**Saving victims’ lives by empowering ambulance services to be better**

Name: Loh Jin Xian

Student id: 016763

Faculty: Computer Science

**Background**

Life is precious, yet most humans live their lives without ever being grateful for the opportunity to breathe, see, hear and love in a meaningful way. The realization comes when he or she is having an emergency that can determine between life and death, only then people will start appreciating what they had in life all these times. However, sometimes a short delay of ambulance in times of emergency will take away all hopes and dreams of people that want to be better, people that can become future leaders or people that play a major role in society.

In Malaysia, when in times of an emergency event, the call for an ambulance can be made by dialing Malaysia’s emergency number 999. But what is the point of calling an ambulance if it takes it an average of 30 minutes for the ambulance to arrive at the victim’s location and carry out the necessary procedures to save the man? Countless stories of victims died due to the delay of ambulances have been unexpectedly high in recent years although we have made advancement in the realm of technology. The reason causing this issue might be the steps needed for the people to convey their messages and worries to the person in charged.

For example, after dialing the number 999, the caller will be assisted by an operator that will ask various questions like the location, the emergency involved and the severity of the incident. Then, the operator will redirect the caller to the emergency services in need and further assist the caller. The layers of people involved in the call might also introduce a lot of human errors that will again delay the arrival of ambulance. Therefore, it is not a want, but a necessity to improve the way Malaysians call for an emergency with the help of technology and information.

**Motivation**

There are many motivations in taking up this project. But the one incident that encourages me to do so is the death of my grandmother. While she was on her death bed, we wanted to call for an ambulance, but the ambulances needed were not available at that moment, so we had to wait for a long time for the ambulance to arrive. By then, all we could hear was her last breath.

No one should die due to the lack of quality or the delay in responses times of an ambulance. Imagine a world where ambulances services are always available within 5km and anyone can call for an ambulance instantly at anytime, anywhere. This is the world that we strive to build and this project is the first step towards achieving that goal.

**Aims and Objectives**

The aim of this project is to create a mobile application that gives user the ability to call for an ambulance and ensure the ambulance arrive at the required location using the shortest time possible. The objectives of this project are:

* Using Natural Language Processing (NLP) technology to process what the caller is saying and extract important keywords to determine the type of ambulance needed for the situation, thus decreasing human error and increasing the precision of the system
* Using Global Positioning System (GPS) that is available in the phone to determine the location of the caller precisely, so no misinformation is conveyed to the ambulances
* Using the location of the caller to pick the best ambulance center to deploy the required ambulance in the shortest time
* Give user the choice to select which type of hospital (public/private/semi-private) is preferred in times of emergency

**Work plan**

1. **Research**

More research will be done on how hospital and ambulance services cooperate with each other and what is the steps involved at the back end of the emergency service centers. Other than that, some reading on the types of ambulance in the world will also be done to ensure that all emergency situations can be solved with the available ambulances

1. **Development**

Start creating a prototype of the application to test the core functionality of the app. Then, start incorporating technology like natural language processing to check whether the accuracy and speed is up to par to users’ expectations. Application will be refined gradually until it us usable not just in terms of functionality but also visually appealing

1. **Report writing**

Write a detailed final project report based on all the things that had been learned throughout the year and finalize the whole thing including a completed application and system

**Bibliography**

1. S. (2014, January 31). Emergencies. Retrieved from https://www.justlanded.com/english/Malaysia/Malaysia-Guide/Health/Emergencies
2. Shurentheran, V. (Ed.). (2016, October 10). Health Ministry under fire over deadly ambulance cases ⋆ The Malaysian Times. Retrieved October 19, 2018, from <http://www.themalaysiantimes.com.my/health-ministry-under-fire-over-deadly-ambulance-cases/>
3. Cheng, N. (2016, October 10). Health Ministry to probe late, ill-equipped ambulances. Retrieved from https://www.thestar.com.my/news/nation/2016/10/10/health-ministry-to-look-into-late-ambulances/
4. After death of two men, Malaysia's MOH to probe into state of ambulances and response times. (n.d.). Retrieved from https://today.mims.com/after-death-of-two-men--malaysia-s-moh-to-probe-into-state-of-ambulances-and-response-times