A suitable architectural design is first significant step in the process of developing software products. It is worthy of carrying many strategic decisions business strategist will use in the course of process and reflect those decisions in architecture. In this way architectural process becomes a major stakeholder in development and not realizing its significance lead to project failure. Software architectural designs explore the premise of all the major inputs and expose results to the architects for major decisions in coordination with project stakeholders. In short software architectural design process comprehends all the design decisions, functional requirements, scope, and non-functional requirements in software architecture. It is necessary to take into accounts all possible details i.e. requirements before selecting architectural style or patterns. The research study is conducted with a contextual need to shift design process to the early phases of development to support vital design decisions that have a substantial cost consequence on the overall quality of the project. The thesis develops an interactive framework to ease the selection process of architectural patterns in a business domain. The DSAPS framework proposed in this work implies a rapid approach to customize design decisions to SA design process. In the first step DSAPS stereotype and prioritize architectural patterns for a particular architectural style. Further it uses the set of artifacts to generate and assess wide range of architectural patterns than a human could manage by making use of AHP technique. The system has a potential to run autonomously or with the help of expert. Evaluation of DSAPS and wider range assessment during early phases of development points to the fact that the approach has a good prospective to support for informed decision-making leading to better quality of obtained requirements.
Keywords: Software Architectural Engineering, Decision Support System, Planning Systems, AHP technique