**Week 2 – Software Quality**

Task: Each student selects one of the functional requirements on the subsystem that you have worked on in Week 1 practical exercise, write one quality requirements on each of the quality attributes *performance*, *scalability*, *reliability*, and *security* (on protection of privacy).

Picked functional requirement:

* *FR-C1. Registration*: The system should enable a user to register with the following data:
  + username,
  + password,
  + contact email address,
  + contact telephone number,
  + shipping address [optional],
  + payment card details [optional].

Performance:

* The system should prompt the user with all the necessary details to either create an account or log into an existing account fast so that the user is not confused with what to do (would be confused if there was no prompt when they click on “register”) – this should ideally be done as quick as possible, less than 2 seconds without other external factors such as internet speeds. When the user enters their information, the system should be able to store this data within a database promptly even if there are multiple people creating accounts at the same time.

Scalability:

* The system should be able to handle a huge number of submissions; this should be able to change depending on how successful and used the application is. The more people that are creating accounts using their information, the more storage there is needed to be able to keep the user’s data. The speed at which all this information is used must also not be affected as more people use it.

Reliability:

* Registration should be reliable as if there were any crashes or issues then the user would be less likely to input any information or sign up for the application. This could be due to the fact they may think it is less legitimate of an application as it doesn’t work as intended from the start. The application should have very little downtime, meaning that it can be used at any time by the users; if the user can’t create an account, they won’t be able to use the application at all so if the registration is down then they are unable to access the application as a whole.

Security:

* The registration form should be secure against things such as SQL injections, the database that stores the user information should be constantly checked for any issues and pen-testing could also be done on the application. The information should ideally be encrypted so only the people that need to access the information can. This is important as if any information is misused then this could hurt the reputation of the company that has created this application. You must also work with the GDPR so that any data is secure at any time.