

Queens College, CUNY, Department of Computer Science  
**Software Engineering**  
**CSCI 370**  
**Fall 2018**

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## 4 Project 4

### 4.1 General

- The main goal is to implement an application using JDBC.
- **Update: JDBC is a database connectivity interface.**  
The actual database can be MySQL or any other of your choice.
- The GUI specification is to display screens for movies and cinemas.
- **The project must be self-contained.**
  1. It is not permitted to connect to commercial servers and/or databases.
  2. The project must be 100% **your** work.
- **Trademark/copyright.** To avoid problems with trademark and copyright (no matter how minor the possibility), project submissions will be required to use fictitious movie titles and cinema names.

## 4.2 Read only screens

- The following functionality must be supported.
- The implementation of the functionality can employ buttons and/or pulldown menus.
- **The following GUIs are read only.**
- Public access: a password is NOT required to access the screens below.
- **No date:** we can only view movies playing today, not “upcoming features” etc.

### 4.2.1 Movies

- Display a list of currently playing movies.
- **Ratings filter:**
  1. It should be possible to apply a “ratings” filter.
  2. For example a pulldown menu (or some array) of ratings, maybe with an item called “All” in the list.
  3. Highlight one or more rows and display movies whose ratings are in the highlighted list.
  4. The default selection is “All” so all movies are displayed unless another choice is made.
- **Highlight and double-click a movie:**
  1. Display a **read-only GUI** of all cinemas where the movie is playing.
  2. Also display the show times of the movie at each cinema where it is playing.

### 4.2.2 Cinemas

- Display a list of cinemas.
- **Map:**
  1. The client should be able to enter an “address” and a “radius” (in text fields).
  2. Hence this is not “read only” but the movies and cinemas information is read only.
  3. Display only cinemas where (distance  $\leq$  radius) from the client’s location (address).
  4. All cinemas and client addresses are  $(x, y)$  coordinates in a square  $0 \leq x, y \leq 100$ .
  5. If either the address or radius field is blank, display all the cinemas.
- **Highlight and double-click a cinema:**
  1. Display a **read only GUI** of all the movies currently playing at that cinema.
  2. Also display the show times of every movie currently playing at that cinema.

### 4.3 Administrator

- An “administrator” is authorized to insert/delete rows in the database.
  1. **The administrator GUI is password protected.**
  2. However, there is only one administrator.
  3. Hence an account name is not required (and the password can be “admin”).
- The administrator inserts new movies and deletes old movies.
- The administrator inserts new cinemas and deletes cinemas which are out of business.
- A movie has a title and a rating.
- Two movies cannot have the same title.
- A cinema has a name and address.
- Two cinemas cannot have the same name and/or address.
- Each movie has a list of cinemas where it plays (i.e. general or limited release).
- Each cinema has a list of show times for every movie it plays.
  1. Show times can be matinee (e.g. 1 or 1:30 pm), afternoon (4 or 5 pm), evening (e.g. 7/8/9 pm) and late-nite (midnight?).
  2. *A movie will be required to play at different times in different cinemas, e.g. 7 pm at some locations and 8 pm at other locations.*
- **For every new movie inserted into the database, the administrator must input the cinemas where it plays and the show times at each location.**
  1. For simplicity, let us say there will be not more than five cinemas totally.
  2. Possibly one cinema can be deleted and a new cinema can be added.
  3. Also, a cinema has not more than three show times for any individual movie.
- **It is your responsibility to create a suitable database schema and tables to contain the relevant cross-indexing information between the movies and the cinemas.**

## 4.4 Suggestions

- The initial setup will be tedious.
- But after that new items will be added/deleted one at a time.
- A suggestion is to have four cinemas initially.
  1. Multiplex (plays all rated titles, general and limited release).
  2. Odeon (plays all rated titles, general release only).
  3. Mom & Pop Movies (plays PG-13 and lower only, general release only).
  4. Indie Arts Theater (plays only titles rated R and above, also non-rated movies).
- A suggestion is to have four movies initially.
  1. One limited release movie.
  2. One non-rated documentary movie.
  3. There are five ratings categories (G, PG, PG-13, R, NC17).
  4. New movies can be added later so that there is at least one movie for each rating.

#### 4.5 SM370

- **All submissions must implement one movie with the title SM370.**
- Rated NC-17 for extreme violence and nudity.
- It plays only at the Indie Arts Theater, midnight showing only.

#### 4.6 The Day After Trinity

- “The Day After Trinity” is a documentary film.
- **Include it as a non-rated documentary film which plays at the Indie Arts Theater, 7 pm show.**

#### 4.7 Slow motion

- **Find out who invented the technique of slow motion in films.**
- Write a short report about the history and use of slow motion in films, videos, computer graphics/games, etc.
- Your report can include both slow motion and fast motion (e.g. time lapse photography).
- **State the sources of your information.**