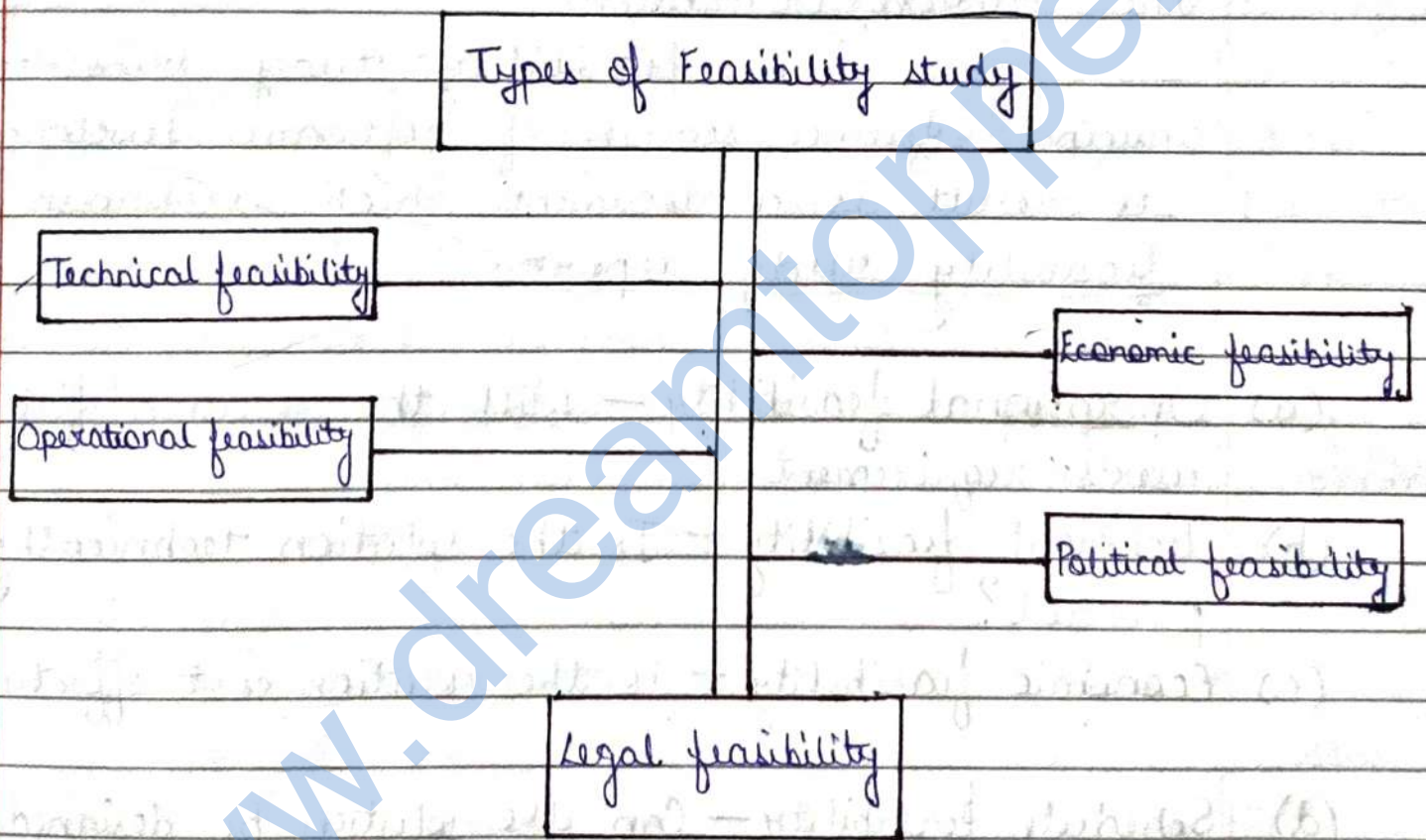


★ Feasibility Study :-



* The base of requirement engineering is feasibility study. (This activity is performed to support the decision of whether a new development should be started or not.)

The feasibility is the analysis of risk caused and benefit relating to the economic technology and users. The problem to be automated is analysed in sufficient detail to ensure that all aspects of feasibility are evaluated.

(Its goal is to provide a feasibility study document which present different scenarios and alternative solution to the software engineer). The feasibility study offers to resolve the decision for the software development. After the feasibility study, the project management team not be ensure for further decision during the software preparation.

(The feasibility study tries to anticipate future scenarios of software development. Its result is a document which is known as feasibility study report.)

- a) Operational feasibility - Will the solution fulfill the user's requirement.
- b) Technical feasibility - Is the solution technically practical?
- c) Economic feasibility - Is the solution cost effective?
- d) Schedule feasibility - Can the solution be designed and implemented within an acceptable time period?

* Cost estimation :-

The accuracy of cost estimation result is important in any software development project. The information system defined as interaction between people, process, data and technology. The important question in software development project is how to complete a project in specific time, budget and resources. In order to measure these attributes are achieved when a person who involved in estimation process especially project manager need to ensure all the requirements are considered when defined added project schedule is one of the main contributors to the project failure.

