CS 744 - Management Issues in Software Engineering

Project Meeting

Project Title: Visual Network Testing Tool

Group Name/Number: Team Mercury

Meeting #: 22

Held On: Apr 23, 2018 at 2:30 pm

Location: Murphy Library

Members: Zeya Kong, Xianrui Zhu, Kyle Van Allen

Attended: All

Topics for Discussion: Final testing/ presentation allocation

Report Writer: Zeya Kong

All members attended at the correct time and we began the meeting at the scheduled 2:30 pm.

The topic of this meeting should be the testing but until we start this meeting, there were still some bugs in the animation part and account management part. So, we just discussed some implementation details. Zeya said because of our data consistency design, the back-end algorithm will return an incorrect path (Actually is the next IP, we designed all things were controlled by back-end, so if the front-end want to show the animation, it should use an ajax function to get the next IP and each step has to call this ajax function). The deeper reason of this error is the write and read asynchronous issues. When the front-end transaction wants to get the next IP to move, the back-end must read the whole information such as connections' status, relay stations' capacity(limit), relay stations' status, all the transaction's current position and the network graph from the DB, which has a lot of interaction with the database. The problem is when more than one front-end transactions call the get next IP ajax function at the same time to go to the same relay station, the back-end can't track those things because this back-end path finding function runs too slowly. In some other specific cases, the back-end might read and write data to the database at the same time and it might case many unexpected errors. This problem made all team members tired and whole team tried to fix this by redesigning all the front-end code and back-end code many times.

In order to solve this DB write-read problem. Kyle and Zeya shared some ideas. Firstly, Kyle said he can redesign the front-end code to send the transaction one by one instead of sending at the same time. Zeya disagreed that and he said it might slow down the whole animation. Zeya suggested that he can change the back-end algorithm to add some synchronous lock to avoid this write-and-read conflict. He also required the database to add one column to track all the transactions status. In order to ensure efficiency, Kyle agreed with Zeya's plan and they started coding. Kyle and Zeya started pair programming by changing Java/DB code. They spent about two hours on coding. Finally, they found the new algorithm they made can solve some situations, but it also introduced new bugs at the same time. So, they decided to comment out all the new code they made and roll back to the old version. Because it is hard to solve this by back-end controlling, Kyle said he will change the front-end structure to balance the efficiency and synchronize issues.

About the account management part, Xianrui said that he almost finished all the things except the format checking. Xianrui asked Kyle to help him update his local DB by using Dr. Kasi's data. Xianrui said he will follow the data structure from project description to verify his part. Xianrui also asked Zeya to help him merge his work into our master branch.

At last, all team members decided to focus on solving bugs and Zeya said he can deploy it into server after all things done. About the testing, all team members want to postpone it and focused on fixing all the bugs they can find. All team members thought that they used a heavy Java Spring framework to follow their heavy data consistency design to do the heavy things. Kyle said he got a little sick.

Anyway, all team members got confidence and decided to do coding overnight to make sure the final demo is good.

Next meeting and its agenda:

The next meeting will take place on Apr 25, 2018 at 2:30 pm in Murphy Library. We plan to talk about the final demo feedback and the project report.