# **Title**

Knight Capital Glitch

# **Team**

Daniel Jackson

Sue Kharaka

Kurt Larson

Sebastian Winarto

# **Team Summary Time Log**

|  |  |  |
| --- | --- | --- |
| **Team Member** | **Time**  **( in minutes )** | **Activities (description)** |
| Daniel J. | 90 | 2/5 Add notes and planned paper  2/7 Wrote paragraph 1 & 2  2/5 Created GitHub Page https://github.com/danielmj/CSC179 |
| Sue K. | 75 | 2/1 Article research  2/7 Research Causes of software glitch  2/8 Wrote paragraph 3 and reference page  2/9 Why we are doing the |
| Kurt L. | 90 | 2/5 Created Slack Development Team  2/8 Research for testing methods  2/9 Wrote paragraph 3 & 4  2/9 Added to reference page |
| Sebastian W. | 70 | 2/8 Conclusion  2/8 Method/Process  2/8 Results |
| **TEAM TOTAL** |  | Total time needed to produce this deliverable. |
|  |  |  |

## **Time Reporting Problems** *(all manual entry of time shall be noted here)*

|  |  |  |
| --- | --- | --- |
| **Who** | **Date** | **Problem Documentation** |
|  |  |  |
|  |  |  |

# **Why are we doing this Deliverable**

Daniel - This deliverable gave me insight into what the consequences are if a company fails to properly test their product. The cost associated with a failed product compared to simply performing proper testing procedures is significant. Knight Capital made a serious error in underestimating this and it cost them hundreds of millions of dollars. They could have caught this mistake by running a test case to simulate real trading and analyze whether it was trading properly.

Sue - The deliverable for this assignment reinforced the importance of software quality and testing as a mandatory step for any system development using or dependent on software. The amount of information available on software quality issues exceeding 10,000,000 is abundant reinforcing the need to require software quality and testing in any system. As we discussed in lecture the cost of discovering an error during operations can be 100 times more costly than spending the time and money to invest in software testing. Initially we selected the Knight Capital software quality blunder because it satisfied the financial requirement. As more research was performed the causes of the error included insufficient testability, operational factors errors in correctness, algorithmic faults and interoperability factors interfacing with the NYSE. The Knight Capital software bug serves as an example today of poor software development processes.

Kurt - Reading the article relating to this deliverable was absolutely remarkable; it’s difficult to fathom that even a minor fault could cause such a devastating failure. Knight Capital made a terrible mistake by failing to catch the fault before employing the software; it seems they were more concerned about introducing the new software as quickly as possible rather than ensuring no faults were present. The company could have mitigated losses by constantly putting the software through numerous test cases before the final iteration through regression testing procedures. In my opinion, such a large loss for the company could and should have been prevented. This assignment puts into perspective how important it is to follow proper testing procedures since the consequences can be so great.

Sebastian - This open my eyes in terms of how we computer science students can face in the real work. Even though we think our programs and algorithms are running correctly while we code and run extensive debugging to get the code to compile and run, the lack of testing in the end can lead to catastrophic disaster. The company made a huge error on trusting computer too much and not thoroughly testing the software before they let the program loose. In exchange, they lost such an enormous amount of money and potentially the company as a whole. I hope to take this information and hopefully use this to better my programming methods so when I do go into the technology profession, I can avoid such disasters as this.

# **Project files for this Deliverable**

|  |  |  |  |
| --- | --- | --- | --- |
| **File Name** | **Path** | **Purpose** | **Final Version**  **& Date** |
| KnightCapitalGlitch-Report | KnightCapitalGlitch-Report.docx | To give a summary on the teams performance | 1.0 & 2/10/16 |
| KnightCapitalGlitch | KnightCapitalGlitch.docx | The report | 1.0 & 2/10/16 |

# **Method / Process**

After a decision had been made as to what software glitch to showcase, we decided to divvy the responsibilities evenly. The method that we used in this lab assignment was to individually research the topic and to proportionally write about it. After an initial planning of the paper, each paragraph was clearly outlined and provided the group with a guideline as to what they could write about.

As a group we were able to provide our schedules on when we can possibly meet. So far our meeting times are strictly after lectures since our schedules for school and work still have to be sorted out. While we weren’t able to meet outside of class time, we were able to use what little time we did have together and separate the tasks for this first assignment. Everyone should be able to access this file at any given time and contribute what they can when possible.

# **Results**

What we hoped to produce here in this document is a very concise paper on a particular software glitch or error done by Knight Capital. This company is one of the many companies that uses the robotic buy and sell of stocks in wall street to generate revenue. As a team we discussed how the company or other companies could possibly avoid the same fate as Knight Capital by just testing any software that has the potential to harm lives as well as other people’s assets.

We were able to go out into the internet and do some research on the topic of dollars or life lost from the cause of a software malfunction. Finding the article given the constraints was not difficult at all. We discussed between a few different articles on the topic and picked the one that gave us the most thorough information. Being that everyone in our team is eager to learn about security and assurance of information that this class will cover, we were able to complete this assignment with ease.