1. Crime (From the Crime in Los Angeles Data)

Fields: DR_NO, Date Rptd, TIME OCC, AREA, AREA NAME, Rpt Dist No, Crm Cd, Crm Cd Desc, Mocodes, Vict Age, Vict Sex, Vict Descent, Premis Cd, Premis Desc, Weapon Used Cd, Weapon Desc, Status, Status Desc, Crm Cd 1, Crm Cd 2, Crm Cd 3, Crm Cd 4, LOCATION, Cross Street

2. Rent (From the Rent Price in LA data)

Fields: Year, Amount, Tract, Tract Number, Neighborhood, GEOID, Location, Row ID, Date

3. Location (A unifying entity for both datasets)

Fields: LAT, LON, Location, AREA NAME, Neighborhood, Tract

4. Date (A unifying entity for both datasets)

Fields: Year, DATE OCC

5. User (User login information)

Fields: UserID, Username, Password, Email

6. CrimeRate (Crime level)

Fields: RateNum, rateDescription

Relationships:

1. Rent -> Location (many:1) Every Rent data point is associated with exactly one Location

2. Crime -> Location (many:1) Every Crime data point is associated with exactly one Location

3. Rent -> Date (many:1) Every Rent data point is associated with exactly one Datent

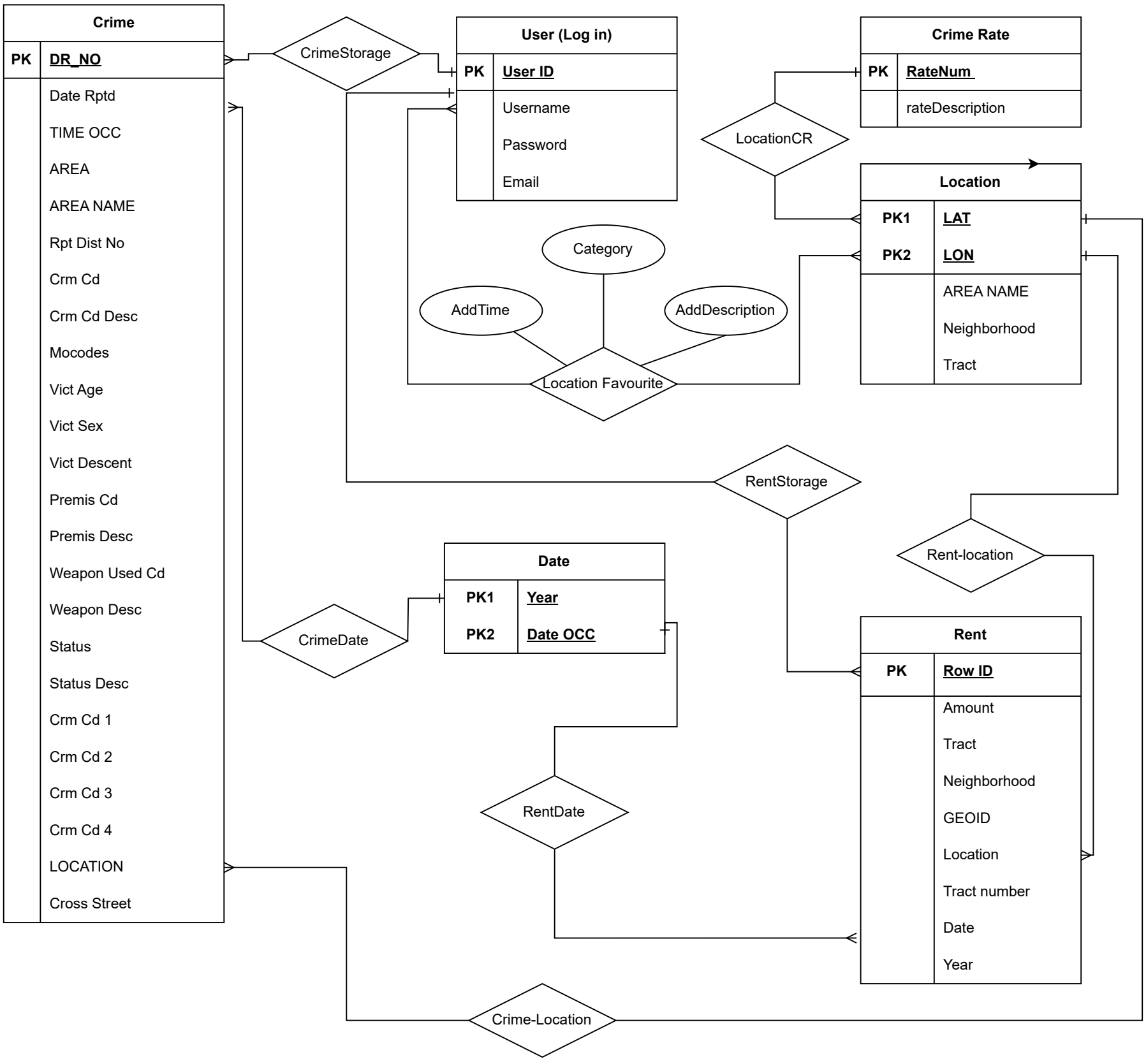
4. Crime -> Date (many:1) Every Crime data point is associated with exactly one Date

5. User -> Crime (1:many) One user can query multiple Crime data points

6. User -> Rent (1:many) One user can query multiple Rent data points

7. User -> Location (many:many) many users can set many locations as favorate, has atrribute: AddTime, AddDescription, Category.

