PURDUE UNIVERSITY

PURDUE POLYTECHNIC INSTITUTE
Department of Computer and Information Technology

CNIT 27200 – Semester Group Project

Spring 2020

Overall, the project will follow these development steps:

(Note: course naming standards are enforced throughout the project.)

- Design and build logical ERD (13 – 16 entities)
- Build physical ERD from the logical ERD
- Generate the DDL; confirm/modify; create and execute DDL script file
- Create and load test data
- Test the database using assigned queries
- Document the system
- Evaluate the team performance

Overall, the project is expected to follow this timeline:

- Project announced. Teams assigned by: 2/7
- Phase1 (design): Due Friday, 3/6, submit via Blackboard
- Phase2 (DDL and Load data): Due Friday, 4/17 via Blackboard
- Final project due (testing/SQL/final submission): Sunday, 5/3 via Blackboard

Points of Interest

1. The team project is worth 150 points.
2. The final project, with all documentation, is **due Sunday, May 3rd by 11:59 p.m.**
3. Late submissions will be penalized.
4. The following items must be submitted by the deadline:
    a. A zipped file of your project must be submitted to Blackboard.
    b. Each member of the team must submit a team/individual evaluation.
5. Each phase is worth 50 points for a total of 150 points.
6. Phase 1 and Phase 2 can each be resubmitted and regraded one time based on feedback given after graded. The two submission scores will be **averaged** per each of the two phases.
7. While we are using the case study from CNIT 28000, the division of effort in the project does not span across both course projects. Simply stated: If you are in CNIT 27200, you are expected to participate in the CNIT 27200 project.

Team Evaluations

Each team member will be evaluated (confidentially) by the other team members. Generally, all team members will receive the same score. However, an individual score may be penalized if attendance, contributed material, and the Assessment Form evaluations warrant it. If you do not turn in an evaluation on Blackboard, your own final score will be penalized.

Evaluations are to be submitted via Blackboard by 11:59 p.m. on Sunday, May 3rd.

Final Project Deliverables

- ❒ Cover page with Project Title, Team Number and List of Team Members
- ❒ List of Contents (basically the list of deliverables).
- ❒ Brief one page introduction/narrative description of the database (purpose, general coverage) from Phase 1 (one page), including a response to each of the following questions:
    i. Why is the database needed?
    ii. Who will use the database?
    iii. What types of questions should the database be able to answer?
    iv. What incentives will be available for those that provide data to the database?
- ❒ Table of Attendance (see below for details).
- ❒ Individual Contribution Chart (see below for details).
- ❒ PDF of final logical and physical models. **They must be readable when printed**.
- ❒ The DDL script and the **output** from an execution of the DDL script (make sure your DDL matches the design).
- ❒ The Data Load script and the **output** from an execution of the script.
- ❒ The test SQL (see "Testing the Database") execution and **formatted** output (sufficiently readable). The test requirements are to be divided up among the team members. For each test query, list the person responsible, and show the Oracle execution and output, numbered by SQL query number. Even though one person is responsible, the entire team will be impacted by the work (if a query is incorrect the team score is dropped). Warning: Consider some review/confirmation process to assure accuracy.
- ❒ A one page reflection from each team member about the project and how it can be utilized beyond the classroom.
- ❒ A zipped file on Blackboard with all the above files.
- ❒ Peer evaluation completed on Blackboard**.**

Table of Attendance – Submit with each phase

Any time at least 2 team members get together to discuss the project record the following:

1. Name of attendees
2. Date/time
3. Duration of meeting
4. Method of collaboration (meet in person, email, chat, Google Docs, etc)
5. Agenda for Meeting

Individual Contribution Chart and Explanation (sample) – Submit with each phase based on deliverables.

The Individual Contribution Chart identifies who worked on which tasks within the project. The Chart has team member names across the top and tasks on the left column. All team members must contribute equally for each phase in the CNIT 27200 project to receive credit.

TASKS {examples below – create a task list within your team}. Be as detailed as possible:	Name1	Name2	Name3	Name4
Interpret Case Study	**X**	**X**	**X**	**X**
Create Entities	**X**	**X**	**X**	**X**
Create Attributes		**X**	**X**	**X**
Create Relationships		**X**		**X**

Explanation (each student must explain their own contribution)

Team XX

Name:
Explanation of contribution:

Name:
Explanation of contribution

etc…

Project Milestones

Project milestones will be due at various times. Each team member will be evaluated (confidentially) by the other team members. Generally, all team members will receive the same score. However, a score will be dropped one or more letter grades if the evaluations and project material warrant it due to a lack of participation.

Phase 1: Initial DB Design (50 points):

Design a normalized database that satisfies the project requirements.

Phase 1 Submission Checklist:

- ❒ Include a cover page with your Team Number within the CNIT 27200 course, DB name, team members, date and phase #.
- ❒ Submit a one page description of the DB, including a response to each of the following questions:
    i. Why is the database needed?
    ii. Who will use the database?
    iii. What types of questions should the database be able to answer?
    iv. What incentives will be available for those that provide data to the database?
- ❒ Create a list of entities (tables) and attributes (columns) that you have identified in the case study. **The project requires 13-16 entities.**
- ❒ Provide some example data (records) that might be stored in your database.
- ❒ Table of Attendance
- ❒ Contribution Chart and Explanation (describe in detail how each member of the team contributed to this phase of the project). All team members must participate for credit.
- ❒ Create and submit an Entity Relationship Diagram **logical model** (submit a separate zipped file (with the folder and .dmd file) **and** a PDF of the logical model in the submission report (**the PDF must be readable when printed**):
    i. Entities (13-16 entities)
    ii. Attributes

iii. Primary Keys
iv. Foreign Keys
v. Identifying and Non-Identifying Relationships
vi. Parent-child verb phrases
vii. Text box with title, date, and team information
viii. Other features as instructed in the documentation

- ❒ Create and submit the Entity Relationship Diagram **physical model** that shows data types and sizes (should be included in the separate zipped file (with the folder and .dmd file)) **and** also include a PDF of the physical model in the submission report (**the PDF must be readable when printed**):
    i. Text box with title, date, and team information
    ii. Verify that all datatypes and sizes are visible on the PDF.

NOTE: The PDF of your logical model and the PDF of your physical model needs to be readable when printed. I will be printing them out to grade and also bringing them to class for you to review with your peers. Before submitting the model, print it out to test the readability of the output.

Advice:

1) Verify that all of your entities have primary keys
2) You should include attributes that can be calculated (NUMBER datatype; Price, Salary, Fee, etc)
3) Review each entity and verify that each non-keyed attribute depends on its primary key.
4) Do not create entities with just one or two attributes. Review the entity and reflect on why it is needed. Maybe there are more attributes that can be populated and stored in the database.
5) Utilize associative entities
6) If a team member does not contribute to the project, and there is no detailed description of their participation in the submission, that team member will get a zero for the phase.