UNIT – 6

Management Issues in Software Projects

★ **Introduction of Software market :-**

The software market consist of sales of software product by entities companies (organization), sale, traders that develop market and distribute the software product for commercial and personal use. Software product are usually sold in the form of licenses to use the software for specified period or permanently.

The market include the operating system and the productivity software, database, storage and backup software, business analyst and enterprise software, video game, software design and editing software.

★ **Software Product Market Segmentation :-** The global software product is further segmented based on type and geographicaly.

The software product market is segmented into various type of software product. The global software product is segmented into the North America, Europe, Africa, largest share in global software product market.

★ **Trends in Software product market :-**

Increase in the number of mergers and acquisition in the software product industry. Introduction of high performance cloud computing are the major trends witness in global software product market.

★ **Planning of Software Projects :-** Once a project is found to be possible, computer code project managers undertake project designing. The project designing is undertaken and completed even before any development activity start. The project designing consist of subsequent essential activities.
The attributes of the project -

1- **Project Size -** What going to be downsize quality in terms of the trouble and time needed to develop the project.

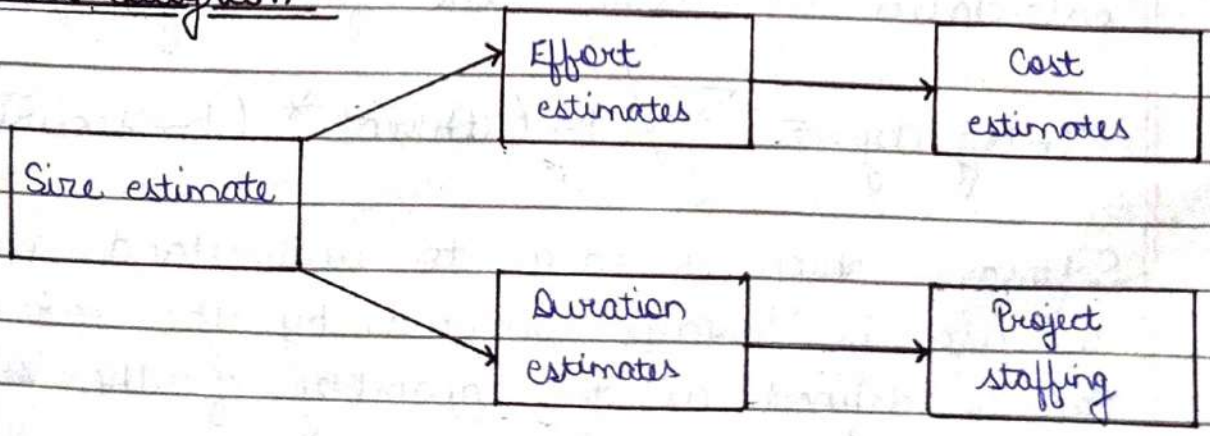
2- **Cost -** What propagation is it reaching to value to develop the project.

3- **Duration -** However long is it reaching to want complete the development.

4- **Effort -** What proportion effort would be required. The effectiveness of the following designing activities is -

(a) Planning force and alternative resources
(b) Risk identification, analysis and designing
(c) Quality assurance planning
(d) Configuration management and arrange etc.

Block diagram -



DATE : / 20
PAGE No

★ Measurement of Software Quality and Productivity :-

The aim of the software developer is to develop high quality software within a specified time and budget. To achieve this, software should be developed according to the functional and performance requirement and document standard. The private matrices are collected by software engineers and then estimated to achieve project level to measure.

The main aim at the project level to measure both the error and defects from software. Many measure have been proposed for accessing software quality such as functionality and so on. It has been observed that reliability, integrity and usability and most useful as they provide valuable indicators to the project team, which are given below -

1- Reliability
2- Correctness
3- Maintainibility
4- Integrity

For measuring integrity of software attributes such as threat and security are to be used. The threat can be defined as the probability of a particular attack at a given point of time. Using these two attributes integrity can be calculated by using the following equation -

$$\text{Integrity} = \sum / 1 - (\text{threat} * (1 - \text{security}))$$

Software which is easy to understand and easy to use, is always prefered by the user. Usability can be defined as the capability of the software

to be understood, learned and used under specified condition. The software which accomplished all the user requirement but is not easy to use it often desti is failed.

★ Defect Removal Efficiency (DRE) :-

DRE can be defined as the quality matrices. The quality assurance and control activities that are applied throughout software development are responsible for detecting errors. The ability to detect errors is measured with the help of DRE which can be calculated by using following equation —

$$DRE = \frac{E}{(E + P)}$$

where E = number of error found software is delivered
D = number of defects found after software is to be declared to the user.

If there are no defect in the software, as the value of E increase for a given value of D, The overall value of DRE stored with new development approach. DRE can also used at different phase of software development.

★ ISO and capability maturity models for the organisational growth :- The CMM is methodology used to develop and refine the organisational software development process. The ISO 9000 standard specify an effective quality system for

manufacturing and service industries. ISO 9001 deals with specifically with software development and maintenance.

The CMM was developed and is promoted by the SEI (s/w engineering Institute) which as research and development center. SEI was found in 1984 to address to fund the software engineering issues.

- CMM five maturity levels of software process :-

1- At initial level, processes are disorganised even chaotic and documented to allow them to be replicated.
2- At repeatable level, basic project management techniques are established and successes could be repeated.
3- At define level, an organisation has developed its own standard software process through the documentation and integration.
4- At managed level, an organisation monitors and control its own processes through data collection.
5- At optimizing level, the processes are to be constantly being improved through monitoring feedback.