CrimeStats.LA

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Part 1 Conceptual Diagram

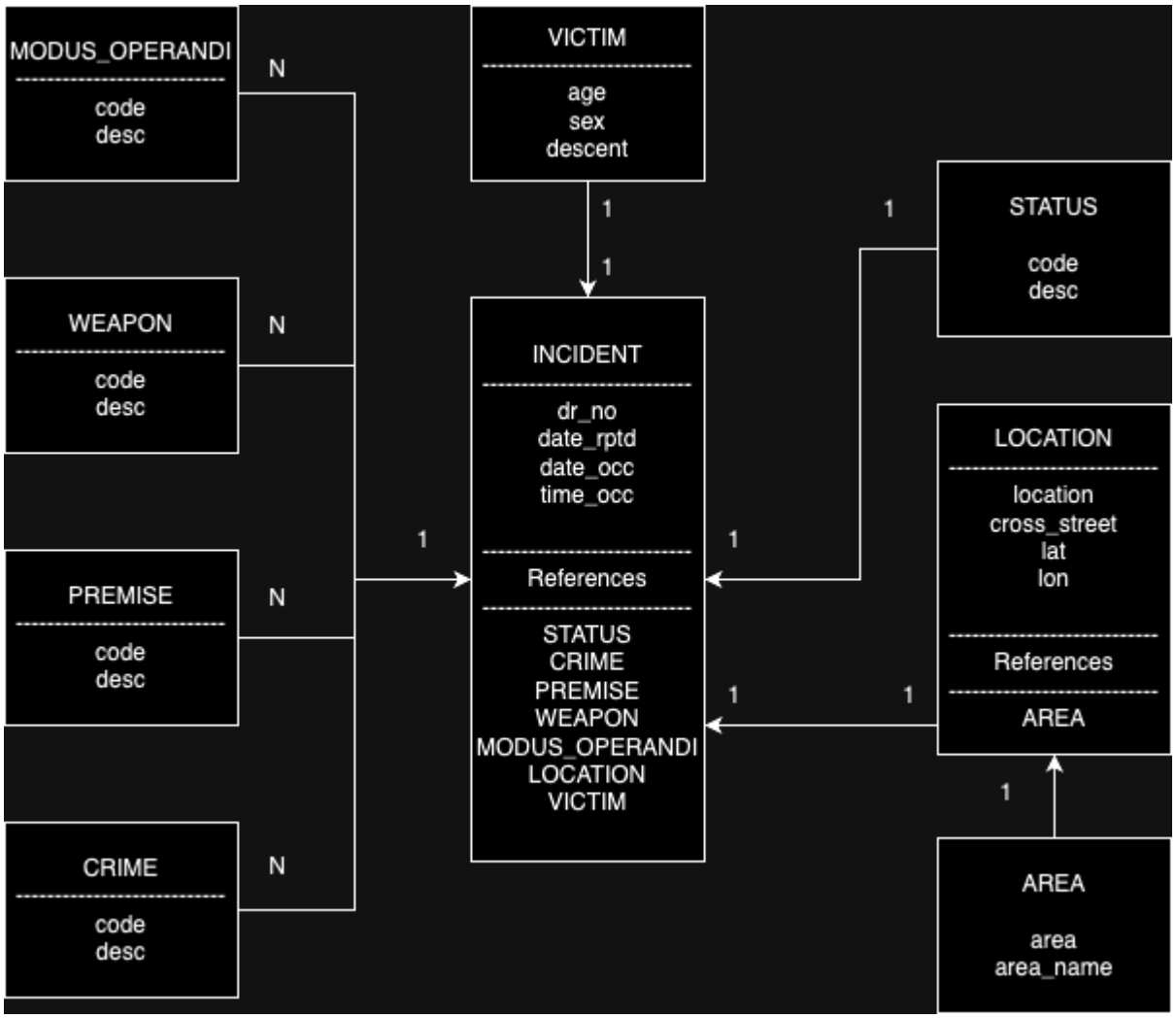

Figure 1. Conceptual Diagram

Using a crime dataset from Los Angeles Open Data that contains details of reported crime incidents from various areas dating back to 2020, we propose a web application that will be the one location for visitors and residents of Los Angeles (LA) to view insights into the crime statistics of different areas of LA that can help them make informed decisions about visiting, buying homes, opening businesses, finding good school districts, and more in LA.

