## Analysis

Analysis means the organized examination and the evaluation of any information or data breaking it into its components parts to discover and understand cause effect of their relationships, therefore providing the decision making and problem solving. In the development of the system it is important part. Before starting, we should analysis the project if it is feasible or not, how can we make it easy to do or to analyses available opportunities, weakness, threats and its remedies.

## Analysis Methodology

Grocery store management system uses soft system methodology (SSM) for the analysis phase. I choose soft approach methodology because it focuses in the people needs and requirements and that helps us to gain more customers. It is very easy to do in small-scale business so; it is perfect for our project.

**Rich picture:**

Rich picture is the way of discovering and acknowledgement of the current situation of the system in the graphic form. It is the drawing of any situation that illustrate the main elements and the relationships that’s need to be considered in trying to create some improvement. It consists of pictures, text, symbols and icons. Rich picture was initially developed from soft system methodology which covers two steps:

* Finding the issues as wished to address.
* Developing the shapeless explanation of the conditions.

**Root definition:**

Root definition is the part of soft system methodology. It is usually a single sentence starting a system and it should mention of all the key elements of the system. It is a structured description of a system which is the clear statement of activities which take place or might take place in the organisation.

CATWOE analysis help in proper formulation of the root definition. It is SSM, used to identify the problem of the current system and implement the solution. It also helps to identify stakeholder and impact of the stakeholders.

C = clients/customer

A = Actors/agents

T = Transformation Process

W = World view

O = Owner

E = Environment

|  |  |
| --- | --- |
| Process | Problem |
|  |  |
|  |  |
|  |  |

Conceptual model:

It is a representation of a system that uses concepts and ideas to form said representation.it used in any project to provides the point of references for system designers to gather system specification.

# Feasibility study:

Feasibility study is the early study stage of any project, which brings together elements of knowledge that indicate if a project is possible/feasible or not. It might uncover new ideas that could completely change a project’s scope. It aids decision making in the project, helps to set your goals, helps to develop the plan, helps to execute the plan in the business. Conducting a feasibility study is always helpful to the project. In this project we ensure whether it is technically, economically, legally, etc. being feasible.

There are several types of feasibility study, described below:

**Technical feasibility:**

This assessment helps to determine whether the technical resources are available to compete the project or not. It also involves evaluation of the hardware, software, and other technology requirements of the system. In my project there is no extra need of the hardware and software. It is the web-based application so, the minimum requirements will be needed for the project.

**Economic feasibility:**

It is also one of the most important part in the project management system It deals with the financial transaction of the project. we can say that my project did not need any extra financial helps or any other cost charge because it is web-based application and does not need expensive hardware or software to create this project its only need my laptop and some software to create it. There is no need of extra devices so, it is feasible as economically. It helps the store to calculate the cost to develop the software and if it’s costing development will be high then it will help to stability the amount of the company then later finds the solution.

**Legal feasibility:**

It deals with the legal issues for the system development. It shows the if the development system is fulfilling the rules and regulation of the government. There is no problem with the legal issues because it is a simple project for the peoples which make their life’s easy and graceful. It will not affect anything in the government’s rules and regulations.

**Scheduling feasibility:**

It is the most important assessment for the business or the project for the success because if we do not do right scheduling project will fail. In this feasibility we decide about the time table of the project or estimated the time to complete the project. The time table are:

|  |  |
| --- | --- |
| **Name** | **Durations** |
| Project proposal | 16 days |
| Analysis | 29 days |
| Design | 26 days |
| Implementation | 21 days |
| Testing | 7 days |
| Final documentation | 11 days |

It takes 110 days to complete the whole project and this project completed because of the proper planning and scheduling. It shows that scheduling is an important part in my project.

**Operational feasibility:**

It involves undertaking a study to analyse and determine whether and how well the organisation need can be met by implementation the project. It also studies how a project plan satisfies the requirements identified in the requirements analysis phase of the system development.

# Requirements analysis:

## Functional requirements:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Id** | **Title** | **Description** | **Rational** | **Dependency** |
| F001 | Registration | It is used to register the detail information of the new user provided by themselves. | To use the features of the system and to buy the product | N/A |
| F002 | Login | Registered user can login into the system with the help of their email and password, but the unauthorised user cannot access. | To access to the system in secure manner | F001 |
| F003 | Search facility | It is the place where user can find the product easily and fast. | To find the product easily. | N/A |
| F004 | Authentication | It is the process of determining whether someone or something, who is declared to be itself. | To provide access control in the system by checking the user’s identifications matches the identifications in the database. | F002 |
| F005 | Store information of the users | It is place where all the information will record in the system. | To store the information of the user to matches the identification. | F001, F002, F013 |
| F006 | Adding to cart | It allows the user to add the product in the cart after they login into the site. | To buy the product from the site. | F001, F002, F004 |
| F007 | Able to view product | The user can view the product and can determine what to buy or not | To view the product by user. | N/A |
| F008 | Add new product | It is used to add the new product and detail information about the product by admin. | To add the new product available in the market. | F002, |
| F009 | Display categories | It is Where all the product is display in the system where user can see what type of product are available in the site. | To know about the different type of the categories about the product. | N/A |
| F010 | Changing password | Where user can change their own password if they want | To change the password of user. | F001, F002, F005 |
| F011 | Update information | Here user can update their information | To update the information about the user. | F001, F002, F005 |
| F012 | Delete | The unwanted product can be deleting by the admin | To delete unwanted product | F001, F002, F003, F005 |
| F013 | Database system | It is the place where all the records about everything related to system store. | To store the data of the system. | F001, F002,  F008, F006. F010 |
| F014 | Edit product | Admin can edit the product name or the information of the product. | To edit the product details. | F002, F007 |
| F015 | View orders | Admin can view the product order or buy by the user/customers. | To view the order placed by the customers. | F002, |
| F016 | Logout | It means to end access to a website | To end the access from the system after the work done. | F001 |
|  |  |  |  |  |

