

SE 433 Software Testing & Quality Assurance
Spring Quarter 2014/2015
Final Exam, Take-Home Part – A Short Paper

Due Date: Tuesday June 9, 2015, 11:59pm (in class and on-line students)

No late submission will be accepted.

If you have questions regarding the take-home part of the final exam, you may post your questions on the Google discussion group on or before Sunday June 7, 2015. I will only answer questions posted to the discussion group. I will not answer any question after June 7.

Formatting requirements:

- The main text must use font sizes between 10–12pt.
- Page limit: 2 pages (letter-sized), single-spaced, no cover page.

Grading:

Your paper will be graded based on the following rubrics:

- 70% Technical contents
 - Your recommendations are technically sound and your plans are plausible.
 - You provide concise and clear reasoning for your recommendations and plans.
 - You discuss possible alternative to your recommendations and plans.
 - You discuss potential risks and limitation of your recommendations and plans.
- 30% Writing & style
 - The writing supports the purpose with concise, logical details that meet the reader's informational needs.
 - The organization enhances and showcases the purpose. The sequence, structure, and presentation are compelling and move the reader through the text.
 - Words convey the intended message in an accurate and concise manner that increases the reader's understanding.
 - Paragraph division is sound and reinforces the organizational structure.
 - Grammar and usage are correct and contribute to clarity and style.
 - Punctuation is smooth and guides the reader through the text.

The Scenario

Cloud Storage (a fictitious company, any resemblance to real companies are purely coincidental) is a six-month old technology start-up company in the process of delivering its first (and only) product. The company's product is a cloud-based service that allows its potential customers to store electronic files of all types in the cloud securely and conveniently. The files should be accessible on any popular mobile and desktop platforms. The company positions itself as a direct competitor against companies such as Drop Box (www.dropbox.com). *Cloud Storage* service will be free initially. It intends to provide superior quality of service than its competitors. The company currently has no revenue and is solely dependent on venture capital funding. There is very little room in its operating budget until the next round of funding, which is planned in 6 months if the initial product launch is deemed successful. The company's survival depends on this project.

Cloud Storage rents the hardware (servers, storage, and network devices) from another company, *SVS*, which operates a large server farm. *SVS* has a very good record of providing state-of-the-art services to a number of major companies of in the world. *Cloud Storage* is developing its own server-side software and client-side software for each potential client platforms.

The company currently has a software development team of 25 developers of varying levels of experiences and a full range of skills that are necessary for the project. The developers who developed the modules are responsible for of unit testing and integration testing. No individual has been designated to be responsible for quality assurance at this moment. There is no quality assurance process or structure in place.

The project is scheduled to launch in 2 months time. However, the project is facing serious challenges. All the modules necessary for the initial launch are near completion. Current unit and integration testing continue to report a steady number of 15-20 new defects on a daily basis. No end-to-end test has been done. The system appears to have issues in its reliability and performance. It crashes on average 3-4 times a day. No stress test has been done.

To address these challenges, *Cloud Storage* plans to immediately hire a Director of Software Quality Assurance, and you have been identified as a finalist. The CEO of the company has asked you to present an executive summary of your recommendations and plans to steer the project through its initial launch if you were hired as the Director of Software Quality Assurance and were given necessary authorities to execute your plans. You are expected to define benchmarks that would be necessary to match or surpass the competitions. You may make some reasonable assumptions on the technical aspect of the project. Due to budgetary constraints, no additional new hiring is possible in the next 6 months.