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November 29, 2018

Scrum Board Deliverable 8.B

5.

A. Java sockets support the connections between clients and the server. The server maintains update queues for each of its clients and pops those messages when sending updates back to the client. When the client sends an update for a component to the server, the server adds that update to all of the client queues. Each client maintains a thread that continuously requests for updates from the server. This is how the data stays persistent across clients.

B. Record locking is done on the server side. When User A tries to select a text box (soon to be any valid object), if that resource is being modified by User B then User A will be unable to edit it. Once User B moves focus to another component their changes will be sent to the server and published to all other users. User B then gives up control of the component, and other users can then select it.

The locking itself is managed with a HashMap that maps a component to a client ID. If a component has an ID associated with it, then that client alone can modify it and no other users can modify it until release.

6. Design Patterns

- Composite Pattern → We will use this pattern so that when we move a parent object across the SCRUM board, then it will also adjust all of the child objects as well.
- MVC Pattern → This pattern will help separate our display code from the processing code and it allows for change propagation.