# Analysis

## 2.1 Introduction

Analysis is the initial stage of software development process. Better analysis of the system helps in better understating of the system. Analysis plays vital role to make project successful. Analysis concerns about what the users want from the system. Analysis consists of two distinct activities: **requirement analysis and specification**.

In requirement analysis requirements are gathered and analyzed. Requirements gathering is done by different process like interviews, observations, focus-group, historical data and so on. Requirement clearly defines what kind of system the user want. It also clearly shows the satisfaction level of users in the current system. It allows in-depth study about the system to be developed.

Requirement specification is the collection of several requirements that are coming from requirement analysis. Finally, it is documented as SRS documentation. SRS or system requirement specification is a document that specifies users needs. It acts as a contract document for future.

## 2.2 Feasibility Study

A feasibility study is an approach of analyzing all the appropriate factors of a project to determine the possibilities and probability of completing a project successfully. It is carried out in analysis phase of software development process.

It checks if the product that is going to be developed is economically, technologically, socially, legally and politically feasible or not.

**Types of feasibility study**

1. Economic Feasibility

It tells about if the product we are going to develop is within the budget or out of budget. It is cost analysis that is performed to identify the profit against the investment made on a product.

1. Technical Feasibility

It evaluates if the current technical items i.e. hardware and software will be sufficient for the new proposed project. In future if any modification is needed what part of technology will be modified.

1. Operational Feasibility

It relates about whether the users will find it easy to interact with the new system. Do the users of the system require training to operate some tasks? It also tells about the materials required for training.

1. Schedule Feasibility

It relates the time allocated to complete the new development of new system. It also clarifies the impact if the product is not delivered in promised time frame.

1. Legal Feasibility

If relates about the legal and ethical matters of the project. It ensures that the product meet all the legal and ethical requirements.

## 2.3 Requirement Analysis

### Functional Requirements

A functional requirement describes what a system should do. It describes the main behaviors of the product that the user expects from the system. Functions a system is supposed to accomplish like calculations, data manipulation, data processing etc. are functional requirements.

Functional Requirements of my product are given below: -

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Fid** | **Functions** | **Data** | **Rational** | **Dependency** | **Remarks** |
| F01 | Registration | Student and faculty details | Student and faculty members | F01 | Add new students and teacher |
| F02 | Login | Email and password | Security to credential | F01 | Opens dashboard |
| F03 | Reset Password | Email | Update password | F02 | New password to access the profile |
| F04 | Post Notice | - | To post notice for faculty and students | F02 | Notice will be shown to faculty members and students |
| F05 | Post Notes | - | Notes for students from teachers | F02 | Students can download shared notes |
| F06 | Update Posts | Post Details | Faculty members and students | F02 | Faculty members and students can update posts |
| F07 | Delete Posts | Post Details | Faculty members and students | F02 | Faculty members and students can delete posts |
| F08 | Asking Questions | Topic Details | Students to faculty members | F02 | Students can ask questions to faculty members |
| F09 | Answer the Questions | Question Details | Faculty to students | F02 | Faculty members can answer to students |
| F010 | Chatting | - | Students | F02 | Students can chat |
| F011 | Admin Login | Admin Details | Admin | F011 | Open Admin Dashboard |
| F012 | Admin Profile Update | Admin Details | Admin | F011 | Admin can update profile |

### Non-Functional Requirements

Non-functional requirements are the quality attributes of the product. Non functional requirements are used to judge the operations of the system. Non-functional requirements can be divided into two categories

1. Execution qualities

Observable during runtime. Like usability etc.

1. Evolution qualities

These qualities can be found in the static structure of the system. Like testability, maintainability etc.

Non-Functional Requirements of my product are given below: -

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Nid** | **Functions** | **Data** | **Rational** | **Dependency** | **Remarks** |
| N01 | Responsive | - | Support Different Resolutions |  | Automatically fit in different screen sizes. |
| N02 | Usability | - | Easy to use and user friendly |  | Easy navigation and User friendly |
| N03 | Maintainability | - | Easy to change |  | Easy Maintenance and optimization |
| N04 | Reliable | - | Accurate output |  | Gives accurate output as per input given |
| N05 | Robust | - | Supports many platforms |  | Should work with different platforms |
| N06 | Multi-Browser support |  | Tested in many browsers |  | Runs in different browser |
| N07 | Scalability |  | To be able to handle workloads |  | It will handle the data flow easily |

### MoSCoW Prioritization

|  |  |  |
| --- | --- | --- |
| **ID** | **Functionalities** | **Priority** |
| F01 | Registration | Must have |
| F02 | Login | Must have |
| F03 | Reset Password | Must have |
| F04 | Post Notice | Must have |
| F05 | Post Notes | Must have |
| F06 | Update Posts | Must have |
| F07 | Delete Posts | Should have |
| F08 | Asking Questions | Must have |
| F09 | Answer the Questions | Must have |
| F010 | Chatting | Would have |
| F011 | Admin Login | Must have |
| F012 | Admin Profile Update | Should have |
| N01 | Responsive | Must have |
| N02 | Usability | Must have |
| N03 | Maintainability | Must have |
| N04 | Reliable | Should have |
| N05 | Robust | Must have |
| N06 | Multi-Browser support | Must have |
| N07 | Scalability | Could have |