Northeastern University
CS3200 – Database Design
Spring 2018, Derbinsky

Project Narrative

1 `QwikTix.ai`

Congratulations – you have been hired as Lead Database Engineer for `QwikTix.ai`. While still in beta, the mission of `QwikTix.ai` is to use state-of-the-art AI methods to disrupt the movie tickets industry. The vision: Fandango meets IMDB meets Apple's TV app.

1.1 Users

Users provide minimal information upon registration: first/last name, email address (used for login/notifications), a password, a profile picture, contact phone number(s), and a contact address (street, city, postal code, country). Registered users can search and view movie information, as well as "love" their favorite movies (helpful for machine learning algorithms!). Finally, registered users can order movie tickets/streaming access.

1.2 Movies

Each movie has a name, a release date, and some number of images (the only required of which is a "cover"). Movies are classified into genres (FYI: it can be useful when using machine learning to have each movie cleanly in a bucket). Each movies is associated with a single studio (e.g. Paramount, Universal Pictures).

1.3 Credits

To find movies easily, we'll to "credit" all the people involved with the movie using a role. A person should have a first name, last name, picture, and date of birth. Roles include such titles as directors, productors, and actresses/actors. Finally, a credit is a person serving a role for a movie (note: the same person can serve multiple roles on the same movie); for actresses/actors specifically, it is useful to know the character(s) played, as well as have an associated picture.

1.4 Orders

The primary revenue stream for `QwikTix.ai` is users ordering via partner vendors. Each vendor is either a theatre (e.g. AMC Loews Boston Common 19) or a streaming service (e.g. Netflix). Theatres have names and geographic locations (helpful for finding nearby options to a user), while streaming services have a name and affiliate URL.

If a user is interested in viewing a movie, the system queries vendor APIs for ticket/streaming access. A user order includes a dollar amount, date/time of the order, relevant details (e.g. # tickets, seats, expiration of streaming), etc for a particular movie from a particular vendor. An external payment processor is used, so no need for credit cards, just a confirmation number is maintained for the order.

2 Required Tasks

a) Register a new user

b) Record that a user loves a movie

c) Order a ticket from a local theatre

d) Credit an existing actress for a movie

e) Provide a ranked list of revenue generated from the top-10 studios

f) Find all movies directed by a person (supplied via last name)

g) Load the cover images and names of movies ordered by a particular user

h) Find all movies released this year that a user loves but has not ordered

i) Find all people (name, picture, and role) credited for a particular movie (supplied by name)

j) Provide a ranked list of revenue generated from the top-3 movie genres

3 Alternative Narrative

If this project is sounding too good to be true, or your team just doesn't find it particularly engaging, you *can* pursue an alternative project. You will need to construct and propose a new project. To do so...

1. Talk to your instructor ASAP, but not later than one week before the proposal deadline. This discussion will begin the process, but also assess both feasibility, and sufficient challenge, from a database perspective.

2. Submit a project proposal (see the Syllabus for deadline) ...

   - Up to 2 pages, typset PDF (submit as the sole contents of a single ZIP file – one per group)
   - Include the problem to be solved, and the main entities involved (note: this should correspond to roughly 10 tables)
   - Include at least 10 required tasks, as well as thought-through ideas for report queries

   This document serves as a reasonable template for a project proposal. Whether or not your proposal is accepted, your group will follow the same timeline and be evaluated along the same criteria as other groups.