Disclaimer: The information here may include errors, typos, or missing items. Notify to your instructor.

Group Project

✓ *All **group** assignments must be submitted in **electronic format** by posting them to a designated site that includes all the documents and the developed applications and code.*

Objective:

Reasons for group projects include (1) simulating a real-world systems development effort and (2) enabling the execution of more extensive and challenging assignments than could reasonably be completed on an individual basis. (3) As data model alone is an important subject in enterprises, the understanding of the data model development lifecycle crucially benefits students for their future endeavors. 4) Database-oriented workflow information systems can enhance SQL knowledge as well as other DB objects like triggers and stored procedures.

Project Teams:

In the first and/or second week of the course, you will form project teams on the basis of student's expressed preferences. Teams will consist of three or four students. Once you are assigned to a project team, your team will be counting on you. So we expect you to stay in the team for the entire term.

All project teams are required to establish specific roles of members:

- Team lead (1 person): Lead efforts of the entire project orchestration
- Team members (3 or 4 persons): Lead development efforts

Guidelines for Projects:

Your challenge in the project portion of this course is to design and develop a simple clinical information system. The goal of this exercise is to learn database principles, methods, and tools for the system in a realistic context. Most information system professionals work under tremendous time pressure. To simulate similar patterns of such environments, guidelines for projects are given as shown below.

You are strongly encouraged to choose a project satisfying all of the following constraints:

1. You may select an information system that has workflow management functionalities. Use **UML (StarUML)** for requirements analysis.

2. The application design of your project such as **Swim Lane Diagram** should be developed and included in the project report.
3. You should consider **user interface (Web/Java/Others)** which interacts for users to manage data so as to execute **SQL queries**. *Others: Let me know which one your team would use.
4. Your **user interface** should process data on a relational database **(MySQL)** through **(ODBC/JDBC, whichever is appropriate to you)**.
5. The system (**user interface)** should have workflow functions and show statuses of the works based on the requirements in addition to search, insertion, update, and deletion of data for a system.
6. You are required to provide **a section report** on each due date, but this report will incrementally be developed into a final report as the project progresses. So just ensure to submit the required sections of the document in due time.
7. You are required to perform **one presentation and demonstration** of the system during the last lab session. (The project report and presentation template are provided as shown below.)
8. Like other assignments, all team projects should meet the due date as appointed. All team members should work together on a given project. If there appears to be a problem, you should try to resolve it with other members. If no resolution is reached within reach, then inform me as soon as possible. I can take appropriate actions.
9. Additional resources online or offline can help you navigate through the project processes. Before contacting me, please fully investigate and utilize these resources for your team projects.
10. An iteration of the project generates minimal, but quality documents and code, the examples of which include use cases. Use your discretion to pull these documents into your project report.
11. The final project report, presentation, and demonstration are required. The final report should be **about** 15 pages.

Project Rubric:

No.	Criteria	Criteria-Total
1	Team and Project Selection for Workflow Information System	100 pts
2.1	Requirements Gathering Draft	50 pts
2.2	Requirements Gathering Final	50 pts
3.1	Requirements Analysis Draft	50 pts
3.2	Requirements Analysis Final	50 pts
4	Application Design	100 pts
5	User Interface Design	100 pts
6	Logical Database Design	100 pts
7	Database Objects Design	100 pts
8	Presentation	100 pts

		Grand Total:	1000 pts

1. Project and Team Selection Report

Project and Team Selection Report (1 page)
Times Roman 12 pts

Project Name
Your team name

Section 1. Project Description

Section 1.1 Situation/Problem/Opportunity
(Describe the particular situation(s), problem(s), or opportunities identified for the development of solutions.)

Section 1.2 Potential Target Customers
(Identify your potential target customers.)

Section 1.3 Purpose Statement (Goals)
(State the purpose of your system as a preliminary set of solutions for the situation / problems / opportunity described under the section 1.1.)

Section 1.4 Potential Risks and Dependencies
(It is important to identify and manage risks and dependencies. State them here to maintain.)

Section 1.5 Project Team
Your team member 1: Name
Your team member 2: Name
Your team member 3: Name
Your team member 4: Name

Assessment (Submit the report to the class website)

Submission: Project Report (.doc/x or .pdf)

Score 1 – A full report submitted
Score 0 – A partial or no report is submitted

Project Ideas

Project ideas presented here are "ideas" as the title indicates. Students who want to take these ideas into their projects need to make adjustments as deemed necessary for the real situations as they find

while discovering and collecting requirements. **Important!** The idea is to gather the workflow information in relation to these systems.

