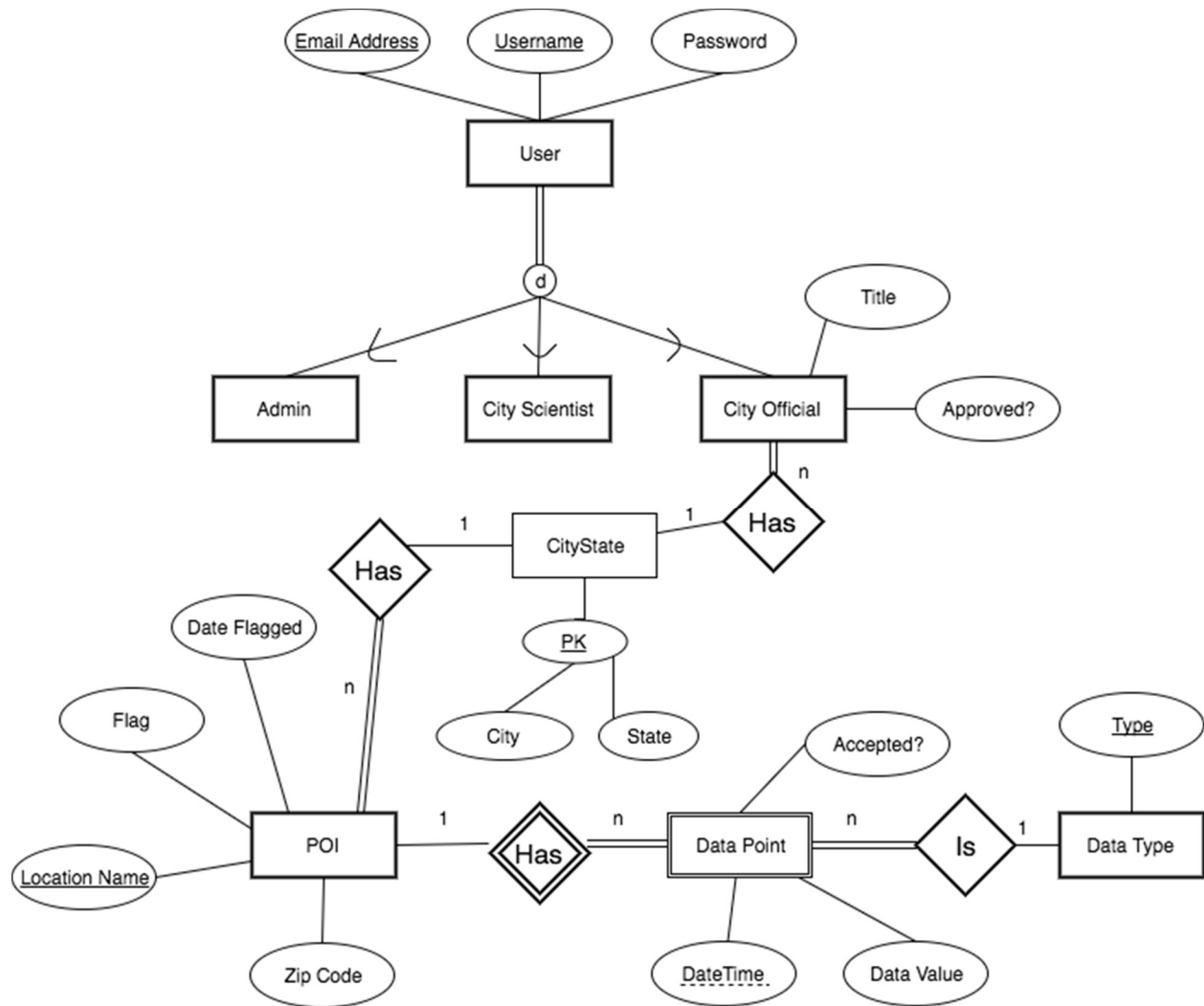


Enhanced Entity Relationship Diagram



Relational Schema Diagram

User

<u>username</u>	email	password	isAdmin	isCityScientist	isCityOfficial
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City Official

<u>username</u>	isApproved	title	city	state
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CityState

<u>city</u>	<u>state</u>
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Poi

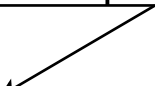
<u>locationName</u>	city	state	zip code	flagged	dateFlagged
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DataPoint

<u>locationName</u>	<u>recordTime</u>	dataValue	type	isApproved
---------------------	-------------------	-----------	------	------------

DataType

<u>readingType</u>



Create Table Statements

```
CREATE TABLE User(  
  username VARCHAR(100) NOT NULL,  
  email VARCHAR(100) NOT NULL UNIQUE,  
  password VARCHAR(100) NOT NULL,  
  isAdmin BOOL,  
  isCityScientist BOOL,  
  isCityOfficial BOOL,  
  PRIMARY KEY (username)  
);
```

```
CREATE TABLE CityOfficial(  
  username VARCHAR(100),  
  isApproved BOOL DEFAULT 0,  
  title VARCHAR(100),  
  city VARCHAR(100),  
  state VARCHAR(100),  
  PRIMARY KEY (username),  
  CONSTRAINT fk_cityofficial_username FOREIGN KEY (username) REFERENCES  
    User(username)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE,  
  CONSTRAINT fk_cityofficial_citystate FOREIGN KEY (city, state) REFERENCES CityState(city,  
    state)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE  
);
```

```
CREATE TABLE CityState(  
  city VARCHAR(100) NOT NULL,  
  state VARCHAR(100) NOT NULL,  
  CONSTRAINT pk_citystate PRIMARY KEY (city, state)  
);
```

```
CREATE TABLE Poi(  
  locationName VARCHAR(100),  
  zipcode CHARACTER(5),  
  flagged BOOL DEFAULT 0,  
  dateFlagged DATETIME,  
  city VARCHAR(100) NOT NULL,  
  state VARCHAR(100) NOT NULL,  
  PRIMARY KEY(locationName),  
  CONSTRAINT fk_poi_citystate FOREIGN KEY (city, state) REFERENCES CityState(city, state)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE  
);
```

```
CREATE TABLE DataPoint(  
  isApproved BOOL NOT NULL,  
  dataValue INT(5) UNSIGNED,  
  locationName VARCHAR(100),  
  recordTime DATETIME,  
  type VARCHAR(100),  
  PRIMARY KEY(locationName, recordTime),  
  CONSTRAINT fk_datapoint_locationName FOREIGN KEY(locationName) REFERENCES  
  Poi(locationName)  
    ON DELETE CASCADE  
    ON UPDATE CASCADE,  
  CONSTRAINT fk_datapoint_readingType FOREIGN KEY(type) REFERENCES  
  DataType(readingType)  
    ON DELETE RESTRICT  
    ON UPDATE CASCADE  
);
```

```
CREATE TABLE DataType(  
  readingType VARCHAR(100),  
  PRIMARY KEY (readingType)  
);
```