SLIS/IGPI-6100: Database Management Final Project Instruction

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COVID-19 Updates

1. Overall Project Description

For the project, you will be developing your own database, based on some users' needs and a collection that you have access to. The final project will require **individual effort**. As a minimum set of standards, your database must have a minimum of **50 items** "for input" for **each table**; each **item** must have **a minimum of 5 distinct attributes/fields**; you must have access to the items (to describe them). Book collections; song/music collections; art collections; photograph/image collections; recipe collection, etc. are typical types of items for a database. This database can be work-related, or personal. Items with textual data will be easier to implement than simple digital-object-only items (e.g. a picture collection with annotations, like date the picture was taken, who the photographer was, etc.). Of course, some digital objects will have metadata connected to them (e.g. music collection) already. You will be demonstrating the database in class at the end of the course. More details are below.

In summary, your **final project implementation** will consist of the following:

- a minimum of **50 records** for **each** of your **tables**. **If you are working on a real case and the data records are below the minimum number, this is acceptable**.
- at least **one table** (most likely your main table) should **have 5 or more distinct attributes/fields** (this does not include the primary key field nor any foreign key fields);
- **other tables can have less than five attributes/fields** (e.g. a "subject" table will likely have only 2 fields);
- you should have a **minimum** of **4** tables (**not including linking tables**);
- you must create a **minimum** of **7** queries (more queries are welcome!) to execute via MySQL;
- your database and its queries should address the mission and most of your objectives, as you stated them.

The following items are optional:

- If you opt to create the PHP application, at least **4** queries (of the 7) will be transmitted via an interactive **HTML form page** (using PHP to pass along the query data) – this query should include fields for display of the results from **at least two tables**;
- the other 3 queries should be executed directly in *the MySQL server* – save these **3** queries in a text or similar file, so you can copy and paste them into the SQL tab within *the MySQL server* (to execute during your presentation;
- **at least one** of the **3** queries you execute directly in *the MySQL sever* should include fields from **at least 3 tables**;

2. Components of final project

The final product of this project should include the **design** and **implementation** process of your database. Additionally, you will be **presenting** your database project to your peers at the end of this semester.

2.1 Design

You are asked to submit either a MS Word or a pdf document introducing your design process of the project and save this as: **SLIS/IGPI6100_design_mylastname.docx** (or .**pdf**). It should include the following sections:

1) **Introduction**
   - Provide a brief introduction to the project (**no more than one page**)
   - Please the URL of your php/html page of this project at the beginning of introduction (**This will only be at the final submission, since you haven't developed the application yet**).
2) **Mission Statement and Mission Objectives:**
   - The *Mission Statement* should be no more than a paragraph – usually, you only need a few sentences.
   - The Objectives answer general questions, such as: What do you want your database to accomplish? How will information/data be entered, updated, searched, and reported? Who is going to use this database? I'm expecting **4-6 s**uch objectives, without going into any specifics regarding the technology, fields, etc. A bulleted list structure is fine for presenting these Objectives. If you wish to write **more than 4-6** objectives, that is fine, but note that I may ask you to focus on just a few of these for your final project.
3) **Conceptual Design:**
   - E-R diagram, with the final table names and fields
   - Identifying primary and foreign keys
   - Create links between tables
   - Label the type of relationship and degree of participation
4) **Logical design:**
   - Field specifics for all tables, including linking tables
   - Identifying primary keys and foreign keys if any
   - For each field, list the table that the field belongs to, field name, data type, data length, null determination, index, key type, default value, range of value and description [All data documentation items]
   - Specify business rules, if any
   - Define views, if any

You are more than welcome to submit sections introduced above to the instructor for feedback before you start implementing the database in MySQL. In this case, please submit your materials by March 30**, 2020**.

2.2 Implementation

As described earlier, you will be building a physical database running on CLAS server. As part of the Final Project, you will be creating **7 SQL queries** (**minimum**). (**Optional: you can also create some queries to execute through HTML/PHP form/script.**) Please submit your queries (**and php/html files if you choose**

to do the optional component) to ICON. Please put the 7 queries in **a text document** named as "**SLIS/IGPI6100_query_yourlastname**.txt".

2.3 Presentation

COVID-19 Special Notes: We are moving our final project presentation to Zoom. I will post presentation schedule on ICON. You are required to share your screen while you present. Please let me know if you have any questions.

At the end of the course, you will give a presentation of 5-7 minutes, graded on the following criteria:

- Posture/Body Language
- Professional attire (as if you were presenting to your boss & others leaders)
- Voice is clear, articulate, loud and not a monotone
- Structure of presentation may include:
    - Introduction (who you are; the name of your database project)
    - Summary of your user needs analysis;
    - Mission & Objectives of your DB;
    - Show conceptual and logical schema;
    - Security & privacy issues (if you have any);
    - Business rules (if you have any);
    - Highlight the main features of your DB (this is the bulk of your presentation--wow us with your implementation!!);
    - End with "Questions and Answers."
    - **Optional: A link to your php/html page on CLAS server**
- Created a presentation (PowerPoint; HTML; Google docs; Flash; etc.)

Please name your presentation material (if any) in the following convention:
SLIS/IGPI6100_presentation_yourlastname.[whatever file format(s) you used]

3. Project Submission

- **ICON**: At the end of your project, you will be submitting all the documents mentioned above onto ICON in **a compressed file (.zip file)** for evaluation [See ICON for due dates]**.** It should include:
    - The design file: **SLIS/IGPI6100_design_mylastname.docx (or .pdf)**
    - The 7-query file: **SLIS/IGPI6100_query_mylastname.txt**
    - The presentation material: S**LIS/IGPI6100_presentation_yourlastname.pptx (or other)**
    - **Optional: All the PHP files for your database**
- **Optional: If you choose to do the PHP/HTML part, you will be uploading your PHP/HTML file onto CLAS server and keep until May 30, 2020.**

If you have any questions, please don't hesitate to contact me.