Part 1 -- UML of SeattlerHub
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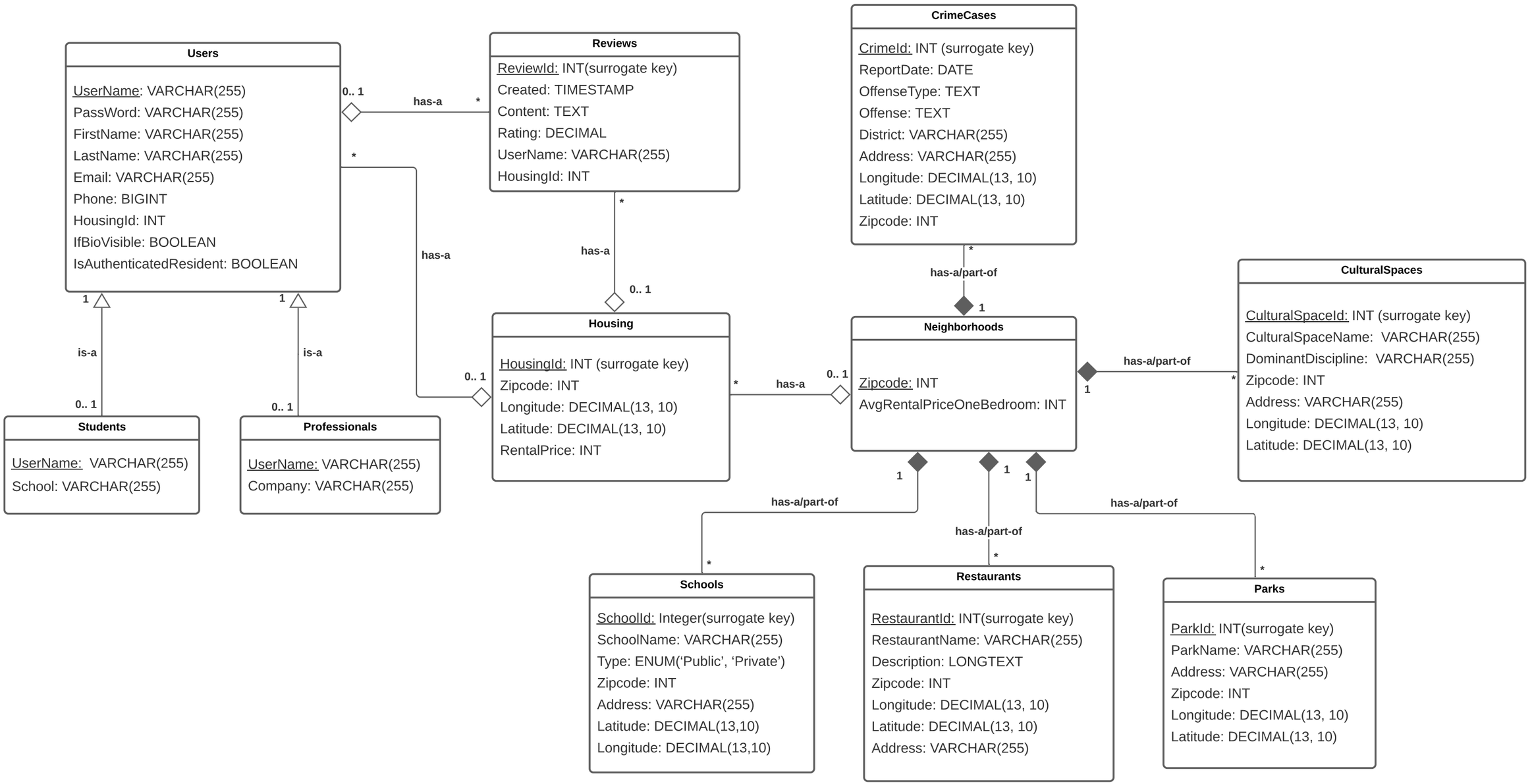

Part 2 -- Database Design and Data Insertion

```
CREATE SCHEMA IF NOT EXISTS SeattlerHub;
USE SeattlerHub;

DROP TABLE IF EXISTS CrimeCases;
DROP TABLE IF EXISTS Schools;
DROP TABLE IF EXISTS Restaurants;
DROP TABLE IF EXISTS CulturalSpaces;
DROP TABLE IF EXISTS Parks;
DROP TABLE IF EXISTS Reviews;
DROP TABLE IF EXISTS Students;
DROP TABLE IF EXISTS Professionals;
DROP TABLE IF EXISTS Users;
DROP TABLE IF EXISTS Housing;
DROP TABLE IF EXISTS Neighborhoods;


CREATE TABLE Neighborhoods (
   Zipcode INT,
   AvgRentalPriceOneBedroom INT,
   CONSTRAINT pk_Zipcode PRIMARY KEY(Zipcode)
);

CREATE TABLE Housing (
   HousingId INT AUTO_INCREMENT,
   Zipcode INT,
   Longitude DECIMAL(13,10) NOT NULL,
   Latitude DECIMAL(13,10) NOT NULL,
   RentalPrice INT,
   CONSTRAINT pk_Housing_HousingId PRIMARY KEY (HousingId),
   CONSTRAINT fk_Housing_Zipcode FOREIGN KEY (Zipcode)
      REFERENCES Neighborhoods(Zipcode)
      ON UPDATE CASCADE ON DELETE SET NULL
);

CREATE TABLE Users (
   UserName VARCHAR(255),
   Password VARCHAR(255) NOT NULL,
   FirstName VARCHAR(255) NOT NULL,
   LastName VARCHAR(255) NOT NULL,
   Email VARCHAR(255) NOT NULL,
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    Phone BIGINT,
    HousingId INT DEFAULT NULL,
    IfBioVisible BOOLEAN DEFAULT TRUE,
    IsAuthenticatedResident BOOLEAN DEFAULT FALSE,
    CONSTRAINT pk_Users_UserName PRIMARY KEY(UserName),
    CONSTRAINT fk_Users_HousingId FOREIGN KEY(HousingId)
        REFERENCES Housing(HousingId)
        ON UPDATE CASCADE ON DELETE SET NULL
);

CREATE TABLE Students (
    UserName VARCHAR(255),
    School VARCHAR(255),
    CONSTRAINT pk_Students_UserName PRIMARY KEY(UserName),
    CONSTRAINT fk_Students_UserName FOREIGN KEY(UserName)
        REFERENCES Users(UserName)
        ON UPDATE CASCADE ON DELETE CASCADE
);

CREATE TABLE Professionals (
    UserName VARCHAR(255),
    Company VARCHAR(255),
    CONSTRAINT pk_Professionals_UserName PRIMARY KEY(UserName),
    CONSTRAINT fk_Professionals_UserName FOREIGN KEY(UserName)
        REFERENCES Users(UserName)
        ON UPDATE CASCADE ON DELETE CASCADE
);

CREATE TABLE Reviews (
    ReviewId INT AUTO_INCREMENT,
    Created TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    Content TEXT NOT NULL,
    Rating DECIMAL(2,1) NOT NULL,
    UserName VARCHAR(255),
    HousingID INT,
    CONSTRAINT pk_Reviews_ReviewId PRIMARY KEY(ReviewId),