8. Location -> CrimeRate (many: 1) Every Location has exactly one crime rate


Crime
PK
DR_NO
Date Rptd
TIME OCC
AREA
AREA NAME
Rpt Dist No
Crm Cd
Crm Cd Desc
Mocodes
Vict Age
Vict Sex
Vict Descent
Premis Cd
Premis Desc
Weapon Used Cd
Weapon Desc
Status
Status Desc
Crm Cd 1
Crm Cd 2
Crm Cd 3
Crm Cd 4
LOCATION
Cross Street
CrimeStorage
User (Log in)
PK
User ID
Username
Password
Email
Crime Rate
PK
RateNum
rateDescription
LocationCR
Location
PK1
LAT
PK2
LON
AREA NAME
Neighborhood
Tract
Category
AddTime
AddDescription
Location Favourite
RentStorage
Rent-location
Date
PK1
Year
PK2
Date OCC
CrimeDate
Rent
PK
Row ID
Amount
Tract
Neighborhood
GEOID
Location
Tract number
Date
Year
RentDate
Crime-Location

Stage2 Relational Schema

Crime(
DR_NO INT PRIMARY KEY, (Division of Records Number: 2-digit year, 2-digit areaID, 5-digits Crime ID)
Date_Rptd INT, (MMDDYYYY) or DATE (YYYY-MM-DD) (Reported Time)
Time_OCC INT, (HHMM)
AREA INT, (Geographic Areas 1~21, 2-digit)
AREA_Name VARCHAR(255), (Geographic Area Names)
Rpt_Dist_No INT, (Report District Code for subareas within each AREA, 4-digit)
Crm_Cd INT, (A crime code indicating the type of crime, same as Crm_Cd1)
Crm_Cd_Desc VARCHAR(255), (crime code descroption)
Mocodes INT, (Modus Operandi)
Vict_Age INT, (Victom Age)
VIct_Sex CHAR(1), (F or M or X for unknown)
Vict_Descent CHAR(1), (A ~ I for descent)
Premis_Cd INT, (3-digit of crime location)
Premis_Desc VARCHAR(255), (crime location description)
Weapon_Used_Cd INT, (3-digit for weapon type)
Weapon_Desc VARCHAR(255), (weapon type description)
Status CHAR(2), (2 chars for status code)
Status_Desc VARCHAR(255), (status code description)
Crm_Cd1 INT, (3-digit for crime type, mist serious/important)
Crm_Cd2 INT, (3-digit for an additional crime type, less serious than Crm_Cd1, that happened together with Crm_Cd1)
Crm_Cd3 INT, (3-digit for the third additional crime)
Crm_Cd4 INT, (3-digit for the fourth additional crime)
Location VARCHAR(255), (Street address of crime incidend rounded to the nearest hundred block to maintain anoymity)
Cross_Street VHARCHAR(255), (Cross Street of rounded address)
LAT Real, (Latitude)
LON Real, (Longitude)
FOREIGN KEY Year REFERENCES Date(Year),
FOREIGN KEY Date_OCC REFERENCES Date(Date_OCC),
FOREIGN KEY UserID REFERENCES User(UserID),
FOREIGN KEY LAT REFERENCES Location(LAT),
FOREIGN KEY LON REFERENCES Location(LON)
);
(From the Crime in Los Angeles Data)

Rent(
Row_ID VARCHAR(255) PRIMARY KEY, (Median_Rent_Price_YYYY_GEOID, an Id for the row)
Year INT, (YYYY)
Amount INT, (Amount of rent)
Tract VARCHAR(255), (census tract of the area)
Tract_Number INT, (6-digit number for each census tract)
Neighborhood VARCHAR(255), (neighborhood name)
GEOID VARCHAR(255), (Geographic ID)
Location (Real, Real), (A tuple of two reals for latitude and longitude)
Date INT, (MMDDYYYY)
FOREIGN KEY Year REFERENCES Date(Year),
FOREIGN KEY Date_OCC REFERENCES Date(Date_OCC),
FOREIGN KEY UserID REFERENCES User(UserID),
FOREIGN KEY LAT REFERENCES Location(LAT),
FOREIGN KEY LON REFERENCES Location(LON)
);
(From the Rent Price in LA data)

Location(
LAT Real, (Latitude)

```
    LON Real,                          (Longitude)
    AREA_Name VARCHAR(255),            (Geographic Area Names)
    Neighborhood VARCHAR(255),         (neighborhood name)
    Tract VARCHAR(255),                (census tract of the area)
        PRIMARY KEY (LAT,LON),
    FOREIGN KEY RateNum REFERENCES CrimeRate(RateNum)

);
(A unifying entity for both datasets)

Date(
    Year INT,                          (YYYY)
    Date_OCC INT,                      (MMDDYYYY)
    PRIMARY KEY (Year,Date_OCC)
);
(A unifying entity for both datasets)

User(
    UserID INT PRIMARY KEY,            (UserId)
    UnderName VARCHAR(255),            (User name)
    Password VARCHAR(255),             (Password)
    Email VARCHAR(255)                 (Email)
);
(User login information)

CrimeRate(
    RateNum INT PRIMARY KEY,           (A rate for the crime severeness)
    rateDescroption    VARCHAR(255)    (crime severeness descroption)
);
(Crime level)

Location Favourite(
    AddTime INT,
    Category VARCHAR(255),
    AddDescription VARCHAR(225),
    UserID VARCHAR(255),
    LAT Real,
    LON Real,
    PRIMARY KEY (UserID,LAT,LON),
    FOREIGN KEY UserID REFERENCES User(UserID),
    FOREIGN KEY LAT REFERENCES Location(LAT),
    FOREIGN KEY LON REFERENCES Location(LON)
);
```