projects involving these steps, the Agile SDLC is the optimal choice. The major steps in developing a mobile app for women's safety are data collection on crime rates such as rape, sexual harassment, and abuse, software design such as architectural design, testing, and deployment.
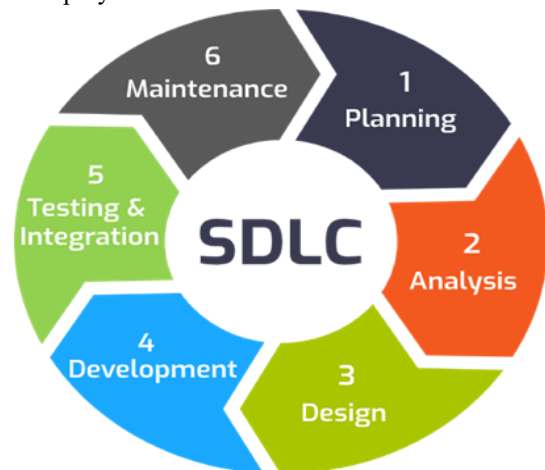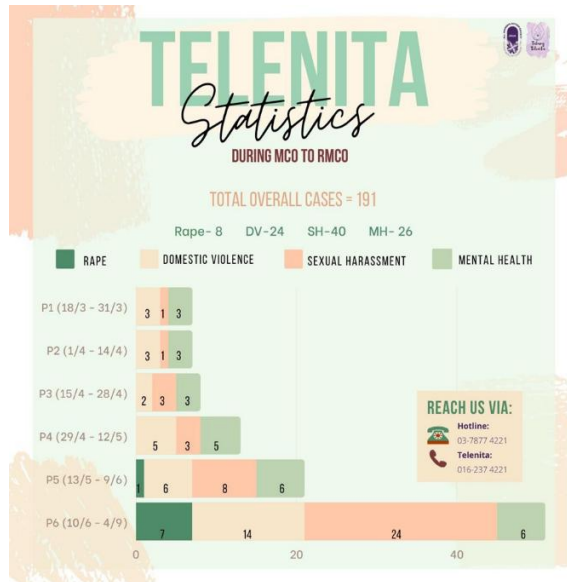

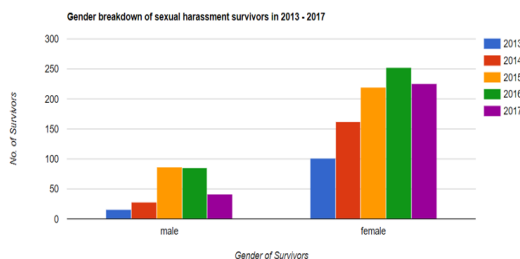Figure 10: SDLC methodology phases

IV. RESULT AND DISCUSSION

This chapter will discuss about the result from the proposed solution that will be used for this entire project and the design for the user interface.

According to, all Women's Action Society. AWAM. (2020, November 8), the statistics shows that during MCO TO RMCO the cases related to sexual harassment, rape, and domestic violence have increased rapidly within 4 months. This proves that

day by day violence against women keep on increasing even during the pandemic whereby movement has been limited.

According to Women's Aid Organisation. (2021, January 19), sexual Harassment Statistics in Malaysia can be seen to be increasing from the year of 2000 to 2017. This shows the severity of women safety in Malaysia and the need of women safety app to minimise these issues.

4.1 Survey and discussion
A survey by google form has been done to analyse women safety in Malaysia. The survey has been responded by 32 people as of now.
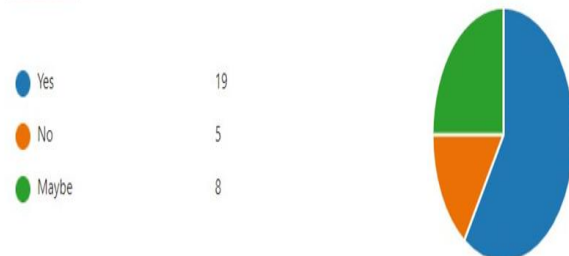

Figure 19: Gender Chart

The survey was done in between short amount of time and got a good feedback, and this shows the seriousness of the problems in Malaysia. To beat the stereotypical that harassment and rape has only been done towards women, this survey opens the floor to anyone.