    CONSTRAINT fk_Reviews_UserName FOREIGN KEY(UserName)
        REFERENCES Users(UserName)
        ON UPDATE CASCADE ON DELETE SET NULL,
    CONSTRAINT fk_Reviews_HousingId FOREIGN KEY(HousingId)
        REFERENCES Housing(HousingId)
        ON UPDATE CASCADE ON DELETE SET NULL
);
```

```
CREATE TABLE CrimeCases (
   CrimeId INT AUTO_INCREMENT,
   ReportDate DATE NOT NULL,
   OffenseType TEXT,
   Offense TEXT,
   District VARCHAR(255),
   Address VARCHAR(255),
   Longitude DECIMAL(13, 10) NOT NULL,
   Latitude DECIMAL(13, 10) NOT NULL,
   Zipcode INT,
   CONSTRAINT pk_CrimeId PRIMARY KEY(CrimeId),
   CONSTRAINT fk_Crime_Zipcode FOREIGN KEY (Zipcode)
      REFERENCES Neighborhoods(Zipcode)
      ON UPDATE CASCADE ON DELETE CASCADE
);

CREATE TABLE Schools (
   SchoolId INT AUTO_INCREMENT,
   SchoolName VARCHAR(255) NOT NULL,
   Type ENUM('Private', 'Public'),
   Zipcode INT,
   Address VARCHAR(255) NOT NULL,
   Latitude DECIMAL(13,10) NOT NULL,
   Longitude DECIMAL(13,10) NOT NULL,
   CONSTRAINT pk_Schools_SchoolId PRIMARY KEY (SchoolId),
   CONSTRAINT fk_Schools_Zipcode FOREIGN KEY (Zipcode)
      REFERENCES Neighborhoods(Zipcode)
      ON UPDATE CASCADE ON DELETE CASCADE
);


CREATE TABLE Restaurants(
   RestaurantId INT AUTO_INCREMENT,
   RestaurantName VARCHAR(255),
   Description LONGTEXT,
   Zipcode INT,
   Longitude DECIMAL(13,10) NOT NULL,
   Latitude DECIMAL(13,10) NOT NULL,
   Address LONGTEXT NOT NULL,
   CONSTRAINT pk_Restaurants_RestaurantId PRIMARY KEY(RestaurantId),
   CONSTRAINT fk_Restaurants_Zipcode FOREIGN KEY(Zipcode)
      REFERENCES Neighborhoods(Zipcode)
      ON UPDATE CASCADE ON DELETE CASCADE
```

```
);

CREATE TABLE CulturalSpaces (
   CulturalSpaceId INT(11) AUTO_INCREMENT,
   CulturalSpaceName VARCHAR(255) NOT NULL,
   DominantDiscipline VARCHAR(255),
   Zipcode INT,
   Address VARCHAR(255) NOT NULL,
   Longitude DECIMAL(13,10) NOT NULL,
   Latitude DECIMAL(13,10) NOT NULL,
   CONSTRAINT pk_Cultural_Space_Id PRIMARY KEY (CulturalSpaceId),
   CONSTRAINT fk_Cultural_Space_Zipcode FOREIGN KEY(Zipcode)
      REFERENCES Neighborhoods(Zipcode)
      ON UPDATE CASCADE ON DELETE CASCADE
);


CREATE TABLE Parks (
   ParkId INT AUTO_INCREMENT,
   ParkName VARCHAR(255) NOT NULL,
   Address VARCHAR(255) NOT NULL,
   Zipcode INT,
   Longitude DECIMAL(13,10) NOT NULL,
   Latitude DECIMAL(13,10) NOT NULL,
   CONSTRAINT pk_Park_Id PRIMARY KEY(ParkId),
   CONSTRAINT fk_Park_Zipcode FOREIGN KEY(Zipcode)
      REFERENCES Neighborhoods(Zipcode)
      ON UPDATE CASCADE ON DELETE CASCADE
