# Chapter 2: Analysis

## 2.1 Introduction to analysis

Analysis is the initial stage in building a system is to understand what that system should be. Better analysis leads us to the better understanding is the system and help to know the limitations of the system. Analysis works as the bridge between the information we have and the way the system should actually work. During analysis phase, requirement analysis is the most important step to be followed carefully.

In requirement analysis phase, requirements are gathered. The process of gathering the requirement is perform by interviews, focus group, questionnaires etc. Requirement analysis provides the user requirements, system requirements, how the system functions so on. A software requirements specification (SRS)is also provided, which includes details of the functional requirements of the system, such as the interactions between the users and the software and the non-functional requirements, e.g. the quality standards.

## 2.2 Feasibility study

A feasibility study is an analysis that is done for gathering the project's important factors to determine the likelihood of completing the project successfully. This is done to understand thoroughly all the aspects of the project and potential problems may arise in the future.

It provides the information about the project that is going to develop is economically, socially, legally, technologically and politically feasible or not.

Types of feasibility study:

1. Economic feasibility

Economic feasibility provide the information about the product is going to develop is within the budget or not. It also tells about project that is going to develop is economically beneficial or not.

1. Technical feasibility

It tells about the technological resources that are used for the development of the project are sufficient or not. In addition, tells about the processes and procedures undertaken are beneficial to project success.

1. Schedule feasibility

It provides the knowledge about the time calculated for project is enough or not means that, “Does currently I have the time resources to undertake the project?” This project is aimed to be completed in time successfully.

1. Operational feasibility

This measures how well the user can interact with the system. This also measures how well developer able to solve the problems in mean time. This Online Liquor store website is easy to interact.

1. Legal feasibility

This measure the project is able to meet the legal requirements. By help of this feasible study, we can make sure that the project undertaken will meet all legal requirements before the project is on the table.

## 2.3 Requirement analysis

1. Functional requirements

Functional requirement describes about what the system or website should do also tells about the behavior of the system. It describe what type of system user expect. It describe about the data processing of the system.

Following are the functional requirements of the website:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **F.ID** | **Functions** | **Data** | **Rational** | **Dependency** | **Remarks** |
| F01 | Registration | Users will be register with required information. | User information | F01 | Create new account |
| F02 | Login | Username and password. | Security | F01 | Open dashboard |
| F03 | Reset Password | Email/username | Reset password | F02 | Set new password |
| F04 | Post items | Login first | To post new products | F02 | Products will be post for all users. |
| F05 | Make order | - | To select the items needed. | N/A | Users can order they want. |
| F06 | Manage order | Order details | To view the orders details  Lately. | F02 | Admin can manage the orders. |
| F07 | Delete items | Item details | Admin | F02 | Admin can delete the items. |
| F08 | Payment | User can pay after order delivered. | To pay for the item. | N/A | User should pay with hand cash. |
| F09 | Add categories | It is easy to find the items in related category. | Admin can categories the items | F02 | Admin can categories. |
| F010 | Logout | - | To maintain session | F02 | Admin or user can logout |

1. Non-functional requirements

Non-functional requirements illustrate system qualities, for example, security, reliability, maintainability, robustness, usability, etc. They ensure to get best result from the system.

Non-functional requirements are listed below:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **N:ID** | **Functions** | **Data** | **Rational** | **Dependency** | **Remarks** |
| N01 | Reusability | - | For future use | N01 | Codes can be reused |
| N02 | Responsive | - | System should be responsive | N02 | Fit in any screen resolution |
| N03 | Maintainability | - | Easy to maintain | N03,N01 | Easy Maintenance |
| N04 | Reliable | - | Maintain Accuracy | N02 | Provide accurate result |
| N05 | Robust | - | Support different device | N05 | Should work in different devices. |
| N06 | Multi-Browser support | - | Tested in different browsers | N02 | Should run in at least two browsers |
| N07 | Performance | - | To maintain systems accuracy | N01,N04 | Test should be done in regular interval |

1. Moscow Priotization

Moscow priotization is the method to maintain requirements. This method is used to help key stakeholders understand the important of activities in a certain release.

This letters stand for:

1. **M**ust have

* Project won’t be complete without this
* Cannot provide a workable solution without it

1. **S**hould have

* Important but if not project still work
* If added project will provide worth able solution

1. **C**ould have

* Nice to have
* If left out will not affect the processing

1. **W**on’t Have this time

* This time not possible to add

For functional requirements

|  |  |  |
| --- | --- | --- |
| **F.ID** | **Functions** | **Priority** |
| F01 | Registration | Must have |
| F02 | Login | Must have |
| F03 | Reset Password | Should have |
| F04 | Post items | Must have |
| F05 | Make order | Must have |
| F06 | Manage order | Could have |
| F07 | Delete items | Should have |
| F08 | Payment | Must have |
| F09 | Add categories | Could have |
| F10 | Logout | Should have |
| F11 | Online payment | Won’t have this time |

Table: table of functional requirements priotization

For non-functional requirements

|  |  |  |
| --- | --- | --- |
| **N:ID** | **Functions** | **Priority** |
| N01 | Reusability | Must have |
| N02 | Responsive | Must have |
| N03 | Maintainability | Must have |
| N04 | Reliable | Could have |
| N05 | Robust | Must have |
| N06 | Multi-Browser support | Must have |
| N07 | Performance | Could have |

Table: table for non-functional requirements priotization.

1. Software Requirement Specification(SRS)

A software requirements specification (SRS) is a document that help to list out the detail information about how the software is likely to execute. It is generally listed at the last of requirements gathering phase completed. Some qualities of SRS are Correct, ambiguous, complete, consistent, modifiable, etc.



Figure: some type of requirements that SRS can list.

## 2.4 Use case