# Chapter 2 Analysis

## 2.1 Introduction to Analysis

It is one of the very important phase while making some products or projects. Without analysis our project/products is bound to fail. Simply it is the process of dividing the topics into different parts to get better knowledge of it. It is the phase where we must find what user needs and collecting all data to make better or improve the made product.

Features of analysis in my project are as follows:

* It is very important to proceed further.
* In helps in collecting data on project.

## 2.2 Analysis Methodology

It is a systemic, theoretical analysis of methods applied to field of study. It also incorporates the concepts such as quantitative or qualitative techniques, paradigm, phases etc. There are different type methods in software development like soft system methodology, hard system methodology, etc. Among all of the methods I have decided to use the Soft System Methodology.

**Soft System Approach (SSM)**

It is a way to deal organizational process modelling and also it can be used for both general problem solving and the change of management. It was developed by academics at University Of Lancaster in System department for 10year action research program in England. It is the most used method and practical application of system thinking. The primary use of SSM is done in case of analysis needed in complex situation. These situations are soft problems like: What system need to do? And how will it do? etc.

SSM is processed in several types of steps as follows:

## 2.3 Feasibility Study

## 2.4 Requirement Analysis

### 2.4.1 Functional Requirement

Functional Requirement is a essentially specifies something the system should do. Typically functional requirements are requirements or features which are arranged to include system or program to be made.

The functional requirements that are needed in my project are listed in table below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Functional  Requirement | Rational | Description | Dependencies |
| Fr01 | New Shop Registration | To Register to do online Transaction. | It can help to create new shop account. | na |
| Fr02 | Login | To Login into account. | It helps to get access of more features. | Fr01 |
| Fr03 | Log Out | To get secured from unauthorized user. | It helps In getting out of account. | Fro1  Fr02 |
| Fr04 | Shoes Rating | To get information of shoes. | It helps customer to buy good shoes. | Fr04 |
| Fr05 | Details Of Item | Customer and shop can get information of shoes. | It helps customer to buy shoes they like. | na |
| Fr06 | Online Order | Ordering the required shoes online. | It helps shops to order/book shoes online according to good rating. | Fr01  Fr02 |
| Fr07 | Online Payment | For safe and easy payment. | It helps paying and receiving through different way. | Fr01  Fr02  Fr06 |
| Fr08 | Add New Item | To add new shoes. | It helps the factory to add their new shoes online with details. | Fro2 |
| Fr09 | Edit/Update Profile | To edit/update profile information. | It helps in editing or adding new information to account profile. | Fr01  Fr02 |
| Fr10 | Edit/Update Item | To edit/update Item Information. | It helps in editing or adding new information in item in case any update/upgrade done in item. | Fr02 |
| Fr11 | Remove Item | To remove items from list. | Removing the old shoes which are stopped manufacturing. | Fr02 |
| Fr12 | Deleting Shop Membership | Deleting the shop accounts. | Removing the unused shops account, shops who have closed their membership by admin. | Fr02  Fr16 |
| Fr13 | Review | To comment on Item. | Customer can give comments on items on their own opinion. | Fr05 |
| Fr14 | Fast Order | For ordering instantly/quickly. | Shops can order item out of stock quickly if they must sell it fast. |  |
| Fr15 | Message | For Communication. | It helps to customer and shop to communicate for the details of shoes. | Fr02 |
| Fr16 | Shops List | To view all the registered shops. | It helps admin to see all the registered shop and filter. | Fr02 |
| Fr17 | History Of Shop | To see all transaction. | It helps admin to see all the deals and transaction made between shops and factory. | Fr02 |
| Fr18 | Community Forum | Community among shops and customers. | It helps to all registered/unregistered shops and customers to discuss. | Fr02 |

### 2.4.2 Non-Functional Requirement

Non-functional requirement is that it essentially specifies how the system should behave and it’s a constraint upon systems. It is also quality attributes of a system. It cover all the remaining requirement which are not covered by the functional requirement.

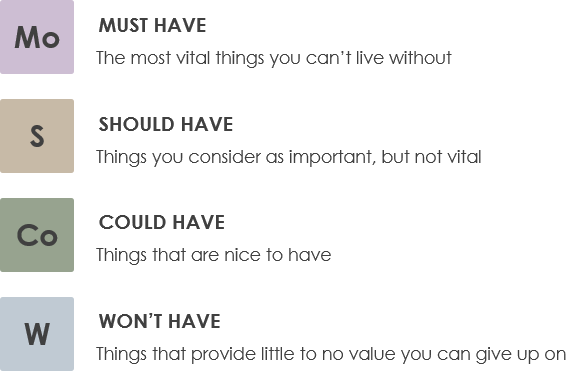
The Non-Functional requirement for my project are listed in table below:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | Non-Functional  Requirement | Rational | Description | Dependencies |
| NFr19 | User Friendly | Easy to browse site. | Customers or Visitors should be able to use or browse the website easily without any difficulties. | na |
| NFr20 | Security | Protect the data of user. | Data of user must protect confidentiality, integrity, and availability. | Fr01  Fr02 |
| NFr21 | Performance | To surf smoothly in website. | Customers/Visitors must be able to browse smoothly without lag. | N/A |
| NFr22 | Maintainability | To fix system error or bugs. | It should be maintainable to prevent any kind of disturbance. | na |
| NFr23 | Region Restriction | Banning the website in other countries. | Banning the website to other countries will keep the information more secured. | NFr20 |
| NFr24 | Reliability | Run the system without failure. | It defines that the system will run without failure until any changes made. | na |
| NFr25 | Scalability | Ability to handle increasing loads. | System must remain responsive even after loads is work is increased. | na |
| NFr26 | Compatibility | Compatible with everything. | Sites should be compatible in all devices and browsers. | na |
| NFr27 | Globalization | Support all languages. | Language in site should be able to translate into all language. | na |
| NFr28 | Documentation | To ensure that user know about system. | Site should provide the knowledge to know well. | na |
| NFr29 | Capacity | Ensuring that system can deal with large amount of user data. | System should be able to handle smoothly with large amount of data form all users. | na |
| NFr30 | Recoverability | Prevention of data loss and crashes. | System should be able to recover from data loss. | na |

