Analysis

It is defined as the systematic and the evaluation of the data or information by breaking down it into different parts. Analysis is used in the software development technique. It gathers the requirements of the client and solve it. It is done through SRS (Software Requirement Specification) document where consists of all the product requirements to design and development during the project life cycle

The advantages of the Analysis are:

* Analysis helps to determine the quality of code.
* It gathers all the information and analyze it.
* It allows for the qualitative and quantitative operation.
* It helps to evaluate alternatives and prioritize the requirements.

Analysis methodology

Analysis can be defined as how the job is done. It helps to identify the problem to solve it. It evaluates the data using analytical and logical to examine each components of the data. Data are reviewed, gather and analyzed from the various resources.

There are many information gathering method some of them are as follows:

* SWOT Analysis (strengths, weaknesses, opportunities and threats analysis)
* PEST Analysis (Political, Economic, Social and Technological)
* Interviews
* Questionnaires
* Brainstorming
* Observation
* Focus Group

Among these Analysis method I have choose following technique which may suit for my project and takes the less time and gain information’s.

1. Observation method

The observation is the method of researching effect of risk factor treatments. I have chosen the observation technique for my project because I can gather information by observing the people form natural environment. Observing the people and project helps to identify the requirement changes.

a) I can get the knowledge form the user.

b) I can make the changes according to the observation.

2. PEST Analysis

The pest analysis helps to take the better business decision and improve

efficiency by analyzing the various factors which might impact the project. I have chosen pest analysis for my project because it helps to manage the project efficiently.

1. To know the various factors that influences the project political,

economic, social and technology.

1. It helps to manage the project.

3. Focus group

It is the information gathering methods where a group of people are kept and gather the information related to the project. For example: Group of 20 people and ask them what they like and dislike about the project. The reason why I choose this for my project is to know actual result of the project and know what the problem in the project is.

1. It consumes less time, cost and effort.
2. We can know the pros and corn of the project.
3. We can get the real requirements for the user than what we actually like.

4. Brainstorming

It is group creating techniques which efforts are made to find the problem list them as priority and solve them. I have chosen this for my project because it helps to gather many ideas.

1. It helps to solve problem quick.
2. It helps to create many techniques.

Feasibility study

Feasibility study analyzes all the relevant factors of a project to determine the probability and possibility to complete it successfully. It helps to evaluate the project potential for the success. Feasibility study helps to description of the product or service and the detail of the operation. Mainly it is used in the precede technical development and project implementation. The main object of this feasibility study is for scalable, comfortable, compiles and accepts by the user.

The types of feasibility studies are:

|  |  |  |  |
| --- | --- | --- | --- |
| SN | Type | Description | Relation with the project |
| 1. | Technical Feasibility | Technical feasibility is to check the requirements of the project which is sufficient or not. | Does the project have the technical requirements to undertake it? And to check processer and procedures. |
| 2. | Economic Feasibility | Whether the project something that can be complete. | Check whether the project if economically feasible or not. |
| 3. | Schedule Feasibility | It is used for determining the potential time and dateline and constraints for the affective changes. | It is used to schedule time and resources to undertake the project. |
| 4. | Cultural Feasibility | What are the positive and negative impact that can be? | What kind of information does your project do? Will it help the people or not in the society. |
| 5. | Legal/Ethical Feasibility | What are the legal/ethical implementation of the project. | To make the project meets the legal and ethical requirements before the project is on the table. |
| 6. | Marketing Feasibility | What will be the target of the project? | Will the number of people will watch it? Will people believe it. |
| 7. | Resource Feasibility | Do we have enough resources? What will be required for the project. | Do we have enough resources if the what resources will be required for it. |

Requirement Analysis

Requirements analysis is the process of defining the expectations of the users for an application that is to be built or modified. Requirements analysis involves all the tasks that are conducted to identify the needs of different stakeholders. Therefore, requirements analysis means to analyze, document, validate and manage software or system requirements. High-quality requirements are documented, actionable, measurable, testable, traceable, helps to identify business opportunities, and are defined to a facilitate system design. I have chosen soft system methodology because it helps to structure complex problems and to develop desirable and feasible changes within a differentiated group of people.

The advantages of the requirement analysis are:

1. It ensures that all stakeholders agree on what the system to be built project.

2. It helps to details all the requirements of the system, functional as well as non-functional.

These are the step while applying soft system methodology.

