**Product Functions**

Reserve Function: A user can reserve a specific room at a specific timeslot. If the room is already reserved, the user is put on a waiting list. If the reservation is cancelled, the first user on the waiting list is given the reservation and he is taken off any other waiting list at that timeslot. This is part of the write functions, where only one user can be active at a time.

Cancel Function: A user can delete a reservation at a specific timeslot for a specific room, as long as he is the initial user who created the reservation. This is part of the write functions, where only one user can be active at a time.

Modify Function: A user can modify the timeslot or the room for his reservation. This is under the condition that the room or timeslot the user wants to modify to is available. This is part of the write functions, where only one user can be active at a time.

View Reservations Function: A user can view any reservations or availabilities. This is a read function so multiple users can view simultaneously.

Identification and authentication: When a user logs in, his username is compared to those in the database to identify the user. His password is used to authenticate him. If the password is good, he can access the system. If not, the user is notified the password is wrong and may try again.

If a user wishes to perform a write function, but another user is currently doing so, then he must wait until the current user is done.

**Keep talking about this paragraph once we know more how the system will work:**

If a client wishes to write and the resource is not available (another client is writing on the resource), then the client must wait, until the resource becomes available. Writers and readers operate in mutual exclusion. The system may allow multiple readers at a time. The system must provide safety, liveness and fairness.