ASSIGNMENT #2
CS 6400- FALL 2021

TEAM PROJECT PROPOSAL
(Proposal due on Canvas Sept 24th, 2021)

This proposal is not graded. We will provide feedback and will ask you to revise and resubmit- the resubmitted proposal will be graded as a new assignment.

TEAM PROJECT (Some of this is repeated from the Syllabus):

Students will work in teams of their choice to propose a project of their own, to develop some aspect of a database system, create some innovative application, or investigate or evaluate a database management system or tool. **Three person teams** with a combination of skills are expected. **2 person teams are possible – but you need to get permission from the instructor**. This is to give an opportunity to the students to get some additional hands-on database experience in keeping with their backgrounds. The instructor is completely open about this and would like students to think of applications in their own areas of interest. This is your opportunity to investigate how DB technology may be applied to graphics, visualization, robotics, social networks, multimedia and unstructured data management, virtual reality, simulation, gaming, network management or any such applications. Please consult the detailed list provided in the syllabus and discuss among colleagues. Piazza is available as a forum for forming groups – so start early.

Consider Chapter 26 (Ed.7 and 6) in the book on advanced modeling as well as Chapter 23 on advanced applications, in the international edition 6. (A copy of that chapter on emerging applications from the international edition is placed under "historical overview" folder on Canvas). Consider all the topic areas Prof. Navathe will mention in his discussion of the history of data management and topics he suggested for research survey paper in the syllabus. All this background is adequate to generate enough ideas for an implementation-oriented project. The project must have a strong database component. Simple implementation of a published algorithm or use of a library against a public database does **NOT** suffice.

You are welcome to discuss project ideas ahead of time. Make an appointment for the group with the instructor and /or the TAs.

Note that a poor choice of a project puts you at a disadvantage from the start. Projects must be challenging enough to deserve a good grade.

FORMAT of Group Project Proposal:

Top page:

List of members (Please use last name, first name format) - each name should be followed by program (MSCS, MS-ECE etc.), and email.
Background of members: For each member, describe relevant coursework and experience in a couple of sentences each.

A. CONTENT OF PROPOSAL:

(i) Problem definition- Be precise and define what problem you are addressing, what you plan to do and what you do NOT intend to do.
(ii) The scope and goal- what you are trying to accomplish in this project. What useful application/purpose does this meet. Note that while you are doing this as a learning exercise, you should develop something that has some utility and meaningful application and has some potential of being a useful project
(iii) Description of design, approach, or unique features
(iv) What data you will use and where it comes from. If you are using public data, how you will scrape it, what you will extract etc. We will have a list of publicly available databases under the "Useful Documents" folder.
(v) What will be implemented and how – what languages, frameworks and tools may be used
(vi) What you will learn from this project
(vii) How the work will be divided among team members and a rough schedule
(viii) What functionality will be demonstrated at the demo time (you can just give a rough idea currently).

The platform, the system, language etc. is totally flexible. The project may relate to some research going on in the college, but there must be a precise definition of what component is applicable here as a project for this course. The project will be evaluated based on (i) overall effort, (ii) how challenging it was and how you approached it, proposed ideas, and hardness/difficulty, (iii) completeness of design and implementation, and (iv) the extent to which new database techniques were used or explored (innovation/novelty)
The team-size will be considered in setting the expectations.

NOTE: You are forming the team on your own. Ideally try for a team of 3 members. Look for a good combination of skills. You can use Piazza to look for team members.

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INDIVIDUAL PROJECTS:

Those who have never had a database course before will be allowed to do an individual project that involves developing a sample application such as inventory control for a bookstore or a travel booking system for a tour company etc. – they will demonstrate a complete design and implementation of queries/transactions for the application starting from conceptual design in the ER model. The project must address a meaningful application, involve a realistic database schema and fairly complex queries and transactions. Doing too simple a project will work against you. Feel free to meet the instructor and TAs (online) and discuss a possible individual project.

Format of Individual Project Proposal

Top page: Same as team project except for only one member.

CONTENT:

i) Application: Describe an application for which you are designing the database. Say who are the users of this application and whether you have different functions for different users. Note that there should be enough complexity to result in at least 4-5 distinct tables.
ii) Functionality: Describe what queries and transactions you will implement. Queries should have enough complexity that will involve multiple tables, aggregations, reports etc.
iii) Data, DBMS, Language: provide any details you have about where you get the data from and how; what DBMS you plan to use and what programming language you plan to use
iv) Interface Design: No elaborate interface is required. Describe how you (the users) will be accessing the application. What will the front end look like.
v) Scope: Define what you will definitely attempt to implement and describe any additional features you may want to explore and implement.

Important Dates:

Proposal Due: September 24th, 2021 (Upload a softcopy on Canvas). The instructor and the TAs will give you feedback and comments.

You will revise the proposal as needed. The revised proposal will be treated as a NEW assignment but will follow the same format.

Interim Report (Guidelines to be published later): **November first week. (5% grade)**

Project Oral Explanation and Demo: explain your work in a demo session with the instructor and the TAs. A PPT presentation of the project is done followed by a discussion. (week of Nov. 29). (Demo/discussion - 15% to 20% grade).