

Data and Applications HW-1

Team - 58 :

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Database for John Wick

1. Introduction to Mini World

John Wick movie depicts an underworld network of criminals and Russian agents. The UoD in this document provides information about this network of agents, criminals and their past criminal records that can have various applications as discussed later.

2. Purpose of Database

The purpose of this database is to keep track of criminals and their hierarchy. It also has relationships to identify allies or enemies among people of the Continental Hotel and others.

3. Users of Database

Criminals like Viggo, Spies, Russian agents like John Wick, Manager of Continental Hotel

4. Applications of Database

The database can be used by high level authorities investigating personnel to extract confidential information, or by hit-men like John Wick to form their hit-list. It can be used to investigate murders between enemy groups.

5. Database Requirements

5.1 Assumptions

1. Name of every character is unique.
2. If a specific attribute of an entity is not defined/known, then we write NULL.
3. We assumed that there could be more than two alliances.
4. An alliance may/may not have enemies.

5.2 Strong Entity Types

- **Characters** – John wick, Viggo, Manager of Continental Hotel, Iosef, Aurelio, Marcus, Ms. Perkins, Charlie (Underworld Cleaning Service Agent)

Attributes: Name (Primary key)
 Address (Composite)
 Gender
 Continental membership

Phone number (multi-valued attribute)

- **Civilians** – Helen (John’s wife), Daisy (dog), etc
Attributes: Name (Primary key)
Address (Composite)
Gender
Phone number (multi-valued attribute)
- **Location** – ex. Continental hotel rooms.
Attributes : Address (primary key) (composite)
Security
- **Alliances** – ex. Viggo’s alliance
Attributes : Leader (Primary key)
Number of members
- **Car** – Ford Mustang 1986 (John’s car), etc.
Attributes : Owner
License Plate Number (primary key)

5.3 Weak Entity Types

- **Utilities** – ex. gold coins, pencil.
Attributes : Uses
Name (Partial Key)
Used by (Multi-valued Attribute)

5.4 Relationship Types

S. No	Relationship	Participating Entity Type	Degree	(Min, Max)
1.	Character/Civilian Killed a character	Character/ Civilian, Character	2	Character/Civilian (0,1) Character (0,1)
2.	Character Used a utility	Character, tool	2	Character (0, N) Weapon (0, N)
3.	Character/Civilian Lives at a location	Character/ Civilian, location	2	Character/Civilian (1,1) Location (0, N)
4.	Character is Enemy of character	Character, character	2	Character (0, N) Character (0, N)
5.	Character is Enemy of Alliance	Character, Alliance	2	Character (1, N) Alliance (0, N)
6.	Alliance is Enemy of Alliance	Alliance, Alliance	2	Alliance (0, N) Alliance (0, N)
7.	Character was killed by alliance using Utility at Location	Character, alliance, Utility, Location	4	Character (1, N) Character (1, N) Utility (0, N) Location (1, 1)

8.	Character belongs to an alliance.	Character, Alliance	2	Character (0, N) Alliance (1, N)
9.	Character/Civilian owns Car	Character/civilian, Car	2	Character/civilian (0, N) Car (1,1)

6. Functional Requirements

- **To add/ update data**

- o Add a character
- o Change Alliance of a character
- o Change attributes like continental membership, or address of a character
- o Change security of a location
- o Change leader of an alliance
- o Change / add used by attribute of a utility
- o To remove a character from alliance when they die
- o Change address of civilian

- **To retrieve data**

- o Find alliance of a character
- o Find list of enemies of a character
- o Determine if a location is safe
- o View list of members of an alliance
- o View the murder details of a character
- o Find a person's car details

7. Summary

We are creating a mini world about the underworld criminals and spies, and the civilians in their world. We are having entity type as various characters of the movie, location where the scenes took place, utilities possessed by the characters and alliances to which characters belong. These all entity types have their respective relationships through which we can retrieve information about the hit-men, their enemies, and other contacts.