***A2 - Testing Plan***

*After spending time planning and developing the SocialCare Chat application, we will need to test the application thoroughly before the official release. Testing phase one will be conducted by, XVI, and their friends and family. This could be hardware related testing’s such as how the application scales on different devices, screen orientation and mobile devices by different manufacturers. This can be done quickly by researching the most widely used mobile device in our specific target audience. By doing quick test between XVI and friends, we can test the functionality of the application and quickly fix any bugs that would hinder further testing, things such as installing and running the application and seeing how it affects the devices resources. XVI can also test how convenient the application is by re-locating icons and buttons depending on how used they are, how easily reached they are and how noticeable they are to stop users from getting lost in the UI.*

*After bugs and issues are resolved, we can start testing in the target audience by releasing the application to select nursing homes that would like to partake in phase two. We can gather information given to us by the application and also by employees at the Age Care facilities. As the application is made for the elderly, talking directly to them after using the application for a period of time will allow us to make adjustments we may have not been made aware of previously or that our audience believe will better suit them.*

*When the application is in the final stages, we can start releasing it to testing groups who will be more focused on finding issues with the application. This will allow us to find and fix issues that can be created on accident or in certain scenarios and stop that from happening before releasing the market. Being able to find and fix as many of these features will allow us to more confidently release the application without fear of issues appearing in possibly important situations. After this the application should be in a highly useable state and be able to be released briefly for users to beta test such as on the Google Play Store and Apple AppStore. Feedback can be acquired from this and we can continue to improve the application and debug related issues before the official release.*

***TESTING – A3***

1. *How will your test your project?*
2. *How will you know when you have succeeded?*
3. *Testing is not something that you should leave until the very end; often it is far more useful to have a quick and dirty “mock up" of a project and then do some (limited) testing, to and out whether you are building the right product.*
4. *If your project involves user testing, you should describe in your plan how you will find the test users, approximately what number of people you will need, and what background (if any) is required. At least one paragraph is expected here.*

We will run our web and mobile applications through a range of key tests to ensure the application is functionally correct, easy to use, responsive, compatible and most importantly, security testing.

All testing phases are imperative and we need to ensure they all come back with a positive result in order to proceed. Some tests may indicate bugs, however, such tests may allow us to proceed and continue with the following test, while debugging the issues that have arisen in previous tests. This will ensure that time is being utilised effectively and the team continues to work efficiently throughout the process.

We will know that we are succeeding as we proceed through the tests rapidly and continue to debug and overcome hurdles as they arise.

The most important testing phases is certainly the design and layout as we need to ensure that it’s exactly how we intend on it to be and look to overcome such hurdles that we are highly likely to face; we will align testing to coincide with development.

Upon the completion of all testing phases, we will proceed to do crowd testing which will involve a select number of people to use the application to provide insight and unnoticed issues. We will commence with the family and friends of XVI. After which we look to undergo paid crowd testing with individuals that hold a range of skillsets.

We may also consider doing crowd testing as we proceed to update our application in future as we look to solve a need for those with disabilities.

Below you will find a detailed list of tests we will run and why they are important.

**Web application**

1. **Functionality Testing** ensures the web application is functionally correct. This will check the database connection, links to the web pages, cookies, and any forms used to submit and/or gain information from the user.
2. **Usability Testing** is a combination of functionality with the overall user experience.
3. **Interface Testing** checks whether or not all interactions between the servers are running smoothly. It will also determine whether interruptions by the server or by the user are handled properly.
4. **Compatibility Testing** is to ensure it suits all kinds of screen displays on a range of device types.
5. **Performance Testing** checks the performance of the app under a heavy load as well as testing under a range of internet speeds throughout standard and peak periods.
6. **Security Testing** tests the applications security in order to identify weak points to improvement them as much possible.
7. **Crowd Testing** is done through a select number of people to execute tests that will unravel many unnoticed defects.

**Mobile application**

1. **Installation testing:** Tests need to conduct installation testing to ensure that the user can smoothly install or uninstall the application, this also includes application updates. Ensuring the app does not crash throughout any of these processes.
2. **Target Device and OS testing:** Testing a range of mobile devices and operating systems.
3. **UI and UX testing:** It is important to test the UI and UX, as it is essential to review the look and feel of the application. This testing has to be done from the users’ perspective to ensure that the application is intuitive, easy to use, and has industry-accepted interfaces.
4. **Functionality Testing:** Tests the functional behavior of the application to ensure that the application is working according to the specified requirements. This checks the interactions of the end-user to ensure the app is actually functioning as designed and able to multitask.
5. **Interrupt testing:** Ensuring that users can be interrupted with calls, SMS, MMS, messages, notifications, network outage, device power cycle notification etc. when using the application.
6. **Data network testing:** To provide useful functionalities, mobile apps rely on network connectivity. This ensures the app continues to perform at optimal state with varying network speeds and handle network transitions.
7. **Hardware keys testing:** Checking the hardware and sensors used within the application are working efficiently. For example; gyroscope sensors, proximity sensors, location sensors, touchless sensors, ambient light sensors etc. and hardware features such as camera, storage, microphone, display etc.
8. **Performance Testing:** This involves the testing of load conditions, network coverage support, and identification of application and infrastructure bottlenecks, response time, memory leaks, and application performance when only intermittent phases of connectivity are required. This ensures the application continues to perform optimally.
9. **Load testing:** To test the application performance in light of sudden traffic surges, and ensure that high loads and stress on the application does not cause it to crash.
10. **Security testing:** Involves gathering all the information regarding the application and identifying threats and vulnerability for the application using static and dynamic analysis of mobile source code.
11. **Crowd testing:** is done through a select number of people to execute tests that will unravel many unnoticed defects.