Final Project CPSC321

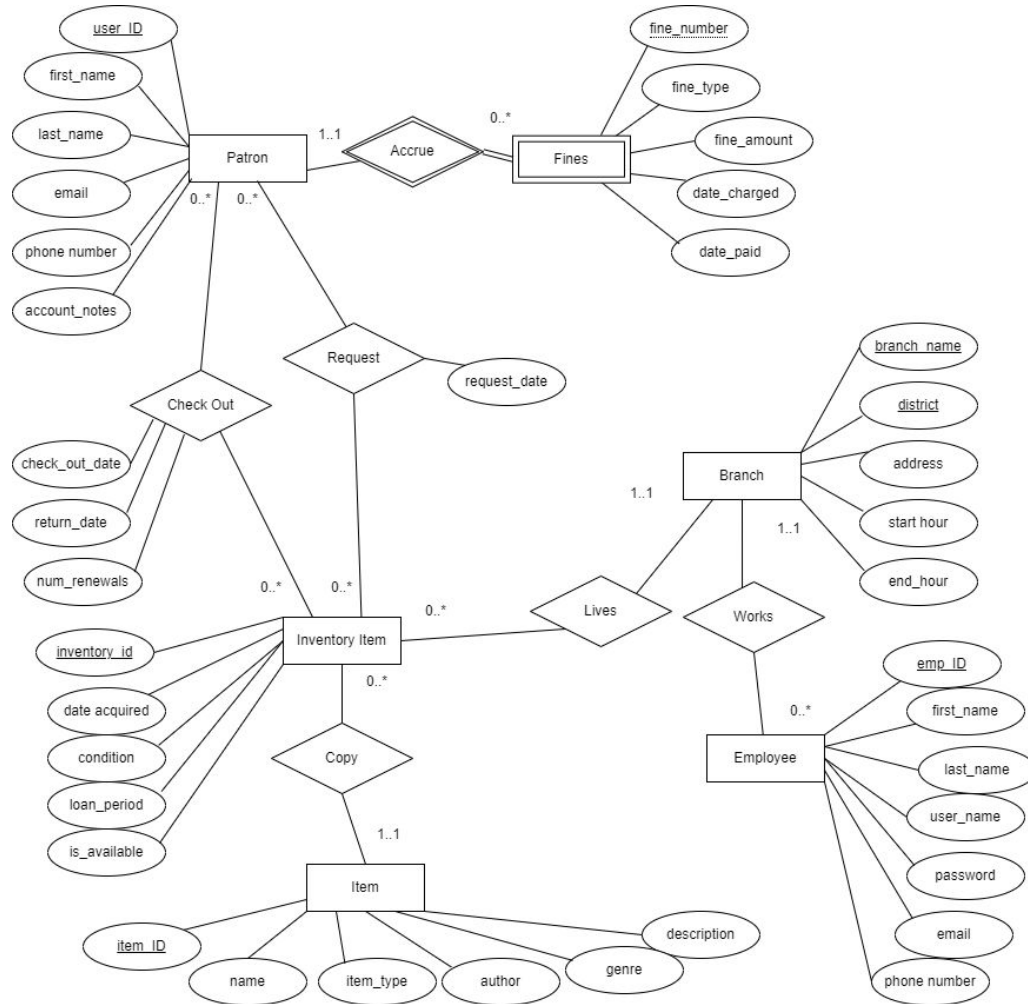By: Carolyn Bozin

My Application

- Library Portal
- Employee Login
- Multiple Branches
- Checking out, searching, viewing, analytics
- Requests (to be added in the future)

Demo

ER Diagram

Tables Overview

Difficult Queries

```
var q = "SELECT i.item_id, i.name, i.item_type, COUNT(*) AS count "
q += "FROM Item i JOIN Inventory USING(item_id) "
q += "JOIN CheckOut c USING(inventory_id) "
q += "GROUP BY i.item_id "
q += "HAVING COUNT(*) >= ALL (SELECT COUNT(*) FROM Item JOIN Inventory USING(item_id) JOIN CheckOut USING(inventory_id) GROUP BY item_id) "
q += "ORDER BY COUNT(*) DESC"
```

```
var q = "(SELECT * ";
q += "FROM Patron p JOIN Fine f USING(patron_id) ";
q += "WHERE f.fine_type = 'missing') ";
q += "UNION";
q += "(SELECT * ";
q += "FROM Patron p JOIN Fine f USING(patron_id) ";
q += "WHERE f.fine_type = 'overdue')";
```

Testing Process

- Trying to break application with bad input
- Making sure to catch errors
- Printing to console

Challenges

- NodeJS difficulties
  - Being able to click on results
- Requests and returns not implemented
- Application not available for patrons
- No back button

Next Steps

- Implementing return & request functionality
- Allowing for patron login
- Possibly adding images for book covers?
- More smooth searching
  - Requires greater knowledge of NodeJS