Figure 1 depicts the schema outline of our dataset. Here, data is split into categories of interest based on how we presume users will use this application. The dataset is split into 8 categorical collections each

tied to the main Incident collection. Incident IDs are assigned to each case, with IDs for Victim, Location, Crime, Status, Modus Operandi, Area, Weapon, and Premise. Date and time information are given to correspond to each incident. Victim IDs correspond in a one-to-one relationship to outline victim demographics on age, sex, and descent. Location IDs correspond one-to-one for geographical information for determining location via address or location based on latitude and longitude. Lastly, the crime ID itself corresponds in a one-to-many relationship to describe the crime, premises, and weapons involved. Each crime incident can have multiple crime IDs submitted based on how many different crimes were tied to a particular incident.

Part 2 Database

The database itself will have constraints to guide user submissions. See below Table 1 for each variable's limitations.

Table 1. Variable Descriptions and Constraints

	Variable	Description	Constraint
Area Information	**area**	**LAPD area codes**	**Int, Required**
	area_name	**Area name**	**String, Required**
Modus Operandi Information	**code**	**LAPD MO Codes**	**Int, Required**
	desc	**MO description**	**String, Required**
Premise Information	**code**	**LAPD Premise codes**	**Int, Required**
	desc	**Premise description**	**String, Required**
Status Information	**code**	**LAPD Incident Status codes**	**String, Required**
	desc	**Status description**	**String, Required**
Weapon Information	**code**	**LAPD Weapon codes**	**Int, Required**
	desc	**Weapon description**	**String, Required**
Incident Information	DR_NO	Incident Number (Primary Key)	9- Digit Code, Required
	Date_Rptd	Date Reported	DateTime, Required
	Date OCC	Date Occurred	DateTime, Required
	Time OCC	Time Occurred	Int, Required
	Location	Generated Location ID based on Area	Location Document Reference
	Victim	Generated Victim Code	Victim Document Reference
	Crime	Generated Crime Code	Crime Document Reference
	Premise		Premise Document Reference
	Weapon		Weapon Document Reference
	Status		Status Document Reference
	Modus Operandi		Modus Operandi Document Reference
Victim Information	Age	Victim Age	3 – Digit Age Limit
	Sex	Victim Sex	M, F, or X Drop Down
	Descent	Victim Descent	A,B,H,O,W, or X

Location Information	Location	Street Address	Address Format
	Area	Area Information	Area Document Reference
	Cross Street	Cross Street Address	Address Format
	Lat	Latitude	Geographical Latitude
	Lon	Longitude	Geographical Longitude
Crime Information	code	LAPD Crime Codes	Int
	desc	Crime description	String Text

Incident numbers will be a self-generated 9- digit code, with user submitted date and time information in ASCI II format. Each victim will be assigned a 9-digit ID. Location and Crime IDs are 3-digit codes based on a predetermined list of location codes and cop codes.

Victim information will be user submitted. There will be a 3-digit age limit. Victim sex and descent information will be selected from drop down menus. For sex, the user can submit Male (M), Female (F), or Non-Binary (X). For descent, the user can submit, Asian (A), Black (B), Hispanic (H), Other (O), White (W), or Non-Binary (X).

Location information will be user submitted in [] address format for the location of occurrence. An optional cross street can be submitted in [] address format as well. A pre-determined list of area Codes and Names can be submitted. Based on the user submitted address, geographical location will be queried for longitude and latitude.

Crime details can be submitted by the user through a search function determined for key words corresponding to premise, crime type, and weapons.

Group Contribution

Name	Tasks	Average Time Spent (per milestone)
Allen Ho Ashwin Venkatakrishnan Blake Farmer	Conceptual Schema Database Code	3 hours each

Dataset

https://data.lacity.org/Public-Safety/Crime-Data-from-2020-to-Present/2nrs-mtv8/about_data