

ITEC 3200

Resistance Database System

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Executive Summary

Objective

The objective of this project is to develop a comprehensive system to track rebel operations, their locations, the personnel involved, and the resources used. This system ensures efficient organization, better planning, and resource allocation.

Goals

The primary goals of this project include organizing data about rebels, such as their expertise and ranks, and tracking both ongoing and completed operations with their objectives and outcomes. Additionally, the project aims to monitor resources available at each location to ensure proper allocation and establish clear links between operations, locations, and personnel to improve operational efficiency.

Solution

To meet these goals, a structured database is created using MySQL Workbench. This database organizes information into four key areas: rebels, locations, operations, and resources. It tracks personnel roles and specialties, stores details about operational locations, records mission objectives and outcomes, and manages the inventory required for operations. The database links personnel to the operations they participate in and connects operations to their respective locations.

Benefits to Users

This database provides an easy-to-use system for managing complex information about operations, personnel, locations, and resources. It enables better decision-making, efficient resource management, and streamlined reporting. By linking related data, it helps users gain a clear understanding of operational progress and resource distribution, ultimately supporting successful mission planning and execution.

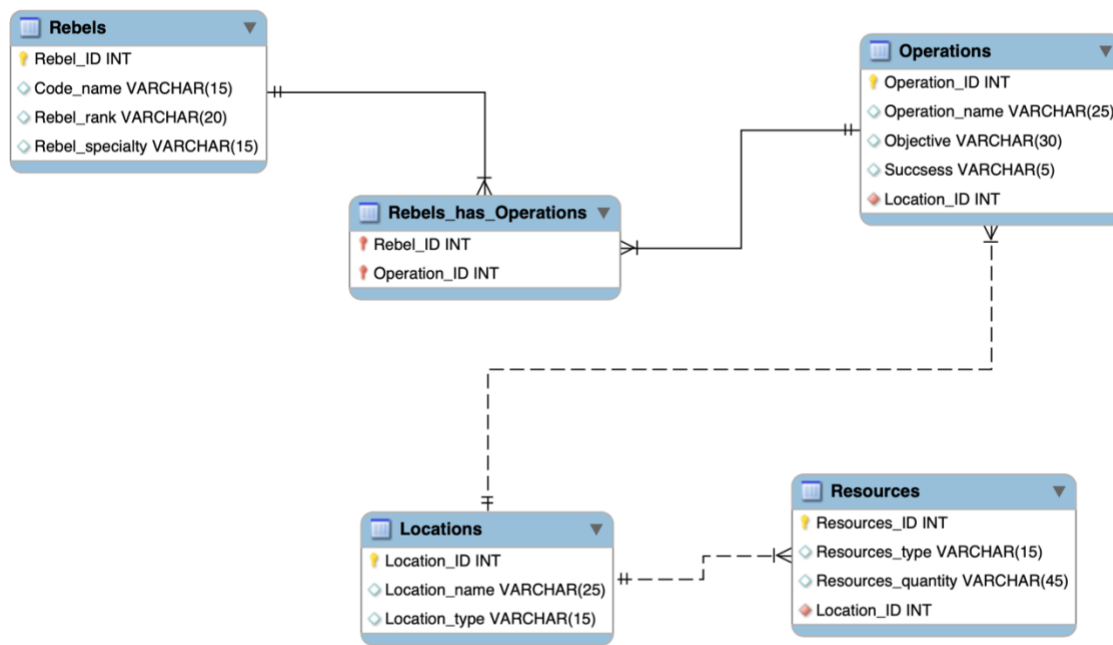
Project Outline

The project will contain the following major components:

- Entity-Relationship Diagram
- Table Implementation
- Queries

ITEC 3200

Entity-Relationship Diagram



ITEC 3200

Table Implementation

(Rebels Table)

| | Rebel_ID | Code_name | Rebel_rank | Rebel_specialty | |
|--|----------|-----------|------------|-----------------|--|
| | 1 | Eagle | Captain | Tactical | |
| | 2 | Shadow | Lieutenant | Stealth | |
| | 3 | Hawk | Sergeant | Weapons | |
| | 4 | Viper | Major | Demolitions | |
| | 5 | Falcon | Corporal | Communications | |
| | 6 | Raven | Private | Reconnaissance | |
| | 7 | Wolf | Lieutenant | Strategy | |
| | NULL | NULL | NULL | NULL | |

(Locations Table)

| | Location_ID | Location_name | Location_ty... | |
|--|-------------|----------------|----------------|--|
| | 1 | Base Alpha | Mountain | |
| | 2 | Outpost Beta | Desert | |
| | 3 | Fortress Gamma | Urban | |
| | 4 | Camp Delta | Forest | |
| | 5 | Station Echo | Underground | |
| | 6 | Bunker Foxtrot | Submarine | |
| | 7 | Fort Zulu | Island | |
| | NULL | NULL | NULL | |

(Operations Table)

| | Operation_ID | Operation_name | Objective | Success | Location_ID | |
|--|--------------|---------------------|------------------------|---------|-------------|--|
| | 1 | Operation Sunrise | Infiltrate enemy base | Yes | 1 | |
| | 2 | Operation Dark Sky | Rescue hostages | No | 2 | |
| | 3 | Operation Thunder | Sabotage supply lines | Yes | 3 | |
| | 4 | Operation Nightfall | Capture key target | No | 4 | |
| | 5 | Operation Phantom | Disrupt communications | Yes | 5 | |
| | 6 | Operation Storm | Destroy artillery | Yes | 6 | |
| | 7 | Operation Eclipse | Gather intelligence | No | 7 | |
| | NULL | NULL | NULL | NULL | NULL | |

(Resources Table)

| | Resources_ID | Resources_type | Resources_quantit... | Location_ID | |
|--|--------------|----------------|----------------------|-------------|--|
| | 1 | Ammunition | 500 crates | 1 | |
| | 2 | Food Supplies | 1000 packs | 2 | |
| | 3 | Medical Kits | 200 kits | 3 | |
| | 4 | Fuel | 50 barrels | 4 | |
| | 5 | Comm Equip. | 20 units | 5 | |
| | 6 | Explosives | 150 units | 6 | |
| | 7 | Water | 2000 liters | 7 | |
| | NULL | NULL | NULL | NULL | |

(Rebels_has_Operations Table)

| | Rebel_ID | Operation_ID | |
|--|----------|--------------|--|
| | 1 | 1 | |
| | 2 | 2 | |
| | 3 | 3 | |
| | 4 | 4 | |
| | 5 | 5 | |
| | 6 | 6 | |
| | 7 | 7 | |
| | NULL | NULL | |

Query Implementation

Query 1

- Finds all Lieutenants specializing in Stealth or Strategy, showing their IDs, code names, ranks, and specialties in alphabetical order.

Query 2

- Retrieves all locations with names containing the letter "a" and displays their IDs, names, and types in alphabetical order.

Query 3

- retrieves operations with objectives between 20-30 characters or with IDs 1 or 3, displaying their details in alphabetical order

Query 4

- retrieves all operations along with the names of the locations where they took place, sorted alphabetically by operation name.

Query 5

- calculates the total quantity of resources by standardizing units and displays their IDs, types, and adjusted totals, sorted by resource type.

Query 6

- counts the number of rebels in each rank and displays the results sorted by rank.

Query 7

- lists the IDs and code names of rebels who participated only in successful operations, sorted alphabetically by their code names.