1. First is appreciate the problem situation
2. Write the problem situation and rich picture.
3. Formulate root definition
4. Building conceptual models of project.
5. Compare it with real world.
6. Define it and recommend actions.

1. Rich picture

It can be defined as the drawing of the situation that illustrates the main elements and the relationship that need to be considered trying to intervene in order to create some improvement. It helps project to illustrate the richness and complexity of the situation.

The main advantages of the rich picture it is never wrong.

Root definition:

Root definition is a description of the entire system. IT helps in project to describe its aims and functions of the system. It clarifies the day to day system process and the problem that held during the project.

CATWOE: It helps in proper formulation of the root definition. CATWOE analysis is as follows:

1. Customers: Customers are victims of the outputs for the business system. What problem? Who is on the receiving end? Reactions? Win /loss?
2. Actors: It carries out the task and activities within the transformation. It carries out your solution? What is the impact on them? What is the reaction?
3. Transformation process: It is the activity that delivers the service to the customer. What are the input/output of the transformation in the system?
4. World View: It looks in what are the possible activities exits. What is the impact of the solution? What is the real problem working on it.
5. Owner: Owner is who control the entire system. Owner of the project can make changes in the system and helps user.
6. Environmental Constraints: It is constraints imposed within the environment surrounding the business activity. Make the friendly environment for the user and easier to use.

3. Conceptual model: It is the representation of the system that uses concepts and ideas. It is constructing with the help of rich picture and root definition. It helps people [know](https://en.wikipedia.org/wiki/Knowledge), [understand](https://en.wikipedia.org/wiki/Understanding), or [simulate](https://en.wikipedia.org/wiki/Simulation) a subject the model represents.

Functional requirement

Functional requirement of the system can relate to software and hardware or both in terms. It can be document which explains the expected type of output when the device is placed in suitable environment. It also explains the interaction of the system like input and output.

The functional requirement of my project is:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ID | TITLE | DESCRIPTION | RATIONAL | DEPENDENCIES |
| FR1 | User Registration | First name, Last name, email, username,  password | It allow you participate contain in page. |  |
| FR2 | Login | Username password | Only the authorized person can use it. | FR1 |
| FR3 |  |  |  |  |
| FR4 | Add user information | Add the information of the user. Add the user | It adds the user information. | FR2 |
| FR5 | Edit user information | Edit the information of the user. | It edits the user information. | FR1 FR4 |
| FR6 | Delete account | Delete the user | To delete information of user. | FR1 FR4 FR5 |
| FR7 | Search user | Search the user | To search the user. | FR1 FR4 FR5 FR6 |
| FR8 |  |  |  |  |
| FR9 | Subscribe | Subscribe the account. | To subscribe the website. | FR1 |
| FR10 | Chat | Share the information | To share the information. | FR1 |
| FR11 | Notice | Notice of the upcoming events | To give notice to the user. | FR2 FR1 |
| FR12 | Feedback | user feedback | To give the feedback. | FR1 |
| FR13 | Update account | Update the information of the user. | To update the information of the user. | FR1 FR4 FR5 FR6 FR7 |
| FR14 | Advertisement | Website advertisements | To advertise the project. |  |
| FR15 | personal information change | Admin formation change | Information related to the admin | FR1 FR4 FR5 FR6 FR7 FR13 |
| FR16 | Status | Active/ Inactive | Status of the user. | FR1 FR4 FR5 FR6 FR7 |
| FR17 | Contact Us | Name/Email/message | To leave the message. |  |
| FR18 | Gallery | Add Image/show gallery | To save the photo. | FR2 |
| FR19 |  |  |  |  |
| FR20 | Logout | logout | Signing out from the system. | FR2 |

Non-functional requirements

It covers the all the requirements which is not covered by the functional requirement. The plan for implementation of the non-functional requirement is detailed in system architecture. It is used to test the system.

