Sprint 2: Personal Sprint Reflection - Developer Role

The goal of this sprint was of extending Prattle code to enable communication between particular users instead of broadcasting messages and storing these messages in the database.

The above goal required to implement user management and data storing modules. To achieve this, I worked on the mysql database, wrote classes and methods to store data into the database, provide basic methods to parse messages sent from client to server in order to identify the type and the destination user. I also developed a simple User interface to communicate with Prattle code to support communication from different browser windows.

Major issues assigned to me:

1) DB implementation [Jira ticket: MSD208SP19-24]
While writing SQL for db implementation, I restructured the ERD as the previous one had few relations with vulnerability. As a DB engineer for this this project, I raised questions about how should we implement data insertion and validation function? Whether they should be java functions or functions/procedures in mySql DB itself? With discussion in group we chose to implement them on the DB front rather than managing them from the Java.
The DB is deployed on AWS RDS.

2) Create Basic UI and Connect it to Prattle [Jira ticket: MSD208SP19-42]
Implemented html page to enable communication from remote machine. Developed JS functions to enable the sever client communication. Identified the need of proxy server and implemented it to convert WebSocket calls to TCP calls.

3) Write methods for data manipulation in DB and testing [Jira ticket: MSD208SP19-37, MSD208SP19-26, MSD208SP19-34]
To connect DB with java code, I wrote a JDBC connection class. Singleton design pattern has been used for this connection object as we don't want to have multiple connections with the same server. This can slow down the performance. Important functions like sqlGet() and sqlCreate() are provided by main connection object. This connection and its methods are used by object specific classes (e.g. UserDB, MessageDB, ConversationDB…) to get or create data in the DB. I also implemented these classes. All the methods in these classes are tested and only the lines or queries with exceptions are not tested.

Here the task was to decide wether to use Hibernate or we should just go ahead with JDBC. We chose to go ahead with JDBC as none in the team is familiar with Hibernate and the current scale of the Project seemed manageable without any ORM.

4) Fix code smells [Jira ticket: MSD208SP19-41]
I worked on resolving the code smells caused due to bad variable names.

5) Setup Authentication when launching the client [Jira ticket: MSD208SP19-35]
Redefined the HLO message in the Prattle code and made it to accept password. Check this username and password combination in the DB whenever a new user signs in. I developed a basic flow and code for this module which was refactored by someone else for better design.

> **5.1) Send all users to client upon Authentication [Jira ticket: MSD208SP19-36]:**
> Return a list of all users on the system to the signed in user.

For the above issues, the code I wrote met sonarQube quality gates. The teammates are able to understand, use and expand the functionalities provided. Most of this code is committed to the git with JIRA ticket associated with it.

During this sprint, we as a team used to communicate almost everyday with a major meeting every 2nd day. Apart from that we used slack or telephonic conversations to solve each others road blocks. I specifically helped the team in understanding the Prattle code and ClientRunnable flow.

Team reflection

Name	Rating	Comments
Himanshu	6	Himanshu worked as expected for this sprint. Despite of his vacation, at the end he delivered the tasks assigned to him. Himanshu is a critical thinker and few of the bugs or raised by him saved us from lot of unwanted work in future. Himanshu needed help while writing code for his modules, however he asked for the help quickly and managed to deliver within time.
John	6	John made a solid contribution to user interface designing and modules to enable conversations and groups. John wrote few methods for interacting with DB despite they were not assigned to him. This helped me lot as I was investing my time in solving other team members doubt regarding Prattle code.
Ram (Scrum Master)	7.5/8	Ram did a good job as Scrum Master. He made sure that everyone is working and team is making progress. Ram coordinated well in terms of dividing tasks equally, combining them and resolving conflicts. He contributed to implement User management system and to achieve quality gates.
Shashwat (Me)	7.5/8	As a developer I solved all the issues assigned to me. More to that, I helped others to understand Prattle code and ClientRunnable code. I communicated with each of the team member to develop DB methods for their requirement. Apart from the JIRA ticket assigned to me, I worked on HTML client which can now communicate with the prattle code. I learnt to host mysql database on aws RDS service, deployed our ERD there and wrote stored procedures and functions to perform CRUD operations. Wrote java methods for communicating with this database from the Prattle code. Apart from this, I helped team members to write code which can perform authentication and pass messages between two users. Overall, I am satisfied with my own contribution for this sprint.