1. Patient Care Workflow System
2. Student's Graduation Requirements Tracker
3. Online Purchase Workflow System

Project Idea #1: Patient Care Workflow System

Situation/Problem/Opportunity:

In clinical offices, patients go through many states or phases for doctor's appointments, walk-in at appointed time, health check by doctors, treatments are given, either prescriptions given or referred to other doctors for further checkups. Often medical staff does not know what states or phases patients are at. They would not know unnecessary delays or hold-ups of treatment-related services. Hence, it would be difficult to help patients improve their health issues.

Potential Target Customers:
Doctors, clinicians, nurses, or administrative staff

Purpose Statement (Goals):
Each medical staff needs to see the progresses patients make with a variety of their health issues. Using this tool will greatly help maximize the patient treatment, and reduce any mistakes it may incur without patient information on their progresses.

Project Idea #2: Student's Graduation Requirements Tracker

Situation/Problem/Opportunity:

Students go through many different phases of completing their graduation requirements. Often face the challenges of understanding their required courses (first year courses, second year courses, etc.), pre-requisites, and other graduation requirements. It may be time-consuming and difficult if students see school administrative staff every time they need to check on them.

Potential Target Customers:
School administrative staff

Purpose Statement (Goals):
Each student needs to check their graduation requirements and their progress of completing the requirements for a variety of motivations. This tool will greatly help students to minimize administrative staff's time as well as student's, to take initiative of completing the requirements, and to design planning how they are going to complete them.

Project Idea #3: Online Purchase Workflow System

Situation/Problem/Opportunity:

Nowadays millions of consumers make product purchases from online retailers. Upon completion of purchase, they often worry when their items arrive at home or other receiving facilities or offices. Online retailers constantly face a high volume of customer calls who want to know when the purchased items are delivered.

Potential Target Customers:
Online retailers

Purpose Statement (Goals):
Letting customers know where their purchased items are located at will reduce a volume of customer calls and stresses. It also can make customers satisfied.

2. Requirements Gathering (Draft and Final)

Project Report
Times Roman 12 pts

Project Name
Your team name

Section 2. Requirements

Section 2.1 Requirements Descriptions
(Describe concisely your project's requirements after collecting the information on users, business functions, and interactions with other business functions. Ensure that your requirements include precise descriptions of interactions with other business functions as they are critical to your system.)

Section 2.2 Your Meeting Log

No	Date and time	Duration	Location	Discussion topic	Attendees
1	3/3/2016: 3:00pm	1.5 hrs.	Library	Project selection	A, B, C, D
2					
3					

Assessment (Submit the report to the class website)

Submission: Project Report (.doc/x or .pdf)

A (Score 90-100) – Exceed the expectations
B (Score 80-89) - Excellent and complete documentation
C (Score 70-79) - Generally meet all the requirements for documentation
D (Score 60-69) - Poor and incomplete documentation
F (Score < 60) - Fail to meet the requirements

### 3. Requirements Analysis (Draft and Final)

Project Name
Your team name

Section 2. Requirements

Section 2.2 Requirements Analysis
Use cases are adopted as our requirements analysis model. Using StarUML and based on the Requirements Descriptions as described in the section 2.1, complete your project's use cases after your requirements analysis is done, and then attach the diagram here.

