Chapter 3:

# Requirements

## 3.1. MoSCoW Methodology

Considering the length of the project and the uncertainty as to how much can be completed prior to the deadline. It is of importance to hierarchize the requirements in terms as to what needs completion for the deadline. This will allow for features that are needed for the application to work be considered prior to other less-essential characteristic(s). In other words, a requirement prioritization technique is in need to be able to organise the development of the software.

A well-known requirement prioritization technique known as **MoSCoW** is common in the agile development environment (Vestola, M., 2010). This method has four different levels of prioritisation (Kuhn, J., 2009). These are the definitions proposed by Achimugu P. *et al* (2014) for each of the levels:

|  |  |
| --- | --- |
| **Must** | *Requirements are not negotiable; the failure to deliver these requirements would result in the failure of the entire project* |
| **Should** | *Features that would be nice to have if at all possible* |
| **Could** | *Features that would be nice to have if at all possible but slightly less advantageous than the “S” (Should)* |
| **Won’t** | *These requirements are not unimportant, but they will definitely not be implemented in the current software project. They may, at a later stage, be created.* |

In addition, the requirements have been split up into ***functional requirements***and ***non-functional requirements***. This project will be using the following definitions:

|  |  |
| --- | --- |
| **Functional Requirements (FR)** | *Functional requirements specify the functions of the system, how it records, computes, transforms, and transmits data* (Lausen, S., 2002) |
| **Non-Functional Requirements (NFR)** | *Non-functional requirements describe the nature and limitations on the project instead of its functionality, also this term describes the non-behavior aspects and attributes of the system including usability, portability, security, understandability, reliability, and modifiability. In general, the non-functional requirements highlight the requirements that describe "how good" the software* (Hudaib, A. *et al,* 2018) |

That being established, the way the project will mainly differentiate each type of requirement is based upon the aim. In this case the projects target is “*to create an intelligent tool that can autonomously be capable from fed text determine whether a given news report is real or fake”.* Whichmeans that functional requirements will around the machine learning software and the detector section within the website, whilst the non-functional requirements will be on the website application (which does not include the detector).

## 3.2. Functional Requirements

Table 1 - Functional Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Dependencies | Priority | Requirement Description |
| FR-01 |  | **Must** | The system must be able through carefully chosen algorithm(s)/model(s) classify a news report as being truthful or deceptive |
| FR-02 |  | **Must** | The system must only accept English written news |
| FR-03 |  | **Must** | The system must only accept URL format as input |
| FR-04 |  | **Must** | The system must be able to retrieve the news content from given URL |
| FR-05 |  | **Must** | The system must identify whether provided URL is an actual news report or not |
| FR-06 |  | **Must** | The Machine Learning application must have a success rate of 75% throughout its thorough testing phase |
| FR-07 |  | **Should** | The system should indicate to the user when the data is being processed and when it is completed |
| FR-08 |  | **Should** | The system should be able to process more than one URL at a time |
| FR-09 |  | **Should** | The website should be able to classify in less than a minute per news report |
| FR-10 |  | **Should** | The systems output should give to some extent some reasoning for its decision |
| FR-11 |  | **Could** | The system should output different content based upon the user privilege on the website |
| FR-12 |  | **Won’t** | The system won’t explore other areas for fake news detection outside the Machine Learning spectrum |

## 3.3. Non-Functional Requirements

Table 2 - Non-Functional Requirements

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Dependencies | Priority | Requirement Description |
| FR-01 |  | **Must** | The website must have a responsive design. |
| FR-02 |  | **Must** | The website must fully work on Google Chrome |
| FR-03 |  | **Must** | The project must follow latest industrial practices/techniques with the software being used |
| FR-04 |  | **Should** | The website should fully work on the most popular browser engines |
| FR-05 |  | **Should** | The website should have the capability for other users to be able to extend upon the existing application |
| FR-06 |  | **Should** | The machine learning application should be ready to use for other users to test with other datasets and/or models |
| FR-07 |  | **Should** | The programming should adopt PEP8 format |
| FR-08 |  | **Should** | The machine learning within the website should adopt easy way method to switch between other attempts |
| FR-09 |  | **Could** | The website could have implemented security measures for potential malicious input in |
| FR-10 |  | **Could** | The project could be fully documented |