Software testing is the most critical phase of the Software Development Life Cycle. Software under test goes through various phases, which as per the study are test analysis; test planning, test case/data/environment preparation, test execution, bug logging and tracking and closure. There is lot of research which has been done in past to optimize overall testing process with intent of improving quality of software in a minimum amount of time. After evaluating all available testing processes it has been found that different development models are used for different types of applications and different testing techniques are performed to test the same. Based on the research during the study of this paper, it has been analyzed that each company modifies their testing process as per the needs and performs testing based on the criticality of the applications. The most critical components of each application have to be tested thoroughly to ensure their functional, performance and security features are behaving as expected. This paper talks about ensuring the quality of all types of software applications by performing certain types of testing techniques and optimized software testing processes. As per the study and research done testing types can be categorized under three major testing techniques which are Functional, Performance and Security Testing and major software testing process called as Analysis, Preparation and Execution and closure.
Index Terms

Computer Science
Software Engineering
**Keywords**

Functional  Performance and Security Testing (FPS)  Analysis  Planning and Preparation  Execution and Closure (APEC)

Software Testing Techniques

Software Testing Life Cycle (STLC)

Software Development Life Cycle(SDLC).