TrustDER - KeyMaker

Test Plan

Team

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The decisions made for the quality control measures have been documented as below:

What quality assurance and quality control activities/tasks will be conducted ?

The primary focus of the quality control will be on the software and project management artifacts. Some of the key ones include the quality of source code, performance of prototype, and quality of project documents and artifacts.

For software deliverables - We will combine blackbox and whitebox testing activities to ensure the quality of the deliverables. The following practices will be followed to achieve the intended quality.

1. Acceptance Testing
2. Integration Testing
3. Code Tests
4. System testing
5. Regression testing

For non-software deliverables - the quality is ensured through continuous improvement from the feedback that comes from the peers, the faculty advisor and the sponsor. Similarly, the quality of internal practices of SDLC and team dynamics will be continuously monitored and improved through internal discussions within the team.

To which artifacts will they be applied?

Software artifacts:

1. The source code includes the blockchain network, cloud environment, and verification participants (blockchain nodes).
2. End prototype used for demonstration

Non-software artifacts:

1. Project management due diligence and documentation
2. Software development life cycle practices

3. Collaboration practices

When would these activities/tasks be performed during the project?

Testing practices identified above will be performed continuously throughout the project with every development milestone achieved.

Non-software quality assurance practices are performed based on the phase at which the project is. Practices of SDLC, status reports, documentation and other project management activities will be in place throughout the project duration.

Who would perform these activities/tasks on the team?

1. Acceptance Testing - Prerit Pathak
2. Integration Testing - Nithin Ram
3. System Testing - Vaanya Gupta
4. Code Testing - Keshava Srinivas
5. Regression Testing - Noora Alfayez

Project management quality assurance is ensured through continuous open discussion within the team, feedback from the faculty advisor, and the sponsor.

What are the entry and exit criteria for all the activities/tasks?

Entry criteria: software milestones achieved
Exit criteria: reporting through periodic project status reports

How much effort will these activities/tasks require?

Tasks require a significant amount of effort (~120 hours over the semester) to perform the testing and more importantly coordinate the team and avail resources. Continuous activities will consume a smaller portion of our discussions.

How long will these activities/tasks take?

Tasks may take around 15 hours to complete (approx. 3 hours per team member) on a weekly basis.

What tools/technologies will be required, and what/if training will be required?

Software debuggers, blockchain transactions logs, hardware testing.

What measurements will provide visibility into these activities/tasks and outcomes?

For software quality - The number of bugs found in each milestone could be helpful to track the effectiveness of the practice. In addition, the number of bugs found in subsequent testing practices can be a measure of preceding practice. Furthermore, tracking the duration of each testing cycle could be an effective measurement tool.

How will defects/problems/issues be identified, reported, and tracked?

Through periodic standup meetings for the core team and weekly meetings with project sponsors. All the issues identified will be logged on the project Trello board for reporting, tracking and management. Furthermore, all identified issues will be recorded on a shared document between the team to track and remediate as necessary.