### 2.4.3 MoSCoW Prioritization

MoSCoW prioritization also known as the MoSCoW method or MoSCoW analysis is popular technique for arranging requirements. The MoSCoW stands for 4 different categories:

Mo: Must Have, S: Should Have, Co: Could Have, W: Won’t Have. Sometimes “W” used to stand for “Wish”. This method shows the level of requirements. It is also used in our daily lives by figure below:



The MoSCoW method prepared for my project is shown in table below:

|  |  |  |  |
| --- | --- | --- | --- |
| ID | Title | MoSCoW | Description |
| Fr01 | New Shop Registration | Must Have | It is important to register new shop. |
| Fr02 | Login | Must Have | It is important to gain more features from sites. |
| Fr03 | Log Out | Must Have | User should get out at their free will to be more secure. |
| Fr04 | Shoes Rating | Should Have | This helps people to get top shoes but different people have different likes. |
| Fr05 | Details Of Item | Must Have | Customers must be able to know the details of shoes. |
| Fr06 | Online Order | Must Have | Shops must be able to online for better deal. |
| Fr07 | Online Payment | Must Have | They must be able to do online transaction for safe receiving and payment. |
| Fr08 | Add New Item | Must Have | New shoes must be able to add in the site. |
| Fr09 | Edit/Update Profile | Must Have | User must be able to edit or add new information. |
| Fr10 | Edit/Update Item | Must Have | Admin must be able to edit the details of item if any change made in the item. |
| Fr11 | Remove Item | Must Have | Admin must be able to delete the old item which are stopped manufacturing. |
| Fr12 | Deleting Shop Membership | Must Have | Admin must be able to delete the users after membership is closed. |
| Fr13 | Review | Should Have | Customer should be able to comment about the shoes. |
| Fr14 | Fast Order | Must Have | Shops must be able order fast for better customer satisfaction. |
| Fr15 | Message | Should Have | Customer and shops should be able to communicate. |
| Fr16 | Shops List | Must Have | Admin must be able to keep track or monitor the users. |
| Fr17 | History Of Shop | Must Have | Admin must be able to all the deals and transaction made with all shops. |
| Fr18 | Community Forum | Should Have | Customer should be able to discuss among themselves. |
| NFr19 | User Friendly | Must Have | Site must be user friendly so everyone can surf easily. |
| NFr20 | Security | Must Have | Everything must be secured for safe transaction. |
| NFr21 | Performance | Must Have | Site must be very responsive no matter how many people are visiting. |
| NFr22 | Maintainability | Should Have | System should be able to fix the bugs and errors. |
| NFr23 | Region Restriction | Could Have | Site could have been banned in other countries. |
| NFr24 | Reliability | Must Have | System must be able to run without failure. |
| NFr25 | Scalability | Must Have | System must have good response even loads is increased. |
| NFr26 | Compatibility | Should Have | Site should be compatible in all device to all browsers. |
| NFr27 | Globalization | Should Have | Site should have the language translation function so that people from all country can surf easily. |
| NFr28 | Documentation | Should Have | It helps in documenting easily. |
| NFr29 | Capacity | Must Have | System must be able to deal with large amount of data from all users. |
| NFr30 | Recoverability | Must Have | Data can be loss anytime so system must be recoverable. |

### 2.4.4 System Requirement Analysis

The System Requirement Specification is a structured collection of information which shows what or how much system needs to work properly. It also shows the details of hardware and software that are required to develop the project properly.

Hardware and Software required for developing my project and after developed to use the product I have listed in a table below:

* Requirements Before project

|  |  |
| --- | --- |
| Software’s | Hardware’s |
| Sublime  Windows 7/8/8.1/10  My SQL Database  XAMPP  Mozilla Firefox/ Google Chrome  Star UML | Laptop/ PC  RAM (4Gb+)  Up to 100GB free Hard Disk Space |

* Requirements/Specification

|  |  |
| --- | --- |
| Software’s | Hardware’s |
| For PC/Laptop:  Windows 7/8/8.1/10  For Mobiles:  Android 4.0+  IOS 8.0+  Browsers:  Mozilla Firefox, Google Chrome, Safari etc. | Internet Connection  Android OR IOS devices  Laptops OR PC with minimum:  Duo Core Processor  2GB Of RAM  500MB+ Hard Disk Space |

## 2.5 Use Case Diagram

Definition

Why it is needed in ur project

## 2.6 NLA and Initial Class Diagram

Scenario

|  |  |  |
| --- | --- | --- |
| Candidate classes | Candidate attributes | Candidate methods |
|  |  |  |