

**1. How can Safety Engineering be seen and implemented in your software engineering 2 project? Please be specific and give example.**

Since we are dealing with users' information, especially a mobile phone number and their location, we made sure that the technology stack we use is safe and secured, and prevent the risk of leaking any private information from our system. The system is designed to be a user friendly to reduce the risk of human errors, and deals with accident prevention. We provided an authorize module to make sure that all of our data can be monitor and edit by personnel.

**2. How can Security Engineering be seen and implemented in your software engineering 2 project? Please be specific and give example.**

The system is deployed in a secured hosting site which provide SSL Certificate that enables an encrypted connection. It is a security protocol that creates an encrypted link between our web server and our web platform. We also added a Cors policy between the server and the web platform to make sure that the communication between the two platform is secured. The server requires a token to authenticate the request and verified the user. By doing this, our server becomes secured from any cyber-attacks, and prevent them from brute forcing the system. Also, we utilize a google authentication for the verification of mobile numbers, that prevent users' from spamming their number in our system.

**3. How can Resilience Engineering be seen and implemented in your software engineering 2 project? Please be specific and give example.**

The system is designed to adapt in the event failure that is done by a human or what we called human errors. The basic resilience engineering that we provide is the response message whether the input is accepted by the system. For example, in our registration account, we check whether the email is a valid email address, and if not, there will be a response message coming from a server that is it not a valid email address. Aside from implementing a response message from the server, we also added a phone number verification; we check whether the number is a valid phone digit, and included a system captcha to make sure that the one who is using the system is not a robot. By implementing these functions, we make sure that our system adapts to any event failure that will possibly happen in our application. Not only that, if the server is down, the system will still work and we made sure that our valued customer can still access the website, but they cannot use it a 100%, we only provide static web page; including images, text, and loading progress.

#### **4. What is your individual contribution/s to ensure that the system is safe, secured and resilient?**

As a team, we used the scrum methodology to make a planning, and start doing the project. My contribution to ensure that the system is safe, secured, and resilient is that I provided a well-designed function in the server that serves as the API endpoints of the application for the web page. For the website, we used ReactJS to prevent XSS vulnerabilities which indicate malicious code being injected in our application. Also, I used different tech stack such as Google Firebase, and Token Authentication to made sure that all of communication between the server and the client side is secured. As a team, we made sure that the system is well tested, and almost a bug-free application.