

# Research Database Command Line App

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## 1 Overview

A simple desktop application for managing research data with:

- User login system
- Basic database commands
- CSV export functionality

### 1.1 Components

- Login form (username/password)
- Command input field
- Results display area
- Export button

## 2 Basic Commands

### 2.1 Available Commands

Command	Example
display	<code>display studies</code>
insert	<code>insert subjects id="S001"</code>
update	<code>update studies status="done"</code>
delete	<code>delete subjects id="S001"</code>
sql	<code>executes an sql query, with limitations</code>

### 2.2 Usage Notes

- Commands are case-sensitive
- Use quotes for text values
- Only admins can modify user accounts
- For testing purposes, the default admin user (`admin`) is prefilled in the login form, and its password is `admin123`.

## **2.3 Technical Implementation**

- SQLite database
- Qt-based GUI (PySide6) with signal/slot architecture
- Automated database initialization with sample data
- Comprehensive error handling and user notifications

## **3 Exporting Data**

Click the "Export" button to save displayed results as CSV. The file will contain:

- Column headers
- All visible data rows
- Proper formatting for Excel

## **4 Limitations**

- Supports basic CRUD operations only
- No advanced query capabilities
- Single-user editing at a time

### **4.1 ER Model:**

