

# Database Systems

CMPT 308

## - Lab 8: Normalization Two - 10 points

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| Goals        | To continue developing your facility with the art and science of normalization.   |
| Scenario     | <p>You have been hired as a database consultant by EON productions to work in the casting department for the next James Bond film. They <b>finally</b> need a new Bond (thank Codd!) and want a database of actors, the movies in which they have appeared, and the director of those movies. They have collected the following data for your use:</p> <p><b>Actor Data</b><br/>name, address, birth date, hair color, eye color, height in inches, weight, spouse name, favorite color, screen actors guild anniversary date</p> <p><b>Movie Data</b><br/>name, year released, MPAA number, domestic box office sales, foreign box office sales, DVD/Blu-ray sales</p> <p><b>Director Data</b><br/>name, address, spouse name, film school attended, directors guild anniversary date, favorite lens maker</p> |
| Deliverables | <p>Build this database. You may add or rename any fields you like. You must create a relational database in Boyce-Codd normal form (BCNF). Document your database with ...</p> <ol style="list-style-type: none"><li>1. a fully decorated and aesthetically beautiful E/R diagram using LucidChart (<a href="http://www.LucidChart.com">www.LucidChart.com</a>).</li><li>2. SQL create statements for each table.</li><li>3. Functional dependencies for each table.</li></ol> <p>Then...</p> <ol style="list-style-type: none"><li>4. Write a query to show all the directors with whom actor "Roger Moore" has worked.</li></ol>  |
| Hints        | <p>This is not as easy as it sounds. There are more than three tables. Impress me by using entity subtypes to better represent the model.</p> <p>Remember:</p> <ul style="list-style-type: none"><li>- Several actors can appear in the same movie under one or more directors.</li><li>- Actors can also be directors, and therefore directors can also be actors.</li><li>- Sometimes there is more than one director for a movie.</li></ul>  |
| Resources    | <ul style="list-style-type: none"><li>• Chapter 3 in our text</li><li>• Microsoft on Normalization - <a href="http://support.microsoft.com/kb/283878">http://support.microsoft.com/kb/283878</a></li></ul>  |
| Submitting   | Print your work and bring it to class on the day it is due. (Feel free to push it to your GitHub repository as well.) Remember to include your name and date. Neatness counts. Since we will be discussing this lab in class on the due date, no late submissions will be accepted.   |