The non-functional requirement for my project is:

|  |  |  |  |
| --- | --- | --- | --- |
| NFR | Non-functional requirement | Description | Rational |
| NFR1 | Speed | System must run fast to perform the task. | System should perform smoothly. |
| NFR2 | Scalability | The system should be change in size or scale. | System should be scalable. |
| NFR3 | Availability | System should be quality of being able to be used. | Availability of the system. |
| NFR4 | Testability | System should be able to run and experiment to test. | System should be testable. |
| NFR5 | Maintainability | System should be maintainability to meet new requirements. | To make the future maintainability easier. |
| NFR6 | Usability | System should be easy to use. | System should be fit. |
| NFR7 | performance | System should perform smoothly. | System should be performable. |
| NFR8 | Reliability | System should be quality to trust. | System should be reliable. |
| NFR9 | Modifiable & Extensible | System should be changeable. | System should be modifiable. |
| NFR10 | Safe | System should be safe for the user. | System should be safe. |

Moscow prioritization

MoSCow prioritization is defined as method or analysis and a popular prioritization technique for managing the requirements. It is commonly used to understand the significance of initiative in a specific release. There are 4 stage of the MoSCow prioritization they are:

1. Must Have: If the project won’t work without it or the system becomes useless without it, the initiative is likely called must-have.
2. Should Have: without the project may work but can be improved or left for future work.
3. Could have: It can be in the system either it can’t be in the system but without it project still works.
4. Won’t have: For the time it is not needed to system but it can be used in the future.

|  |  |  |
| --- | --- | --- |
| FN | Functional requirement | MoSCoW |
| FN1 | User Registration | Must have |
| FN2 | Login | Must have |
| FN3 |  |  |
| FN4 | Add account information | Must have |
| FN5 | Edit account information | Must have |
| FN6 | Delete account | Must have |
| FN7 | Search user | Must have |
| FN8 |  |  |
| FN9 | Subscribe | Must have |
| FN10 | Chat | Could have |
| FN11 | Notice | Must have |
| FN12 | Feedback | Could have |
| FN13 | Update account | Should have |
| FN14 | Advertisement | Could have |
| FN15 | personal information change | Must have |
| FN16 | Status | Could have |
| FN17 | Contact Us | Should have |
| FN18 | Gallery | Could have |
| FN19 |  |  |
| FN20 | Logout | Must have |

|  |  |  |
| --- | --- | --- |
| NFR | Non-functional requirement | MoSCow |
| NFR1 | Speed | Should have |
| NFR2 | Scalability | Won’t have |
| NFR3 | Availability | Should have |
| NFR4 | Testability | Must have |
| NFR5 | Maintainability | Must have |
| NFR6 | Usability | Should have |
| NFR8 | Reliability | Must have |
| NFR9 | Modifiable & Extensible | Won’t have |
| NFR10 | Safe | Should have |

SRS

Hardware Requirements Specification (SRS) provide the overview of the entire (SRS). It includes the reference scope overview and purpose. The best hardware requirements specification for my project is:

For Hardware

1. Ram: Minimum 2 GB
2. Processor (CPU): 2 gigahertz (GHz) frequency or above
3. Minimum 20 GB space

For Software

1. Windows 7, Windows 10 Linux
2. Database MySQL
3. Browsers: Mozilla Firefox, Safari, Internet Explorer, chrome

Use case diagram

Use case diagram is defined as a methodology used in system analysis to clarify, identify and organize system requirements.

The symbol used in use case diagram is:

1. The boundary defines the system.
2. Actors define their role.
3. Use cases which the specific roles are played by the actors around the system.
4. Relation between use cases and actor.

Use case diagram of the system/project are as follows:

NLA and initial class diagram

Natural Language processing (NLP) is the component of artificial intelligence (AI)

It makes computer program understand human language as it is spoken. It used to analysis and to identify class

Class diagram

Class diagram is a diagram and part of unified modeling language(UML)

A class diagram is a type of diagram and part of a unified modeling language (UML) that defines and provides the overview and structure of a system in terms of classes, attributes and methods, and the relationships between different classes.

It is used to illustrate and create a functional diagram of the system classes and serves as a system development resource within the software development life cycle.

## Techopedia explains *Class Diagram*

A class diagram is primarily designed for developers to provide the conceptual model and architecture of the system being developed. Typically, a class diagram consists of more than one class or all the created classes for a system.

It is a type of structure diagram and looks similar to a flow chart having three main parts illustrated in rectangular boxes. The first or top part specifies the class name, the second or middle specifies attributes of that class and the third or bottom section lists the methods or operations that specific class can perform.