

Local History Museum – Project Report

1. Introduction

A local history museum was chosen as the project's mini world. The museum is in charge of conserving and showcasing artifacts that illustrate the local community's cultural and historical development. Apart from maintaining a collection of artifacts, the museum also plans exhibitions, manages employees, and provides guided tours and ticket sales to visitors.

At the moment, museums have to handle a lot of structured data, such as records of artifacts, exhibition schedules, employee duties, and visitor transactions. Maintaining precise and well-organized records would be ineffective and error-prone without a well-designed database system.

Designing and implementing a relational database system that effectively saves, organizes, and manages data pertaining to the museum's operations is the goal of this project. While preserving the distinct connections between these entities, the system will enable the organized storage of artifacts, exhibitions, employees, visitors, and ticket information.

2. Gathering Process

Research on the operations and collection management of local museums was done in order to ascertain the system needs. Examples of actual museum database structures, online publications about collection management systems, and museum websites were the sources of the information.

- Details concerning artifacts, such as their name, description, place of origin, historical era, and acquisition date, must be stored in the system.
- Exhibition-related data, such as the exhibition name, start and end dates, must be stored in the system.
- The items on show in each exhibition must be tracked by the system.
- Staff details, such as name, position, and contact details, must be stored in the system.

- Information about visitors must be stored in the system.
- Visitors' ticket purchases must be tracked by the system.
- To guarantee data consistency and integrity, the system has to maintain relationships between items, exhibitions, employees, and visitors.

3. System Scope

This database system's functionality is limited to overseeing the main museum functions of staff records, visitor ticketing, exhibition management, and artifact tracking. The system's primary focus is on relational structure and data storage.

- The system does not consist of:
- Processing payments online
- Advanced analytics for reporting
- Access controls for security
- Multimedia storage (including artifact photos or videos)

Designing a well-structured relational database that exhibits appropriate database modeling techniques, normalization, and relationship management is the system's main goal.

4. Expectations

- Every artifact has a unique identifier.

- Over time, an artifact could be featured in several exhibitions.
- There may be more than one artifact in each display.
- Each visitor may buy more than one ticket.
- A single visitor is linked to each ticket.
- Every employee at the museum has a distinct role.

These presumptions contribute to defining the database system's relationships and structure.