Link to the website: http://flip2.engr.oregonstate.edu:5911/

Team Members:

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Overview:

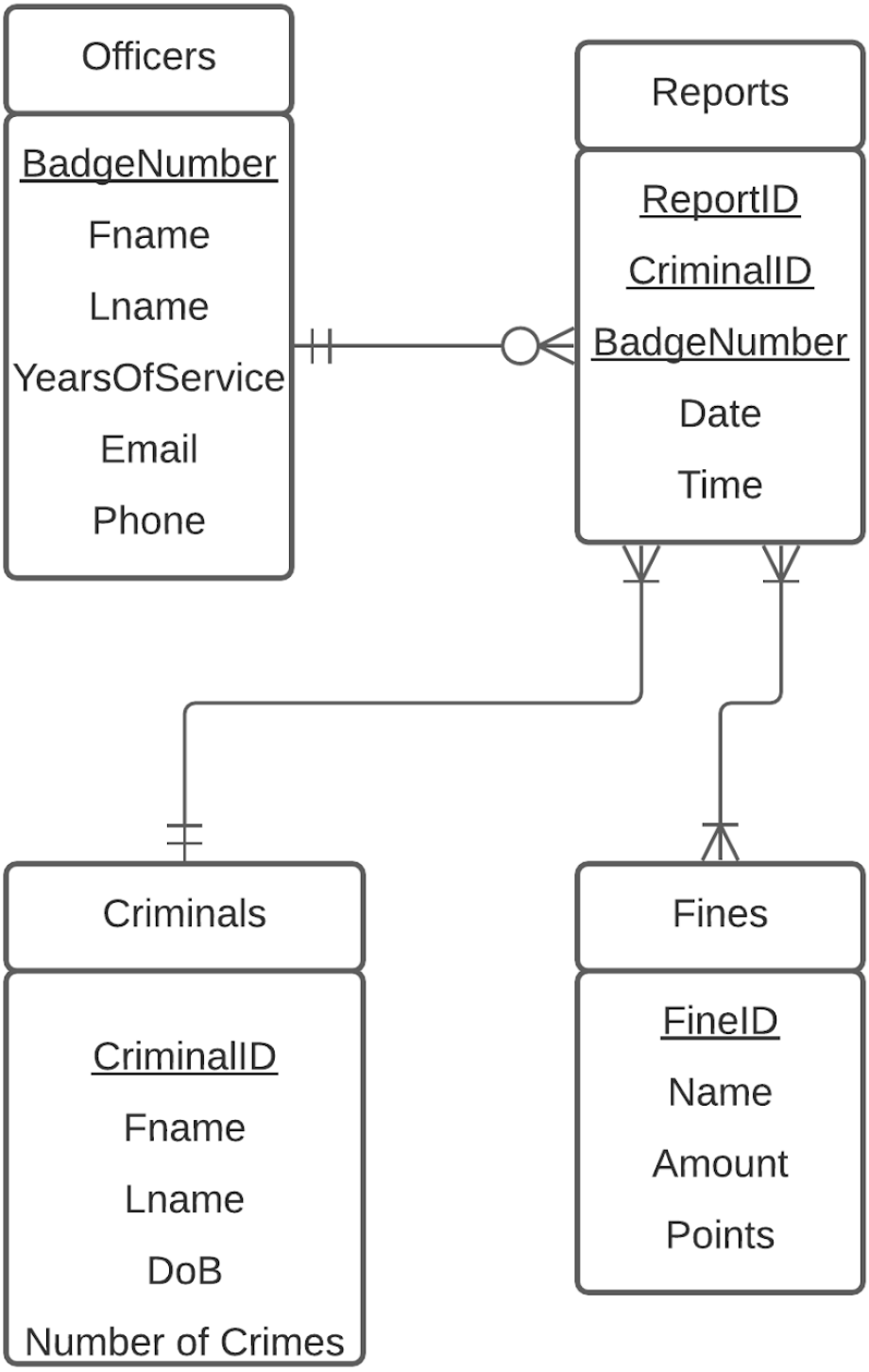
The totally not a fake town name police department has had an increase of crimes in the last twenty years, from 1200 reports a year to 24000 reports a year. So much so that they are in need of a new relational DBMS. A website driven by a backend database will help optimize the organization of their data, and will provide a better user experience for the increase in data that has caused a clunky runtime of O(n^6) with queries in their current system. In addition to a faster and more optimized system, this new application will have new features where it linked the fine as well as the criminal history for the suspected person.