Example)
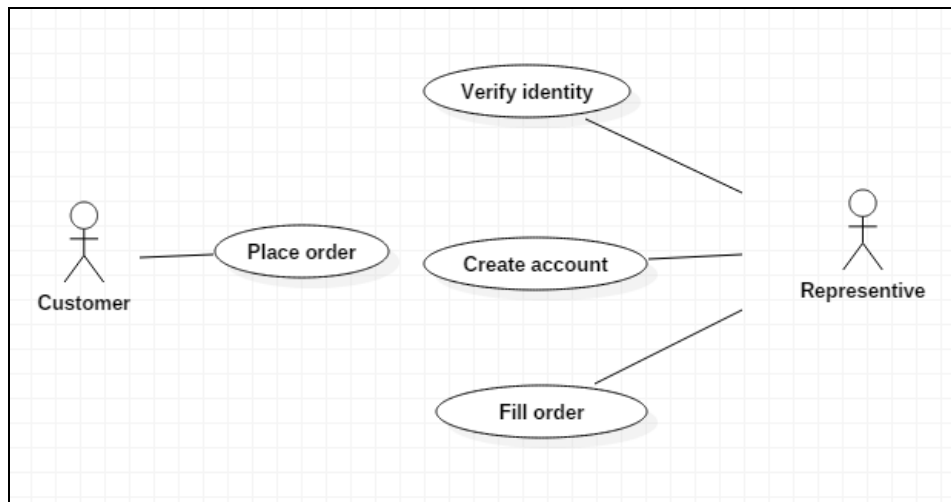
Section 2.3 Your Meeting Log

No	Date and time	Duration	Location	Discussion topic	Attendees
1	3/3/2016: 3:00pm	1.5 hrs.	Library	Project selection	A, B, C, D
2					
3					

Assessment (Submit the report to the class website)

Submission: Project Report (.doc/x or .pdf) and UML document (.uml)

A (Score 90-100) – Exceed the expectations
B (Score 80-89) - Excellent and complete documentation
C (Score 70-79) - Generally meet all the requirements for documentation
D (Score 60-69) - Poor and incomplete documentation
F (Score < 60) - Fail to meet the requirements

4. Application Design

Project Name
Your team name

Section 3. Application Design for Workflow Information System

Section 3.1 Application Design
Swim Lane Diagrams are adopted as our database application design tool. Using StarUML and based on the Requirements Descriptions as described in the sections 2, complete your project's swim lane diagrams after your requirements analysis is done, and then attach the diagram here.

Example)
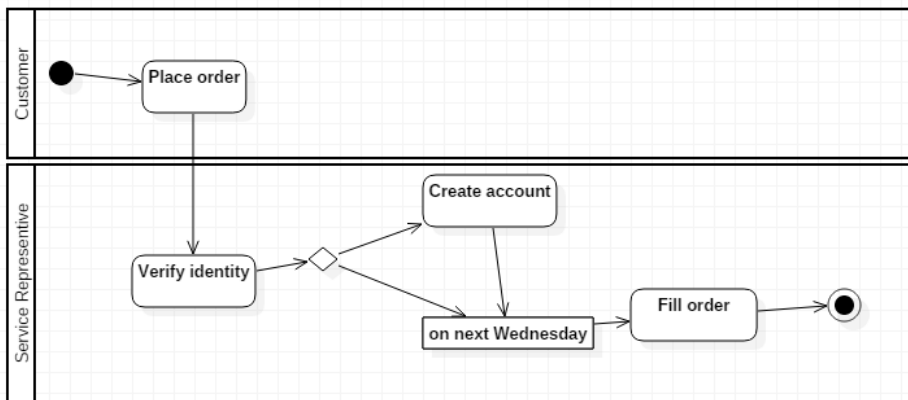
Section 3.2 Your Meeting Log

No	Date and time	Duration	Location	Discussion topic	Attendees
1	3/3/2016: 3:00pm	1.5 hrs.	Library	Project selection	A, B, C, D
2					
3					

Assessment (Submit the report to the class website)

Submission: Project Report (.doc/x or .pdf) and UML document (.uml)

A (Score 90-100) – Exceed the expectations
B (Score 80-89) - Excellent and complete documentation
C (Score 70-79) - Generally meet all the requirements for documentation
D (Score 60-69) - Poor and incomplete documentation
F (Score < 60) - Fail to meet the requirements

5. User Interface Design

<div align="center">

Project Report
Times Roman 12 pts

</div>

Project Name
Your team name

Section 3. Application Design for Workflow Information System

Section 3.2 User Interface Design
You should have as many screens as you have your Swim Lanes and your login screen. Based on a role of user, you should provide its corresponding user screen where it shows a bucket of its tasks to do. For example, in Order Management System, User logins to the system to create orders, check the statuses of his or her orders, and provide feedback on the orders. Use your preferred CASE tool, PENCIL, or hand draw UIs and take pictures to paste them here.

