Entities Description

1. User

This is an entity regarding user login information, with five attributes.

1. UserId: a unique identifier to distinguish between users. The primary key of this entity; string attribute.
2. UserName: the name of user’s account; string attribute.
3. Email: email address of user; string attribute.
4. PhoneNumber: phone number of user; string attribute
5. Password: password of account set by user; string attribute

**Assumption:**

1. Every user should have a unique UserId and cannot be modified.
2. Users can change their password, which results in modify of this table.
3. Case

This is an entity regarding the criminal cases that has been recorded, with 16 attributes

1. DR\_NO: Official file number of the case; the primary key
2. DateReported: MM/DD/YYYY form report date
3. DateOccurred: MM/DD/YYYY form occur date
4. TimeOccurred: the specific time In 24 hour military time
5. RptDistNo: A four-digit code that represents a sub-area within a Geographic Area.
6. CrimeCode: Indicates the crime committed; foreign key to Crime
7. CrimeCodeDesc: Defines the Crime Code provided.
8. MOCode: Activities associated with the suspect in commission of the crime.
9. VictimSex: F – Female, M – Male, X – Unknown
10. VictimAge: age of victim
11. VictimDescent: A - Other Asian; B – Black; C – Chinese; D – Cambodian; F – Filipino; G – Guamanian; H - Hispanic/Latin/Mexican
12. Status: Status code of the case; foreign key to Status.StatusCode
13. WeaponUsed: The type of weapon used in the crime; foreign key to Weapon.WeaponUsedCode
14. Location: Street address of crime incident.
15. LAT: Latitude
16. LON: Longtitude.

**Assumption:**

1. One DR\_NO is associated with one and only one case.
2. One case can have only one victim with one person’s information
3. DateOccurred is earlier than or equal to DateReported
4. Crime

This is an entity regarding the type of crimes that has been recorded, with 5 attributes.

1. CrimeCode: Indicates the crime committed; the primary key of this entity.
2. CrimeCodeDesc: Defines the Crime Code provided.
3. CrimeCode1: The primary and most serious crime.
4. CrimeCode2: May contain a code for an additional crime, less serious than Crime Code 1.
5. CrimeCode3: May contain a code for an additional crime, less serious than Crime Code 1.

**Assumption:**

1. One crime has one unique Crime Code that can’t be changed.
2. One crime can have CrimeCode 1, 2 or 3 existing at the same time.
3. Area

This is an entity regarding the areas that crimes take place, with 2 attributes.

1. AreaCode: The LAPD has 21 Community Police Stations referred to as Geographic Areas within the department. The primary key of entity.
2. AreaName: The 21 Geographic Areas are also given a name designation.

**Assumption:**

1. One area has one unique AreaCode that can’t be changed.
2. The 21 AreaNames are also unique.
3. Premis

This is an entity regarding the structures that crimes take place, with 2 attributes.

1. PremisCode: The type of structure, vehicle, or location where the crime took place. The primary key.
2. PremisDesc: Defines the Premise Code provided.

**Assumtion:**

The premis code is unique and only lies between 101 and 971

1. Weapon

This is an entity regarding the weapon that criminal used, with 2 attributes.

1. WeaponUsedCode: The type of weapon used in the crime. The Primary Key.
2. WeaponDesc: Defines the Weapon Used Code provided.

**Assumption:**

WeaponUsedCode lies between 101 and 516, while Unknown weapon is assigned as code 500

1. Status

This is an entity regarding the status of the case currently, with 2 attributes.

1. StatusCode: Status of the case, The primary key.
2. StatusDesc: Defines the Status Code provided.

**Assumption:**

IC is the default code for Status Code.

Relations Description

1. User->Case: lookup & search

Each user can search for multiple cases, and one case consist of 16 attributes.

**Assumption:** one user can search zero to many cases, one case can be searched by many users.

1. Case 🡪 Crime: belongs to

Each case belongs to one specific type of crime.

**Assumption:** One case can only belong to one type of crime; one type of crime can have many cases.

1. Case->Area: in

Each case happens in a specific area of LA.

**Assumption:** One case can only happen in one area, one area can have many cases.

1. Case->Premis: happen at

Each Case happen at a corresponding premis, such as vehicle, or location.

**Assumption:** One case can only happen at one premis, one type of premis can have many cases.

1. Case->Weapon: with

Each crime case is delivered with a specific kind of weapon.

**Assumption:** One case can only be delivered by one kind of weapon, one type of weapon can be associated to many cases.

1. Case->Status: with

Each crime case is now with a associated status, like “whether the criminal has been arrested or not”

**Assumption:** One case can only have one status, one type of status can be associated to many cases.