);


LOAD DATA Local INFILE '/Users/liaowen/Desktop/5200/project/zipcode.csv' INTO TABLE
Neighborhoods
         FIELDS TERMINATED BY ','
         LINES TERMINATED BY '\n'
         IGNORE 1 LINES;

INSERT INTO Housing(Zipcode,Longitude,Latitude,RentalPrice)
   VALUES(98101,-122.3088675920,47.6122182900,1900),
      (98102,-122.3162381740,47.6109782500,1800),
      (98104,-122.3250633970,47.5970936300,1300),
      (98121,-122.3443533330,47.6132712100,2200),
      (98109,-122.3371469110,47.6226204900,1800),
      (98107,-122.3796420760,47.6633896700,1800),
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```
    (98125,-122.3448342630,47.7135479600,1800);

INSERT INTO
Users(UserName,Password,FirstName,LastName,Email,Phone,HousingId,IfBioVisible)
   VALUES('Bruce','password','Bruce','C','bruce@mail.com','5555555', 1, TRUE),
      ('TT','password','Tony','D','tony@mail.com','5555555', 2, TRUE),
      ('DK','password','Daniel','K','dan@mail.com','5555555', 3, FALSE),
      ('James','password','James','M','james@mail.com','5555555', NULL, FALSE),
      ('Steve','password','Steve','N','steve@mail.com','5555555', 5, FALSE);

INSERT INTO Students(UserName, School)
   VALUES('Bruce', 'NEU'),
      ('TT', 'UW');

INSERT INTO Professionals(UserName, Company)
  VALUES('DK', 'Facebook'),
      ('James', 'Google'),
      ('Steve', 'Boeing');

INSERT INTO Reviews(Content,Rating,UserName,HousingID)
 VALUES('Delightful!',5.0,'Bruce',1),
      ('Superb!',5.0,'Bruce',2),
      ('Superb!',5.0,'Bruce',3),
      ('Not good',1.0,'James',4),
      ('Not great',2.0,'TT',5),
      ('Not good',3.0,'James',6),
      ('Not nice',4.0,'Steve',7);

LOAD DATA Local INFILE '/Users/liaowen/Desktop/5200/project/crime.csv' INTO TABLE
CrimeCases
     FIELDS TERMINATED BY ','
     LINES TERMINATED BY '\n'
     IGNORE 1 LINES
     (@dummy, @dummy, @dummy, @dummy,
     @ReportDate,@dummy, @dummy,
     OffenseType, Offense, @dummy, @dummy, @dummy, @dummy,
     District, Address, Longitude, Latitude)
   SET
   ReportDate =  STR_TO_DATE(LEFT(@ReportDate, 10), '%m/%d/%Y'),
   Zipcode =  (
   select if (lower(District) like "%central%", 98101, (
   select if (lower(District) like "%belltown%", 98121, (
   select if (lower(District) like "%slu%", 98109, (
   select if (lower(District) like "%capitol%", 98102, (
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    select if (lower(District) like "%university%", 98105, (
    select if (lower(District) like "%roosevelt%", 98115, (