Example)

Workflow Information System for Order Management

Customer Name   Jack Ma
Customer Address Jack Ma's Address

Order Item Description	Date of Order	Status
☐ Delicious apples (1 bag)	June 27, 2017	Not In Submission
☑ HP computer (1 item)	July 30, 2017	In Approval
☑ TV (1 item)	January 15, 2018	In Approval Ready

Section 3.3 Your Meeting Log

No	Date and time	Duration	Location	Discussion topic	Attendees
1	3/3/2016: 3:00pm	1.5 hrs.	Library	Project selection	A, B, C, D
2					
3					

Assessment (Submit the report to the class website)

Submission: Project Report (.doc/x or .pdf)

A (Score 90-100) – Exceed the expectations
B (Score 80-89) - Excellent and complete documentation
C (Score 70-79) - Generally meet all the requirements for documentation
D (Score 60-69) - Poor and incomplete documentation
F (Score < 60) - Fail to meet the requirements
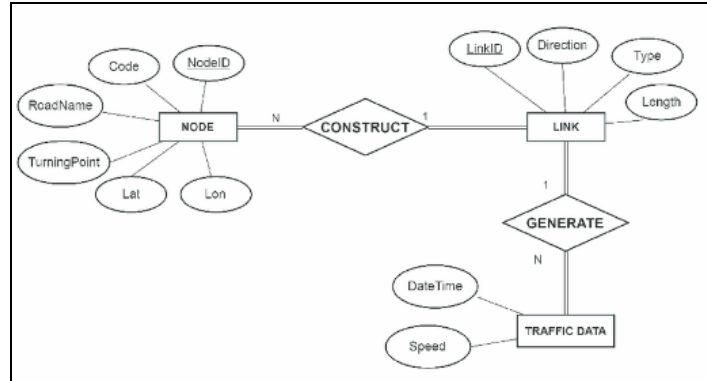
6. Logical Database Design

Project Report
Times Roman 12 pts

Project Name
Your team name

Section 4. Logical Database Design

Section 4.1 Entity Relationship Diagram (using Dia)
Briefly describe your ER Diagram, and copy and paste your Dia diagram.

Section 4.2 Logical Database Design (using MySQL Workbench)
*The goal of this section is to normalize your database for a better design. Copy and paste your EER model for your database with full attributes and constraints to the third or BCNF form. ** If the models are too big to fit in, then you can use portions of the major areas for copy and paste.*

Section 4.3 Database Schema (A system generated list of tables with attributes and constraints)
In this section, list your DDL for your database schema. Once the design is completed, you can convert the model into the DDL and create the actual database.

Section 4.4 Your Meeting Log

No	Date and time	Duration	Location	Discussion topic	Attendees
1	3/3/2016: 3:00pm	1.5 hrs.	Library	Project selection	A, B, C, D
2					
3					

Assessment (Submit the report to the class website)

Submission: Project Report (.doc/x or .pdf), Dia diagram (.dia), MySQL Workbench document (.mwb)

A (Score 90-100) – Exceed the expectations
B (Score 80-89) - Excellent documentation and presentation
C (Score 70-79) - Generally meet all the requirements for documentation and presentation
D (Score 60-69) - Poor documentation and/or presentation
F (Score < 60) - Fail to meet the requirements

7. *Database Objects Design*

<div align="center">Project Report</div>
<div align="center">*Times Roman 12 pts*</div>

<div align="center">**Project Name**</div>
<div align="center">Your team name</div>

Section 5. Database Objects Design

Section 5.1 Triggers Design
List your main 2-3 triggers here, and attach the MySQL Workbench document.

Section 5.2 Stored Procedures Design
List your main stored procedures here and attach the MySQL Workbench document.

Section 5.3 Functions
List your main functions (if necessary) here and attach the MySQL Workbench document.

Section 5.4 Your Meeting Log

No	Date and time	Duration	Location	Discussion topic	Attendees
1	3/3/2016: 3:00pm	1.5 hrs.	Library	Project selection	A, B, C, D
2					
3					

Assessment (Submit the report to the class website)

Submission: Project Report (.doc/x or .pdf), MySQL Workbench document (.mwb)

A (Score 90-100) – Exceed the expectations
B (Score 80-89) - Excellent documentation and presentation
C (Score 70-79) - Generally meet all the requirements for documentation and presentation
D (Score 60-69) - Poor documentation and/or presentation
F (Score < 60) - Fail to meet the requirements

8. *Presentation*

   Assessment

   Submission: Submit your ppt to the class website: No submission or unprepared submission / presentation will result in zero. No show also means zero.

   A (Score 90-100) – Exceed the expectations
   B (Score 80-89) - Excellent PPTs and presentation
   C (Score 70-79) - Generally meet all the requirements for PPTs and presentation
   D (Score 60-69) - Poor PPTs and/or presentation
   F (Score < 60) - Fail to meet the requirements