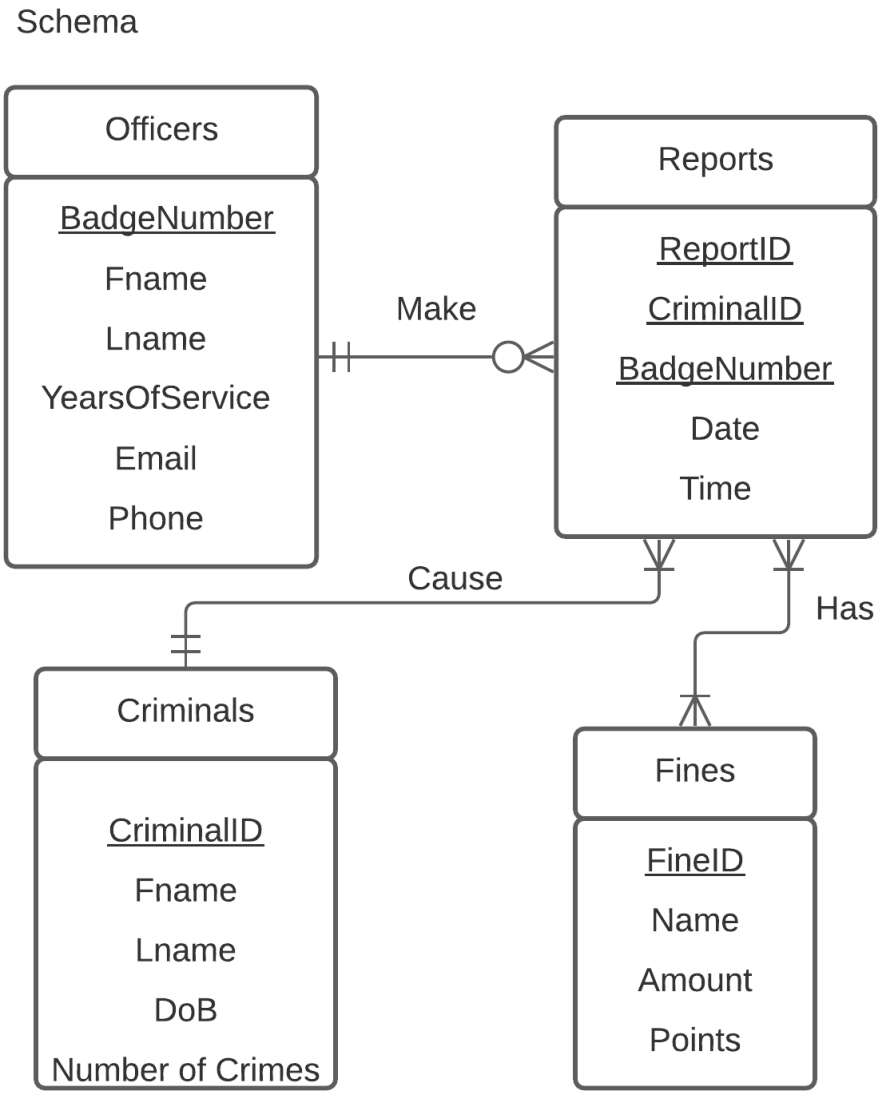
Outline:

- **Officers - Information where it shows the data of the officers.**
    - **BadgeNumber: int, unique, not null, PK**
    - **Fname: varchar(255), not null**
    - **Lname: varchar(255), not null**
    - **YearsOfService: short, not null**
    - **Email: varchar(255), not null**
    - **Phone: varchar(10), not null**
    - **Relationship: A 0:m relationship between officer and report**
- **Reports - Data where it will store data of the report of an incident between the officers and the civilians.**
    - **ReportID: int, not null, pk**
    - **CriminalID: int, not null, fk. FK to Criminals(CriminalID)**
    - **BadgeNumber: int, not null, fk. FK to Officers(BadgeNumber)**

    - **Date: Date, not null (MM/DD/YYYY)**
    - **Time: Time, not null (24 hours time format)**
    - **Relationship: A 1:m relationship between report and officer**
    - **Relationship: A 1:m relationship between criminal and report**
    - **Relationship: A M:N relationship between fine and report**
- **Criminals - Gives criminal record or history of the suspected persons.**
    - **CriminalID: int, auto_increment, not null, unique, pk**
    - **Fname: varchar(255), not null**
    - **Lname: varchar(255), not null**
    - **DoB: Date, not null**
    - **NumberOfCrimes (Since birth), varchar(255), notnull**
    - **Relationship: A 1:m relationship between criminal and report**
- **ReportFines - Composite table for M:N relationship between report and fine.**
    - **ReportID: int, not null, fk. FK to Reports(ReportID)**
    - **FineID: int, not null, fk. FK to Fines(FineID)**
- **Fines - Shows the details of a fine for the suspected persons.**
    - **FineID: int, auto_increment, pk**
    - **Name: varchar(255), not null**
    - **Amount: int, not null (in US$)**
    - **Points: short, not null**
    - **Relationship: A M:N relationship between fine and report**

ER Diagram


Officers
BadgeNumber
Fname
Lname
YearsOfService
Email
Phone
Reports
ReportID
CriminalID
BadgeNumber
Date
Time
Criminals
CriminalID
Fname
Lname
DoB
Number of Crimes
Fines
FineID
Name
Amount
Points



Rational of feedback:

- Added quantitative data regarding the phrase clunky runtime because another student did not like that we did not give a specific runtime for a fake system for some reason.

- The names of the entities were pluralized to be more consistent with naming conventions of entities. They were supposed to be that the way they are now, that was a mistake that was found.
- The relationship between officers and reports were altered to 0:M from 1:M to allow an officer to have no reports.
- There are no specifics added in regards to the relationship for the reportFines Entity because it is a handler for the many to many relationship between the reports and fines entities. That was intentional based on previously seen examples.
- The capitalization inconsistency was also addressed from the draft. To have more consistent attribute names across all entities.
- Implemented Foreign Key to a specific path.
- For consistency wise, all of the websites will use the existing page, instead of opening a new webpage. That case, the Criminals tab will not open a new tab now.
- Implemented the Database and sample data. Although it is not connected to the website yet.