**Software Architecture:**

The ISO/ IEC/ IEEE 42010 is considered as a reference standard to draft the Architecture Description(below fig: Level 0) of the system(Autonomous Referee). The Architecture Description is a document or a set of documents containing information about System Environment, Stakeholders, their concerns and the architecture model addressing their view points.

The architecture description could be broken down (top-down) into several smaller blocks and the smaller blocks are individually realized and then integrated.

The figure shows the contents of the Architecture Descriptions. The levels in the image are briefly explained below.


Figure 1: The figure shows the contents of the Architecture Descriptions. The levels in the image are briefly explained below.

System Environment (Level 1): The System Environment contains all the information about the system and the components that interacts with the system. The system environment also contains all the information about the existing system and its capabilities.

Stakeholders (Level 1-2): There can be 1 or more stakeholders that are interested in the system that is to be designed. Identifying key stakeholders is important to design and realize the system.

Concerns (Level 3): the stakeholders expresses one or more concerns that needs to be addressed in the system design. It is important to identify and prioritize the key stakeholders and their concerns and realize these concerns in the design.

View (Level 4): The concerns can have one or multiple views, the design should capture all the views and concerns to satisfy the stakeholders.

Architecture (Level 5): Architecture or Model describes the view or how the design solves the concerns including all the views from the functional and the technical perspectives.

State-Flow charts, UML diagrams, Dependency Structure Matrix (DSM), State Diagrams could be used to model and analyze the architecture models.