

## CHAPTER 3

# SOFTWARE REQUIREMENT SPECIFICATION

A **software requirements specification (SRS)** is a description of a software system to be developed. It is modelled after **business requirements specification (CONOPS)**, also known as a stakeholder requirements specification (StRS). The software requirements specification lays out functional and non-functional requirements, and it may include a set of use cases that describe user interactions that the software must provide to the user for perfect interaction.

### 3.1 Software Requirements

**Software requirements** is a field within software engineering that deals with establishing the needs of stakeholders that are to be solved by software. The IEEE Standard Glossary of Software Engineering Terminology defines a requirement as:

1. A condition or capability needed by a user to solve a problem or achieve an objective.
2. A condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed document.
3. A documented representation of a condition or capability as in 1 or 2.

The activities related to working with software requirements can broadly be broken down into elicitation, analysis, specification, and management.

- **Languages:** Python 3
- **Compiler:** Python Compiler
- **IDE:** PyCharm

#### 3.1.1 Language

##### Python

**Python** is an interpreted, high-level, general-purpose programming language. Its language constructs and object-oriented approach aim to help programmers write clear, logical code for small and large-scale projects.

## 3.2 Hardware Requirements

The most common set of requirements defined by any operating system or software application is the physical computer resources, also known as hardware. A hardware requirements list is often accompanied by a hardware compatibility list(HCL), especially in case of operating systems. An HCL lists tested, compatible, and sometimes incompatible hardware devices for a particular operating system or application. The following sub-sections discuss the various aspects of hardware requirements.

- **Processor** : Core Intel 3 or above
- **RAM** : 4GB
- **Network** : High Bandwidth

## 3.3 Functional Requirements

The functional requirements for a system describe what the system should do. These requirements depend on the type of software being developed, the general approach taken by the organization when writing requirements. The functional system requirements describe the system function in detail, its inputs and outputs, exceptions and so on.

Functional requirements are as follows:

- The application should extract reviews of investors from web source
- It should pre-process the data which is extracted from web.
- It should find the sentimental analysis of investors on specific company
- It should classify the sentiment as buy, sell, hold stocks.
- It should recommend the application users which stock to buy, hold and sell.

### **Detection of Potential keyword**

The application should have to store the potential keywords which is used to identify stock reviews.

### **Fetching of Data**

The application will fetch the data from web source

### **Result**

The application will display result which can be used by users to make decision on stocks.

### **3.4 Non-Functional Requirements**

Non- functional requirements, as the name suggests, are requirements that are not directly concerned with the specific functions delivered by the system. They may relate to emergent system properties such as reliability, response time and store occupancy. Alternatively, they may define constraints on the system such as capabilities of I/O devices and the data representations used in system interfaces.

The non -functional requirements are as follows:

- Available
- Reliable
- Correctness
- Usability
- Flexibility

### **3.5 Assumptions and dependencies**

- Potential keyword to detect stocks has to be stored.
- Software Requirement specification have to satisfied.

### **3.6 Design and Implementation constraints.**

- Budget constraints are a limitation since physical items, such as the band width data must be purchased.
- It should provide results to the users.
- It should be reliable in producing result.