Course: CS3520
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1. Overview

A C++ application for user roles, event scheduling, reservations, ticketing, and file-based persistence in a convention center context.

2. Diagrams

- **Class Diagram:** `design/Class_Diagram.pdf`

- **Sequence Diagrams:** `design/Sequence_diagram_login.pdf`, `design/Sequence_diagram_reserve.pdf`

3. CRC Cards

See `design/CRC Cards.pdf` for responsibilities and collaborators of key classes.

4. Key Design

- **User hierarchy:** abstract `User` subclassed by `Resident`, `NonResident`, `Organization`, `City`, `Manager`.

- **Domain models:** `Event`, `Reservation`, `Ticket`.

- **Controller:** `System` handles flow and enforces rules (overlaps, limits, priority).

- **Persistence:** `FileManager` uses `std::filesystem` to read/write pipe-delimited `.dat` files.

- **Memory:** smart pointers (RAII), no manual `new`/`delete`.

- **Validation:** input checks, file existence, safe `std::stoi` usage.

5. Build & Run

make   # compiles sources into bin/management_system
./bin/management_system # run from project root

6. Default Credentials

All passwords set to `password` for these users:

manager, resident1, nonresident1, organization1, city1

7. Data Files

`data/` directory contains `users.dat`, `events.dat`, `reservations.dat`, `tickets.dat`. Missing files are created on startup.

8. IMPORTANT NOTE

Please for the rest of the literal design go to
https://github.khoury.northeastern.edu/whoisyounes/CS3520-Summer-2025/tree/main/management_system/design

CS3520-Summer-2025 / management_system / **design** /

whoisyounes Create README.md   f997ebf · 1 hour ago   🕐 History

Name	Last commit message	Last commit date
..		
.gitkeep	Create .gitkeep	1 hour ago
CRC Cards.pdf	Add files via upload	1 hour ago
Class_Diagram.pdf	Add files via upload	1 hour ago
README.md	Create README.md	1 hour ago
Sequence_diagram.pdf	Add files via upload	1 hour ago