# Introduction:

This chapter is intended to specify the purpose if this document and the intended audiences of it.

## Purpose:

This document briefly describes the Software Requirement Analysis of ‘Byte Pro’ an online file management, version control and collaborative tasks managements system. It contains functional, non-functional and supporting requirements and establishes a requirements baseline of the development of the system. The requirements contained in the SRS are independent, uniquely numbered and organized by topic. The SRS serves as an official means of communicating user requirements to the developer and provides a common reference point for both the developer team and the stakeholder community.

## Intended Audience:

This SRS is intended for several audiences including the customers as well as the project managers, designers, developers, and testers.

* The customer will use this SRS to verify that the developer team has created a product that is acceptable to the customer.
* The project managers of the developer team will use this SRS to plan milestones and a delivery date, and ensure that the developing team is on track during development of the system.
* The designers will use this SRS as a basis for creating the system’s design. The designers will continually refer back to this SRS to ensure that the system they are designing will fulfil the customer’s needs.
* The developers will use this SRS as a basis for developing the system’s functionality. The developers will link the requirements defined in this SRS to the software they create to ensure that they have created software that will fulfil all of the customer’s documented requirements.
* The testers will use this SRS to derive test plans and test cases for each documented requirements. When portion of the software are complete, the testes will run their tests on that software to ensure that the software fulfils the requirements documented in this SRS.

# Inception:

In this chapter, the Inception part of the SRS will be discussed briefly.

## Introduction:

Inception is the beginning phase of requirements engineering. It defines how a software project gets started and what the scope and nature of the problem to be solved is. The goal of the inception phase is to identify concurrent needs and conflicting requirements among the stakeholders of a software project. At project inception, we establish a basic understanding of the problem, the people who want a solution, the nature of the solution that is desired and the effectiveness of preliminary communication and collaborations between the other stakeholders and the software team. The purpose of the document is to represent a short description of the small class business like pharmacy shop and identify the stakeholders of the pharmacy shop. To establish the groundwork, we have worked with the following factors related to the inception phases:

* List of stakeholders
* Recognizing multiple viewpoints
* Working towards collaboration
* Requirements questionnaire

## List of Stakeholders:

Stakeholder refers to any person or group who will be affected by the system directly or indirectly. Stakeholders include end-users who interact with the system and everyone else in an organization that may be affected by its installation. To identify the stakeholders we consulted with some software developers and ask those following question:

* Who will use this project?
* Who will give feedback to us?
* What are the functions?
* What is the efficiency?
* Who face the problems while working collaboratively?
* Who face the problems while working on big projects with several files and million lines of code?

We identified the following stakeholders for our system ‘Byte Pro’.

* Developers: Developers are the main stakeholder. Because they have the skills and resources. They work on big projects of millions lines of code. In the industry they work with many other developers, project manager and tester. So they need to keep updated with other developers and their activities.
* Project Manager: A project manager is a professional in the field of project management. Project managers have the responsibility of planning, procurement and execution of a project. So s/he randomly communicate with the developers and tester of that project.
* Tester: Tester are the employer those who find bugs and issues within a project before it gets deployed to clients or customers.
* Others: In this category all the users who will use the system as online backup storage of code and personal projects.

## Recognizing Multiple Viewpoints:

Different stakeholders achieve different benefits from the system. Consequently, each of them has a different view of the system. So we have to recognize the requirements from multiple points of view, as well as multiple views of requirements. Assumptions are given below:

* Developers Viewpoints:
* Keep track of versions of file
* Error free system
* Collaborative working environment
* Upload project or file
* Download project or file
* Organized file management system
* Code referencing during issue creation
* View other projects and progress
* Strong authentication
* User friendly
* Project Manager Viewpoints:
  + Fast and efficient system
  + Good communication
  + Project analytics
* Tester:
  + Can create issues facility
  + Can post bugs and developers can see those bugs
  + Strong authentication

* Others:
  + Online storage facility
  + See other projects and files
  + Can ask question
  + User friendly
  + Good graphical representation
  + Can seek help
  + Upload or download files

## Working Towards Collaborations:

Every stakeholder has their own thoughts which result into these requirements. I needed to merge all of the requirements together.

* By identifying the common and conflicting requirements
* By categorizing requirements
* By prioritizing points for each requirements from stakeholders
* By making final decision about the requirements

# Elicitation:

After discussing on the inception phase, we need to focus on Elicitation phase. So, this chapter specifies the Elicitation phase.

## Introduction:

Requirements Elicitation is a part of requirements engineering that is the practice of gathering requirements from the users, customers and other stakeholders. We have faced many difficulties, like understanding the problems, making questions for the stakeholders, problems of scope and volatility. Though it is not easy to gather requirements within a very short time, we have surpassed these problems in an organized and systematic manner.

## Elicitation Requirements:

We have seen Question and Answer (Q&A) approach in the previous chapter, where the inception phase of requirement engineering has been described. Requirements Elicitation (also called requirements gathering) combines problem solving, elaboration, negotiation and specification. The collaborative working approach of the stakeholders is required to elicit the requirements. We have finished the following tasks for eliciting requirements:

* Collaborative Requirements Gathering
* Quality Function Deployment
* Usage scenarios
* Elicitation work products

## Approaches:

1. Visualization. Using tools that promote better understanding of the desired end-product such as visualization and simulation.

2. Consistent language. Using simple, consistent definitions for requirements described in natural language and use the business terminology that is prevalent in the enterprise.

3. Guidelines. Following organizational guidelines that describe the collection techniques and the types of requirements to be collected. These guidelines are then used consistently across projects.

4. Consistent use of templates. Producing a consistent set of models and templates to document the requirements.

5. Documenting dependencies. Documenting dependencies and interrelationships among requirements.

6. Analysis of changes. Performing root cause analysis of changes to requirements and making corrective actions.

## Quality Function Development:

Quality Function Deployment (QFD) is a technique that translates the needs of the customer into technical requirements for software. It concentrates on maximizing customer satisfaction from the software engineering process. So we have followed this methodology to identify the requirements for the project. The requirements, which are given below, are identified successfully by the QFD.

## Normal Requirements:

Normal are generally the objectives and goals that are stated for a product or system during meetings with the stakeholders. The presence of these requirements fulfils stakeholders’ satisfaction. The normal requirements of our project:

1. User friendly design
2. Strong authentication
3. Upload files or projects
4. Manage versions
5. Issue report
6. Web based system
7. Friendly user interface
8. Less complex
9. Faster performance
10. Version release
11. Create repository
12. Code referencing
13. Manage project resource
14. Collaborative works

## Expected Requirements:

1. Strong authentication
2. Account recovery
3. Download repository or file
4. Search project
5. View project
6. Profile modification
7. Create public or private repository

## Exciting Requirements:

1. Q/A option where anyone can ask question or seek help
2. Project analytics