CS 353 Spring 2022

Brief Description of Project Topics

The following is the list of project topics. Explanations are given for you to have a basic idea about what to design. You are EXPECTED to come up with additions regarding the context you have. Note that you are also EXPECTED to implement different entity and relation types that you learn in the class. If you are not sure what to add to the project, you are highly ENCOURAGED to discuss your project topic with your respective TA. All projects will be web-based systems. You are free to use any environment or programming language you would like to use for the project.

Social Betting Platform
You are going to implement a betting platform with social features. Users should be able to make bets, share their bet slips, comment on matches, and comment and like what other users share. Matches have different types of bets which have their own odd and minimum betting number (MBN). For a bet slip to be valid, the number of bets in that slip must be equal to or greater than the maximum of the MBN of bets in that bet slip. Users can add other users as friends and see their activities on the timeline. Editors should be able to prepare bet slips and users that follow the editor can see those bet slips. Admin can change odds of bets, or remove a bet completely. A bet that is made before the change or removal in a bet slip must stay the same.

Online Coding Platform
You will design a system where users prepare for technical job interviews. There are users, editors, and companies. Editors prepare both coding challenges, coding contests, and non-coding questions. Coding contests have several coding challenges. Users will try to solve challenges, answer questions and participate in contests. Companies also should be able to prepare a series of coding challenges and non-coding questions as a part of their interview process. Coding contests can be sponsored by companies. Both challenges and questions should have categories such as dynamic programming and system design, respectively.

Online Movie Rental System
In this project, you will implement an online movie rental system. The users of this system can be customers or employees. The system lets the users search the movies by title, director, genre, production year, etc. If any desired movie does not exist, the customers can create a request for the absent film. The employees can register new movies and delete the customer accounts. Users can rate the movies and write reviews. Users can also add other users as friends and recommend movies to them. User accounts should show previously rented movies, currently rented movies, movie ratings, reviews, and the movies that their friends suggest.
**School Library Database**
In this project, you will implement an online school library database. The users of the library can be the students or the instructors. The instructors can assign some books to specific students as homework. Users can browse the books by title, author, genre, published year, etc. If the books are available when they browse, they can put a hold on the books to borrow them later. The users can borrow and return the books, but the librarian should do these actions in the system. Borrowed, returned, on-hold, and assigned books are stored on each user’s account. The librarian can also see the users’ accounts, register new books and users to the system, and send warnings to the users to return the books. Users can view librarian warnings on their accounts.

**Online Language Learning Platform**
You will implement an online language learning platform. The system's users can be teachers, students, language natives, or the admin. By picking a language, the students can request classes from teachers according to their levels and create online meeting requests from natives for speaking exercises. The teachers give lessons, assign homework to specific students, grade the exams and homework. The teachers can also see how many students are taking their class and the students' activities on student accounts. Language natives can hold speaking exercises and grade them, but they cannot give lessons unless they are also teachers. The platform admin should be able to do some analyses on the system, such as how many people are learning a specific language from a teacher and their grade average.