Comparison of different SRS Formats

Lab 3

SRS stands for Software Requirements Specification, which is a document that fully describes the expected behavior of a software system.Functional requirements are documented in an SRS, as are non-functional requirements such as performance goals and descriptions of quality attributes.
The SRS states the functions and capabilities that a software system needs to provide, as well as the constraints that it must respect. The SRS provides the basis for all subsequent project planning, design, coding, and testing. Virtually everyone involved in the project rely on the SRS. The development team, maintenance staff, testers, technical writers, support people, and the marketing department, This is why this document is so important.

- *IEEE Format:*

  This format has six sections in which the first one is the basic introduction to the document with the purpose and scope of the project. The next section consists of is the Overall Description which includes the perspective and functions of the project. User class and characteristics about the project. The sections which are unique to this format are The Operating environment in which the project would work, Assumptions and Dependencies, Design and Implementation Constraints. Then we have External Interface Requirements where User, Hardware, Software and Communication Interfaces are mentioned. Then we have System features followed by Non functional and Other requirements such as safety, security,performance and business rules.

- *Infosys Format:*

  This format is rather simpler compared to IEEE where we have 5 sections in which the first one is Introduction which has the Purpose, Intended Audience,Scope as the IEEE and then the Operating Environment with the design and Implementation Constraints.Then we have the System features followed by External Interface Requirements just like IEEE and Other Non functional Requirements.

- *IBM Format:*

This format has three sections which is Introduction with Purpose and Scope as usual with additional Definitions and Acronyms, References, Technologies used and Overview.

❏ Overall description section unlike the IEEE format does not aim to state specific requirements but instead provides a background for those requirements. The sub-sections include:

i. The use-case model survey which contains a list of names and brief descriptions of all use cases and actors, along with applicable diagrams and relationships.

ii. Architecture diagram and database design- The application architecture diagram and database design schema are added which hep give a clearer picture of what the structure of the project would look like as well as to be able to identify the requirements.

❏ Specific Requirements - This section should contain all the software requirements to a level of detail sufficient that the designers and testers would be able to easily understand the system requirements. The subsections are:

i. Use-case reports: For each use-case in the use-case model survey a report on it must be filled out in this section.

ii. Supplementary Requirements: This section aims to capture the requirements which haven't been mentioned in the use-case survey.

❏ Supporting Information: This section makes the SRS easier to use as it contains the table of contents, index and appendices. These may include the use-case storyboard or user-interface prototypes.

❏ Concern/ Query: Any questions or doubts from the project or technologies used can be mentioned here. These questions will be answered and put up in the discussion forum.

- *ACM SRS format*

The ACM SRS follows a similar format to IEEE except when specifying the system features. Each system feature is subdivided into :

❏ Description and Priority: Describes the feature to be added along with the priority and in which phase of Software development it is to be added.

❏ Stimulus/Response Sequences:A real-time system must able to respond to stimuli that occur at different times. Therefore, architecture should be designed so that, as soon as a stimulus is received, control is transferred to the correct handler. This describes why the user would want to use the specific feature. It also describes how the system will respond when the user uses this specific feature.

❏ Functional Requirements: It is a high level statement of what the feature should

do. Functional requirements specify particular results of a system.

- ❏ Security Requirements (Optional): Describes the various cryptographic and security primitives to be implemented for the feature. Eg: Login page might use sha-1 hashing.

The ACM SRS format does not include a few sections present in the IEEE SRS format such as the Intended audience and Reading Suggestions. As both developers and end users might read the SRS, this is an important section as it tells you which section is important to read for which audience. Also, we do not consider Design and Implementation constraints in the ACM SRS template. This is a section which can be skipped in the IEEE SRS as well.
Product scope and features remain the same in both the SRS templates.
Purpose, Product perspective and Scope are consistent in both the templates.