The accuracy of cost estimation is depending upon how software development communication defined the resources needed and the quantity of resources.

Software cost estimation process begins during the planning phase in SDLC.

Cost of project is derived from the estimate of efforts and size but from the other parameters such as hardware, travel, expense, training and tele-communication cost.

For example - In developing a personal website in order to develop the module, project manager needs to list the type of hardware and software.

In this case, the web developer or web designer or web programmer the overall cost of these above mentioned employees estimate the cost of salaries of these employees.

* System Design :-

System design is the transformation of an analysis model into a system design model. During the system design, developers define the design goals of the projects and decompose a system into smaller sub-systems that can be realised by individual teams.

Developers select the strategy for building the system such as hardware software strategies. The result of system design is a model that includes sub-system decomposition and a clear description of each of these strategies.

(System design is the process or art of defining the architecture, components, modules, interface and data for a system to satisfy the specified requirement.) The purpose of system design is to create a technical solution that satisfies the functional requirement for the system.

(The challenge is to translate all these information into technical specification that accurately describe the design of the system and that can be used as input to system construction.)

* Design of output and control in system design :-

Output generally refers to the result and information that are generated by the system for many end users. Output is the main reason for developing the system and the

basis on which they will evaluate of the multiple application. Most end-users will not actually operate the information system through the different workstation (server) but they will use the output from the system.

The arrangement of information on a display is termed as layout. (The output design is specified on layout forms, sheets that describe the characteristics of display page such as length, type and format of sheet). Computer output is the most important and direct source of information to the user. A major form of output is the hardcopy which is produced by different printers or single printer.

(The output can be produced in a variety of ways such as printing, audio, display screen, electronic output etc. Each technology has different speed and cost and affect the end user differentially. The output control our design to ensure accurate result and to restrict the distribution of output to authorize recipients).

There are two major types of output controls are -
Magnetic tape and disk output control.

- 1- Printed output control such as visual display
- 2- control output.

* File Design and Database Design :-

File Design :- A file is a collection of related records generally. All the records in a file are of same size and record types. The record in a file

may be of fixed length or variable length depending upon the size of record contained in a file. File is two-dimensional table summarizing the multiple instances of a set of fields and entity.

The file is based on their multiple attributes which is given below -

- 1- Name
- 2- Identifier
- 3- Type
- 4- Location
- 5- Size
- 6- Protection
- 7- Time, date and user identification

There are multiple methods to organise a file. These methods are given below -

- (a) Sequential organisation
- (b) Direct access organisation
- (c) Index organisation

To find a specific record with file management system. The file should be search with the help of their extension. These methods are useful method for the separation of files with the different database management system.

★ Software Constructors :-

The following principles constructor that should guide the software design process with the help of following points which is given below-

1- Modularity and Partitioning - Each system should consist of a hierarchy of modules. Lower level modules are generally smaller in scope and size compared to high level modules.

2- Coupling - Coupling between two modules is the strength of interconnection between modules or a measure of interdependency among modules. There are following types of coupling which is listed below -

- | | |
|----------------------|-------------------|
| (a) Data coupling | Message coupling |
| (b) Stamp coupling | External coupling |
| (c) Control coupling | |
| (d) Common coupling | |
| (e) Content coupling | |

Because of there are multiple coupling techniques are used for the process software construction and it is the highest form of coupling.

3- Cohesion - (Cohesion is a measure of functional strength of a module). (A cohesive module performs a single task within a software procedure which requiring little interaction with procedures being performed in other parts of a program.)

Cohesion of a module represent the tightly bound the internal element of the module are to one or another. (Cohesion of a module gives the designer an idea about the different element of a module belong together in the same module so the cohesion and coupling are clearly related.)

4- Span of control - Span of control refers to the

number of subordinate module which is controlled by a calling module. On the other hand excessive span of control meaning a high number of subordinate module which create a new module under the certain conditions and establishing the calling sequence to pass data and receive results.

5- **Size** — The number of instructions contain in a module should be limited so that module size is generally small. Some organisation have establish the rules to manage the module size.

6- **Shared use** — Sharing modules minimize the amount of software that must be designed and written. It minimize the number of changes that must be made during the system maintenance and it have a single shared modules that reduce the change of errors.

* Documentation —

Documentation describe an information system and help the user, project manager and IT staff who must interact with it. The accurate documentation can be reduce the system down-time, cut the cost and speed-up the maintenance task.

The software documentation is made for the developer of the system and it include all the paper work has done. The documentation is essential for successful system operation and their maintenance. In addition to supporting a

system user, the accurate documentation is essential for IT staff members who must modify the system and add a new feature in it.

● Importance of Documentation -

1. Communication
2. Maintenance
3. Trouble shooting
4. Decision-making
5. Control management
6. Evaluation