Figure 20: Sexual harassment/violence chart

According to the survey results, the author can conclude that some of the respondents are not even aware whether certain gestures they have experienced falls under sexual abuse or harassment. This shows that Malaysians have a very limited education on these issues.

V Conclusion and Future Work

5.1 Overview

This chapter concludes the entire project and the proposed solution for the mentioned problems statement. This chapter also recommend future works for this particular application.

According to WAO's statistics on violence against women shows that domestic violence has increased from 2000 to 2018. In 2000, there have been 3468 cases of domestic violence. While in 2018, the number increased to 5513. It can be stated that sexual abuse cases been increasing rapidly and "Frndy" is designed to assist women who have unexpectedly found themselves in an emergency scenario. It also contributes to a lifestyle and the awareness of women safety amongst Malaysians. The only way to completely eliminate and significantly reduce this issue is to develop a mobile application. Mobile is a small, custom-built software application that is simple to download and install on mobile devices. Apple's App Store, as well as Google's Play Store, have democratised the use of apps.

With familiar mobile phones that can activate SOS mode simply by shaking the phone, a person in danger will automatically notify family and friends to his or her location and authorities to the situation they are in and the victim's location. "Such an application will improve the lives of all citizens by providing them with a greater sense of security in our society," one could argue (Biswas, 2017). The purpose of notifying authorities is to reassure the victim with the evidence that has been gathered and to allow authorities to check on the victim's health.

There are some issues with the current system that have been raised. Maintaining and controlling the real-time database is a challenge. It is possible for a developer to encounter difficulties while developing in firebase because the database structure is different from that of a SQL database and uses a tree-dimensional structure. Despite the fact that there are a number of tutorials available online, different compilation configurations may provide a different programming environment.

5.2 Impact and Contribution

Although there are numerous emergency applications, the majority of them require payment in order to unlock additional features. For example, rapidSOS+ requires an annual subscription fee of $49.99 US dollars for the family packet and $29.99 US dollars for the individual packet. Women can access immediate assistance through this application if they encounter a problem or are in a difficult situation. Women's increased participation in the paid workforce is arguably the most significant economic change of the last century, and it has created a situation in which women must travel and forth to continue performing their daily duties. Users can use the features of this application to determine whether the areas through which they will travel are safe from offences. Not only is this application useful for tracking, but it also includes an SOS emergency alert. This emergency alert feature can assist users in escaping dangerous situations or even prevent unfortunate or uncomfortable events from occurring.

The primary goal of these safety applications is to send alerts to individuals who can take action quickly. Instant alerts can provide immediate assistance and help protect women from becoming victims of assault. Women are now aware that certain measures can be taken when confronted with potentially dangerous situations as a result of the development of such an app. Additionally, this app demonstrates the critical nature of having a mobile application that can protect women from sexual assault and raises awareness about women's safety in Malaysia. Although women's security apps are likely to play a minimal role in security these days. Nonetheless, its continued use and daily updates in accordance with requirements, as well as a heightened awareness of security, will help the apps see a more righteous future.

5.3 Future Work

The application's usability will be further improved in the near term. In addition, the future plan is to improve and enhance security by incorporating the latest smart device built-in technology, such as fingerprint recognition and NFC. Fingerprints or NFC tags can be used by users to check in more quickly and easily. Other than that, the application will include a forum or discussion area. In the application, the user can now post warning cases, the most recent emergency tip, and other relevant information. In addition, the interface's user-friendliness and the navigation steps on the page can be improved and refreshed to keep users interested at all times. The future works activities will be conducted according to remaining SDLC phases while

being kept on track using the Gantt Chart previously presented.

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