## Non-functional requirements:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Id** | **Title** | **Description** | **Rational** | **Dependency** |
| N001 | Usability | The system should be equally in-built. Proper navigation bar must be displayed. It ensures that it is easy to use and friendly. | To give a user-friendly experience. | F001, F002, F003, F004, F005, F006, F007, F008, F009, |
| N002 | Interface | Interface must be web-based with proper usability. | To provide friendly experiences and proper notification and validations. | F001, F002 |
| N003 | Implementation | System must rum effortlessly in the any browser from the user side. 1gb RAM and 2Ghz processor will enough to perform smooth functioning. | To run the system smoothly. | F001, F002, F003, F004, F005, F006, F007, F008, F009, F010, F011 |
| N004 | Flexibility | System should be flexible while using from the user site. |  | F001, F002, F003, F004, F005, F006, F007, F008, F009, F010, F011 |
| N005 | Reliability | Website should run for the long period of time; it should be long lasting. | To make more user to make their easiness. | F001, F002, F003, F007 |
| N006 | Availability | Website should be available to user 24 hours. It should be up to date. | Website should be used by the user from everywhere and every time. | F001, F002, F003, F004, F005, F006, F007, F008, F009, F010, F011 |
| N007 | Scalability | The web application is said to be scalable by adding more hardware and software. It should run properly without any error. | To perform better performances. | F001, F002, F003, F004, F005, F006 |
| N008 | Portability | Website should have ability to transferred from one system to another system. | to move easily to another system. | N/A |
| N009 | Security | Website should have security for the information of the user. It helps to secure the data of the users. | To protect the data of the users. | F001, F002, F005 |
| N010 | Performances | Performances of websites should be good/ fast or reliable. | To provides better performance to the user. | F001, F002, F003, F004, F005, F006, F007, F008, F009, F010, F011, F012, F013, F014, F015, F016 |

# MoSCoW prioritization:

Prioritization is the process of deciding the relative importance of the project or any other things. MoSCoW as a prioritization method used to decide which requirements to complete first, which come later and which to eliminate. MoSCoW stands for Must have, should have, could have and Won’t have.

M – must have these requirements to meet business needs.

S – should have these requirements if it’s possible and it may add in the future.

C – could have these requirements if it does not affect anything else in the project.

W – would have these requirements later but delivery won’t be this time.

It is important to have clear set of prioritized and agreed requirements if we are going to deliver successful project. The recommended method for setting priorities is MoSCoW.

The MoSCoW table are shown below:

**Functional requirements:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Id** | **Title** | **MoSCoW** | **Description** |
| F001 | Registration | Must have | It is important to have registration because without it we are not able to view user’s information. |
| F002 | Login | Must have | It is important because to help user to buy the product and use the websites facilities. |
| F003 | Search facility | Should have | It can help to find out the product easily and fast. |
| F004 | Authentication | Must have | To provide access control in the system by checking the user’s identifications matches the identifications in the database. |
| F005 | Store information of the users | Must have | It is important because it will help to end the session. |
| F006 | Adding to cart | Should have | It helps to add the product into your cart and able to buy the product. |
| F007 | Able to view product | Must have | It is important because without viewing the product customers/users wont by the product. |
| F008 | Add new product | Must have | It is important because we must add the new product if its available in the market it makes our business in profits. |
| F009 | Display categories | Should have | It displays all the categories of the product which user may searching about. |
| F010 | Changing password | Could have | It can be in the system so; user can change their password as they want to change. |
| F011 | Update information | Could have | It can be in the system if user want to change their information as they required. |
| F012 | Delete | Could have | To delete the unwanted product by admin |
| F013 | Database system | Must have | Without the database the system cannot run. |
| F014 | Edit product | Should have | To edit the product details. |
| F015 | View orders | Must have | To view the order placed by the customers. |
| F016 | Logout | Must have | To terminate the session. |

**Non-Functional requirements:**

|  |  |  |
| --- | --- | --- |
| **Id** | **Title** | **MoSCoW** |
| N001 | Usability | Must have |
| N002 | Interface | Must have |
| N003 | Implementation | Should have |
| N004 | Flexibility | Should have |
| N005 | Reliability | Should have |
| N006 | Maintainability | Should have |
| N007 | Scalability | Could have |
| N008 | Portability | Could have |
| N009 | Security | Should have |
| N010 | Performances | Should have |

# Software and hardware specifications:

Hardware requirements

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | Hardware | Description | MoSCoW |
|  | Server | Either Xampp, Apache or web server is required. | Must have |
|  | Laptops, pc, phones etc | Devices like this is required from where portal can be assessed. | Must have |
|  | RAM and processor | 4 Gb RAM and 500 GB Hard drive will enough for this system | Must have |
|  |  |  |  |

Software requirements

|  |  |  |  |
| --- | --- | --- | --- |
| S.N. | Software | Description | MoSCoW |
|  | Operating system | Operating system like windows | Must have |
|  | Browser | Need any browser like, chrome, Firefox, edge etc. | Must have |
|  | Front end | Sublime for the front-end design | Must have |
|  | Database | MySQL Xampp for the database | Must have |
|  |  |  |  |
|  |  |  |  |

# Use case diagram

Use case diagram is the primary of the system/software requirements for new software program under developed. Use cases specify the expected behaviour(what), and not the exact of making it happen (how).

In my project there are new user who can view the website, search the product and register in the website and there is another actor who is already register and they are able to view, add the product to their cart and order the product. User can update their profile, password.