Team NNCW Project Stage 2: Conceptual and Logical Database Design

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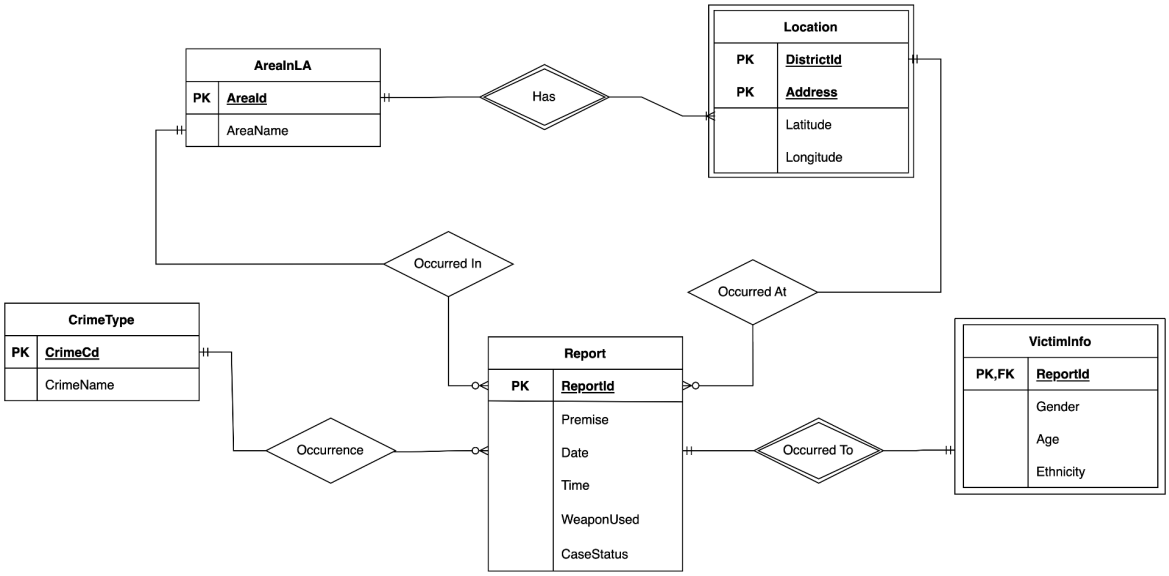
Project: SafeLA

1. ER Diagram

a. https://drive.google.com/file/d/13u0xHZIU2PXuSnE1nA7UISII79aubJmI/view?usp=sharing



2. Assumptions

a. One area should have at least one location but each location only belongs to one area.

b. Location should be a weak entity because it depends on the area it belongs to.

c. One area or one location may have 0 to many crime reports, and we assume each crime only occurs at one location in one area based on our data.

d. Based on our data, each report only contains one crime type, but one crime type may appear in 0 to many reports.

e. VictimInfo should be a weak entity because we assume there is no victim if there is no crime reported (although sometimes a crime may not be reported in daily

life, we will not take into account this scenario here). Since the data do not provide the victim name or ID to distinguish the duplicates, we will assume that each victim is unique. So, each victim will only appear in one report, and we assume each crime only occurs to one victim based on our data.

3. **Relational Schema**
    a. CrimeType(CrimeCd: INT [PK], CrimeName: VARCHAR(255))
    b. AreaInLA(AreaId: INT [PK], AreaName: VARCHAR(255))
    c. Location(Address: VARCHAR(255) [PK], DistrictId: INT [PK], Latitude: REAL, Longitude: REAL, AreaName: VARCHAR(255) [FK to AreaInLA.AreaName])
    d. Report(ReportId: INT, [PK], CrimeName: VARCHAR(255), [FK to CrimeType.CrimeName], Address: VARCHAR(255) [FK to Location.Address], Premise: VARCHAR(255), Date: DATE, Time: VARCHAR(255), WeaponUsed: VARCHAR(255), CaseStatus: VARCHAR(255))
    e. VictimInfo(ReportId: INT [PK], [FK to Report.ReportId], Gender: VARCHAR(255), Age: INT, Ethnicity: VARCHAR(255))