Agile Testing Attributes for the Project Management Methodology in Software Development (IT Projects)

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Agile methodology is gaining prominence in the software industry over the waterfall model. Agile testing follows the Agile statement guidelines treating all members of the cross-functional team as another comer to solve complex problems. Learning driven agile as opposed to plan-driven waterfall embraces business value-based frequent delivery of software rather than a milestone-based delivery which happens towards the end of the project.

Considering early and frequent delivery of working software over long release cycles, continuous collaboration with end-users over limited collaboration with customers, customer certainty and fulfilment in the deliverable software expands and future odds of deformity decreases. As the client collaborates with each cycle, the outcome is transmitted after each cycle according to needs.

Agile-Testing has changed the paradigm of traditional project delivery with the introduction of early-stage testing by customers. In this method, the deliverable software must be attempted with the customers after some enhancement and this type of testing is carried out using mechanized recognition testing. In other word, manual work is limited by automated testing. The manual testing techniques, being time-consuming in nature and prone to human errors make it beyond the sphere of fantasy to expect to test the entire manufactured software manually within a limited timeline. In industries, Agile-Testing often used these days involves joint customer attempts and short week cycles. It is the best strategy as it expels the Waterfall Model and V-Model impediments. Besides, due to customer association at each progression, customer certainty and fulfilment in the deliverable software expands, and future odds of deformity decreases.

Additionally, Agile-Testing reduces job costs as software deliverable are transmitted in additions after each cycle so that chances of becoming imperfect will turn out to be extremely smaller in the future. This method also extends the assurance and correspondence of the Quality Assurance group. Projects are perplexing and today, as never before, are being met with vulnerabilities and unconventionality. Dr Winston Royce in 1970 published an article titled "Managing the development of large software systems "where he described a software development methodology which is also known today as the waterfall model. In his article he raised concerns on primarily two aspects, one being testing phase occurring at the end of the development process and lack of correspondence among various teams including customer (one of the most important components of co-operation). He mentioned that since testing is done towards the end of the overall development milestone hence if the output fails to meet customer needs and constraints might qualify for a major redesign which will completely shake up the schedule and budget. Agile software development (ASD) is a critical system developed in the early 1990s to address the vulnerability problems identified with customer needs, innovation development and conflicting company circumstances. The methods used in the ASD have ignored the extremely formalized way of. There are a huge number of interesting characteristics in ASD that have a bearing on for instance, the fundamental management method, a modern developer clan who are self-managed and ready to take on any challenges.

In order to keep pace with the testing demands, the need to develop an Intelligent Testing System (ITS) is evident. The system would analyse the different cultural forms influencing the ASD to carry out the improvement of the environment using automation testing. The system would be designed in line with five basic attributes. The first attribute focuses on the prioritization of the features as per the customer requirement. One of the critical elements of an Agile process is requirement prioritization. The working software deliverable get value and changing requirements are incorporated in a streamlined fashion. The recognition of backlog items employing the NLP component in the learning engine, which is presentable. This leads to the extraction of new backlog items from various data sources, including requirement specification. The second attribute focuses on involving early customers. The proposed ITS would be designed such that it possesses the ability to communicate with the users and refine requirements at every step. The third attribute is the incremental and iterative readiness for release. All the functionally related requirements present in the scrum process are discussed in 3-4 weeks. Each of the sprints covers all the phases, including plan, design, analyse, build and test, and all the functionalities are present in the release-ready state which is free from defects. The fourth attribute includes a flexible

development environment with minimum documentation. The last and fifth attribute includes managing complexities. The complexity of the software could be weighed in terms of the volume of modules in a project, the number of times the modules interact with one another and the level of differentiation between the modules etc.

Complexity is often experienced while managing complex projects. The more conventional and traditional approaches can't come close to the advancement of an Agile technique. The traditional techniques don't consider changes or adjustments to be effectively included during an undertaking procedure and rather sets out everything before the venture's start, trusting that nothing will turn out badly and that there won't be a requirement for change. The ASD, fine-tuned with ITS takes on these known challenges promising a project whose outcome would make more sense to the customer.