Software Development Process

The document describes the Software development process followed for new features, product enhancements and fixes at Accellion. The focus of the process is to ensure deliverability of the new features and fixes with minimal or no disruption to existing functionality. The process also ensures due emphasis on the security aspects of any new development.

Requirement Analysis and Responsibility Assignment

A new development or fix starts with a scope document based on the requirements as communicated by internal or external interested stake-holders. The requirements are discussed broadly and the project is assigned to a manager in the development team. The manager is responsible for the final delivery as well as all intermediate milestones. The scope document is maintained on the Engineering team project portal site, and all remarks are annotated by the contributors and revision history is tracked. This scope document is also the framework on which QA is done on the new features, enhancement or fixes.

Design and Development Schedule

The project manager updates the project portal site with the proposed design. The design takes into consideration any interdependencies and effects on existing components. The design document also includes a section on security where the potential impact on security is discussed and the design explained as to how it avoids common exploits. The design is finalized after discussions with in the development team and senior engineers. The project manager assigns components of the project to the appropriate team members with marked milestones. At this stage, code and product testing is also reviewed so as to flag various components of the product that are impacted and would need to be re-validated or tested due to changes to be made. This is in addition to the testing of the new features or enhancements.

Development

The developers use the deign document to implement their components. They use dedicated testing environments for testing their code at various stages. This is so that validation and code testing is done early in the development phase. The code is checked into a code repository for tracking changes. The design document may need to be revised at this stage especially if the project involves use of new libraries or tools, or if the requirements crystallize more after the initial iterations of implementation and testing. Once all the developers finish their implementation and unit testing, the project is ready to move to the next phase.

Optional System Testing

A system level testing cycle is taken up at this stage if the changes made to the system are not orthogonal and have an impact on various components of the system. This is determined during the design stage and subsequent reviews as the development progresses. This round of testing is done by the engineering team, and involves specific tests devised on the basis of the design and requirements. Any issues found are fixed at this stage before it is handed off to the QA team.

Code Review and Tagging

 Each developer then submits the code for a review by a senior engineer. The review is done with a focus to spot any side effect on existing functionality. If any changes are required, the development – testing – review process is repeated. After a satisfactory review, the code base is tagged for system level QA testing.

QA Testing and Security Review

QA does system tests inclusive of regression tests on the tagged code. The QA team draws up testing plans based on the requirement and design document for the new features or fixes. Any problems are reported to the development team via either e-mail and/or the bug tracking system. Any fixes will result in a repeat of the development-testing-review-QA cycle. Also new enhancements are put through a security review before a live release.

Software Release

Once QA has given a green light, the new code base is released with a new version number and is made available initially for manual 'Software Update' through the Accellion Administrative interface. All changes in a new release are documented in software change-log. The Administrative Interface allows an administrator of an Accellion Solution to check for any available software updates and to apply the update. After the updates have been in use for about 2 weeks in the field, the update is then are made available as an Auto-Update. Accellion systems that are configured on Auto-Update will then get updated automatically. The process ensures that there is minimal risk of disruption with auto software updates.