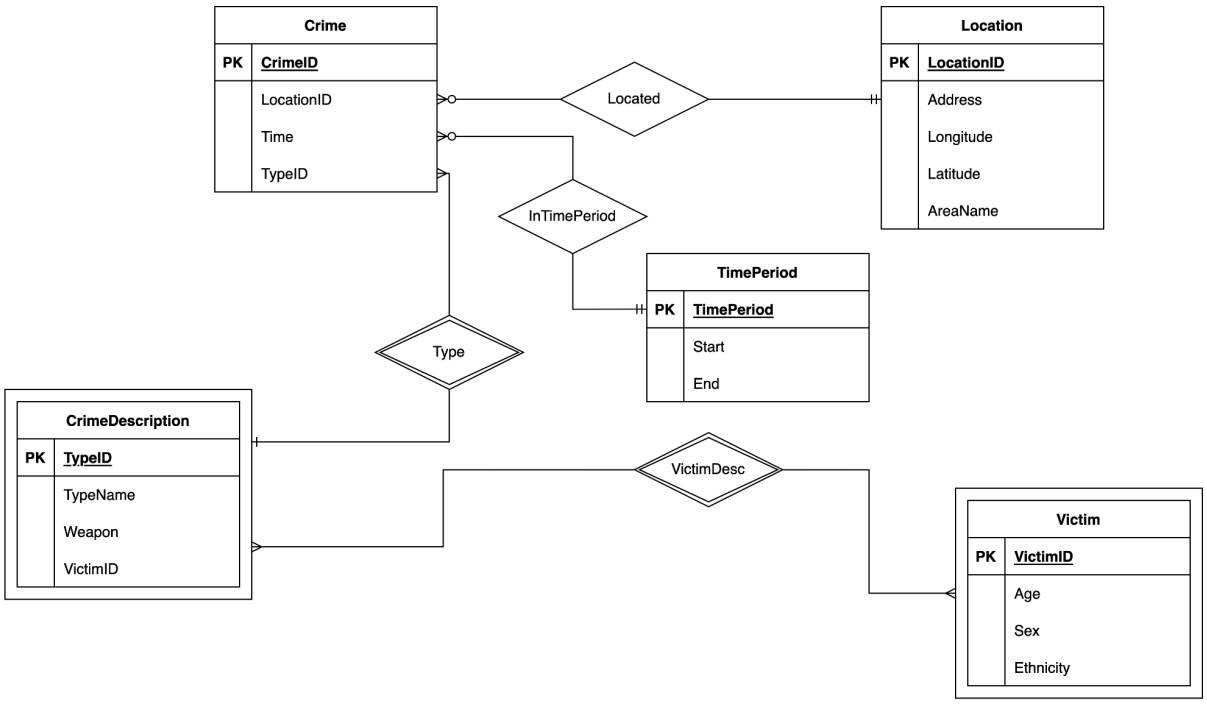
ER Diagram:



RELATIONAL SCHEMA
(**PrimaryKey**, *ForeignKey*)

Crime (**CrimeID: INT [PK]**, *LocationID: INT [FK to Location.LocationID*, Time: INT [FK to TimePeriod.TimePeriod], *TypeID: INT [FK to CrimeDescription.TypeID*)

Location (**LocationID INT [PK]**, Address VARCHAR(255), Longitude DOUBLE, Latitude DOUBLE, AreaName VARCHAR(255))

TimePeriod (**TimePeriod VARCHAR(255) [PK]**, Start INT, End INT)

CrimeDescription (**TypeID INT [PK]**, TypeName VARCHAR(INT), *VictimID INT [FK to VictimDesc.CDVictimID]*, Weapon VARCHAR(255))

Victim (**VictimID INT [PK] [FK to VictimDesc.VVictimID]**, Age INT, Sex VARCHAR(10), Ethnicity VARCHAR(255))

VictimDesc **(CDVictimID INT [PK] [FK to CrimeDescription.VictimID], VVictimID INT [PK] [FK to Victim.VictimID]**)

Entities Assumptions & Descriptions:

1. The Victim table holds information for the VictimID to identify the victim, the Age as an integer for the victim's age, the sex, and their ethnicity. One assumption we have made is that each crime will only have one victim listed.
2. The Crime table holds information for the CrimeID which is the official file number for the crime, the LocationID which is the geographic areas referred to by the police, the Time which is a four-digit integer containing the time of the day in 24 hour format, and the TypeID which is the 3 digit integer used to identify the crime committed.

3. The TimePeriod table holds information for the specific time period (Morning, Noon, Evening, Night) when the particular crime happened. A time period has a start time and an end time all stored in military time.
4. The Location table holds information about the location of a crime by area. The location will have a unique integer locationID. It will also have information about its address VARCHAR(255), longitude Double, latitude Double, and its corresponding AreaName VARCHAR(255).
5. CrimeDescription table holds information used to describe each crime. It contains TypeID which is the 3 digit integer used to identify the crime committed, TypeName which is a VARCHAR(255) that describes the category of crime, Weapon which is a VARCHAR(255) that has the name of the weapon used to commit the crime, and VictimID which is an integer used to identify the victim.

Relations Assumptions & Descriptions:

1. Located: We assume each crime must happen at a single location, but each location in the table might match many or no crimes.
2. InTimePeriod: We assume each crime must happen in a single time period, but each time period in the table might match many or no crimes.
3. Type: Type is a weak relationship from Crime Description to Crimes. We assume that each crime must have a single set of description, but set of description in the table might match many or no crimes.
4. VictimDesc: This is a many to many weak relationship between each type of crime and each class of victim. Each crime type can have zero or many classes of victims, and each victim type in the table could be in zero or many types of crimes.