    select if (lower(District) like "%first hill%", 98122, (
    select if (lower(District) like "%pioneer square%", 98104, (
    select if (lower(District) like "%northgate%", 98125, (
    select if (lower(District) like "%queen anne%", 98119, (
    select if (lower(District) like "%ballard%", 98107, (
    select if (lower(District) like "%chinatown%", 98104, (
    select if (lower(District) like "%brighton%", 98118, 00000)
    ))))))))))))))))))))))))));

LOAD DATA LOCAL INFILE '/Users/liaowen/Desktop/5200/project/Private_Schools.csv' INTO
TABLE Schools
    FIELDS TERMINATED BY ','
    LINES TERMINATED BY '\n'
    IGNORE 1 LINES
    (Longitude, Latitude, @dummy, @dummy,
    SchoolName, Address, @dummy, @dummy,
    Zipcode, @dummy, @dummy, @dummy, @dummy, @dummy)
    SET Type = 'Private';

LOAD DATA LOCAL INFILE '/Users/liaowen/Desktop/5200/project/Public_Schools.csv' INTO
TABLE Schools
    FIELDS TERMINATED BY ','
    LINES TERMINATED BY '\n'
    IGNORE 1 LINES
    (Longitude, Latitude, @dummy, @dummy,
    SchoolName, Address, @dummy, @dummy, @dummy, @dummy,
    Zipcode, @dummy, @dummy, @dummy, @dummy, @dummy, @dummy)
    SET Type = 'Public';

LOAD DATA LOCAL INFILE '/Users/liaowen/Desktop/5200/project/Restaurants.csv' INTO TABLE
Restaurants
    FIELDS TERMINATED BY ',' OPTIONALLY ENCLOSED BY '"'
    LINES TERMINATED BY '\n'
    IGNORE 1 LINES
    (Longitude, Latitude, @dummy, @dummy,
    RestaurantName, Address, @dummy, @dummy, @dummy,
    Description, @dummy, @dummy,
    Zipcode);

LOAD DATA LOCAL INFILE'/Users/liaowen/Desktop/5200/project/culture_space.csv' INTO
TABLE CulturalSpaces
    FIELDS TERMINATED BY ','
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    LINES TERMINATED BY '\n'
    IGNORE 1 LINES
    (CulturalSpaceName, DominantDiscipline, @dummy, Latitude, Longitude, Address)
    SET Zipcode = (select if (Address like "%981__", RIGHT(Address, 5), 0));

LOAD DATA LOCAL INFILE'/Users/liaowen/Desktop/5200/project/park.csv' INTO TABLE Parks
    FIELDS TERMINATED BY ','
    LINES TERMINATED BY '\n'
    IGNORE 1 LINES
    (@dummy,@dummy,ParkName,Address,Zipcode,Longitude,Latitude);
```

Part 3 – Row Counts

Name	Engine	Version	Row Format	Rows	A
CrimeCases	InnoDB	10	Dynamic	337175	
CulturalSpaces	InnoDB	10	Dynamic	947	
Housing	InnoDB	10	Dynamic	7	
Neighborhoods	InnoDB	10	Dynamic	100	
Parks	InnoDB	10	Dynamic	410	
Professionals	InnoDB	10	Dynamic	3	
Restaurants	InnoDB	10	Dynamic	1681	
Reviews	InnoDB	10	Dynamic	7	
Schools	InnoDB	10	Dynamic	187	
Students	InnoDB	10	Dynamic	2	
Users	InnoDB	10	Dynamic	5	