Bug Report: Issue with Room Availability

Session: 2021 – 2025

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Description:

In the hotel management system desktop application, there is a bug related to room availability. When a user tries to update the availability status of a room in the system, the changes are not reflected correctly in the SQLite database. This leads to incorrect information being displayed in the application regarding the availability of rooms.

Steps to Reproduce:

1. Open the hotel management system application.
2. Navigate to the "Room Management" section.
3. Choose a room and update its availability status (e.g., from 'Occupied' to 'Vacant' or vice versa).
4. Save the changes and check the room availability display.

Expected Behavior:

The room availability status should be updated in the SQLite database, and the application should reflect the correct availability status for the selected room.

Actual Behavior:

The changes in room availability status are not consistently updated in the SQLite database, leading to incorrect information being displayed in the application.

Environment:

- Operating System: [Specify the operating system, e.g., Windows 10]
- Python Version: [Specify the Python version, e.g., Python 3.7]
- PyQt/Qt Version: [Specify the PyQt or Qt version, e.g., PyQt5 or Qt 5.12]
- Database: SQLite

Solution Report:

Room Availability Update Issue

Root Cause Analysis:

The issue is likely related to a discrepancy between the updates made in the application's UI and the corresponding changes in the SQLite database. This mismatch can occur due to improper handling of database transactions or issues with the SQL queries responsible for updating the room availability status.

Solution:

Transaction Handling:

Ensure that the room availability update is wrapped in a transaction to maintain the integrity of the database. If an error occurs during the update process, the transaction should be rolled back to prevent inconsistent data.

Correct SQL Queries:

Verify the SQL queries used to update the room availability status. Ensure that the queries correctly identify the room to be updated and that the changes are committed to the database.

Update UI After Database Commit:

After successfully committing the changes to the SQLite database, update the UI elements to reflect the correct room availability status. This step is crucial for providing a seamless and accurate user experience.

Error Handling:

Implement proper error handling mechanisms to catch any exceptions that may occur during the update process. Display informative error messages to assist in debugging and resolving issues.