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### Practical No: 03

Aim :- To study software Requirement Specification.

Theory :-

What is SRS ?

A software Requirements Specifications (SRS) is a document, which is used as a communication medium b/w the customers. A software requirements specification in its most basic form is formal document used in communicating the software requirements b/w the customer and the developer.

An SRS document concentrates on WHAT needs to be done and carefully avoids the solution (how to do). It serves as a contract b/w development team and the customer. The requirements at this stage is written using end user terminology.

\* Purpose of SRS : SRS is a communication tool b/w customer/client, Business Analyst, System Developers, Maintenance teams, It can also be a contract b/w purchaser and supplier.

— It will give firm foundation for the design phase

— Supports project management & control.

— Helps in controlling & evolution of system.



A software Requirement specification should be complete, Consistent, Traceable, Unambiguous & Verifiable.

### \* Features of a good SRS document :-

1) Correctness :- User review is used to provide the accuracy of Requirements stated in SRS. SRS is said to be perfect if it covers all the needs that are truly expected from the system.

2) Completeness :- SRS is complete if, and only if, it includes -

a) All ~~eter~~ essential requirements, whether relating to functionality, performance, design, constraints, attributes, or external interfaces.

b) Definition of their responses of the software to all realizable classes of input data in all available categories of situations.

3) Consistency :-

a) The format of an output report may be described in one requirement as tabular but in another as textual.

b) One condition may state that all lights shall be green while another states that all lights shall be blue.



4) Unambiguous : SRS is unambiguous when every fixed requirement has only one interpretation. This suggests that each element is uniquely interpreted. In case there is a method used with multiple definitions, the requirements report should determine the implications in the SRS so that it is clear and simple to understand.

5) Ranking for importance & stability:-

6) Modifiability

7) Verifiability

8) Traceability

a) Backward Traceability

b) Forward Traceability.

9) Design Independence.

10) Testability

11) Understandable by the ~~cons~~ customer.

12) The right level of abstraction.

\* The essential properties of a good SRS document :-



Concise :- SRS report should be concise & at the same time, unambiguous, consistent, & complete.

Structured :- It should be well-structured. A well-structured document is simple to understand and modify.

Black-box view :- It should only define what the system should do and refrain from stating how to do these. This means that the SRS document should define external behaviour of the system.

FURPS :-

non-functional	Functionality	
	Usability	
	Reliability	
	Performance	
	Security	

- i) Usability - UX, Human factors, Aesthetics, Consistency
- ii) Reliability - Availability, Recoverability, Stability.
- iii) Performance - Speed, Efficiency, Resource Consumption.



\* Components /content of SRS:-

SRS must address —

- Functional Requirement.
- Performance requirements
- Design constraints.
- External interface Requirement.
- Project Management.
- Functional Constraints.

Conclusion :- In this way, we studied software requirement specifications.