

University of the Philippines Los Banos
College of Arts and Sciences
Institute of Computer Science
CMSC 127 - File Processing and Database Systems
2nd Semester AY 2024-2025
Project Specifications

Introduction

This document outlines the project requirements for CMSC 127, delivered through the laboratory component of the course. The details provided aim to address common concerns. Please read carefully before seeking clarification.

Project Details

Description:

This information system will be a "**Student Organization Management System**", designed to streamline the management of student organizations, their events, memberships, and finances.

Task:

Using the description and details below, create a robust and efficient database design and develop a system using any programming language (PL) taught in CMSC 12, 21, 22, or 100, combined with an RDBMS (MySQL, MariaDB, or PostgreSQL). The goal is to build a reliable platform for organizing and tracking all aspects of student organization operations.

Features

Core Functionality:

1. **Membership Management**
 - Add, update, delete, and search for members.
 - Track members' roles (e.g., President, Treasurer, Member).
 - Track membership status (active, inactive, expelled, suspended, alumni)
 - Note: A student can be a member of multiple organizations (e.g., varsitarian)
 2. **Fees Management**
 - Manage membership fees and dues.
 - Generate reports on the organization's financial status.
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Reports to be Generated:

1. View all members of the organization by role, status, gender, degree program, batch (year of membership), and committee. (Note: we assume one committee membership only per organization per semester)
 2. View members for a given organization with unpaid membership fees or dues for a given semester and academic year.
 3. View a member's unpaid membership fees or dues for all their organizations (Member's POV).
 4. View all executive committee members of a given organization for a given academic year.
 5. View all Presidents (or any other role) of a given organization for every academic year in reverse chronological order (current to past).
 6. View all late payments made by all members of a given organization for a given semester and academic year.
 7. View the percentage of active vs inactive members of a given organization for the last n semesters. (Note: n is a positive integer)
 8. View all alumni members of a given organization as of a given date.
 9. View the total amount of unpaid and paid fees or dues of a given organization as of a given date.
 10. View the member/s with the highest debt of a given organization for a given semester.
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Reminders

1. **Milestone Deadlines:**
 - **Submission of ERD:** Submit a clear and logical Entity-Relationship Diagram (ERD).
Deadline: On the laboratory session for Normalization.
 - **ERD Revisions:** Incorporate feedback before progressing.
 - **ERD to Relational Tables:** Convert the finalized ERD into relational tables.
Deadline: On the laboratory session for Select 2.
 - **SQL Queries and Database Objects:** Include queries, stored procedures, and triggers, as needed.
Deadline: On the laboratory session for TCL.
 - **Application:** Submission of actual application to the lab instructor.
Deadline: First day of Final's Week. The presentation is on Finals week.
 2. **Safety Considerations:**
 - Work safely during evening or weekend sessions, and have emergency contacts on hand.
 3. **Research:**
 - A well-researched and detailed project will stand out.
 4. **Task Assignment:**
 - Divide work among team members and adhere to deadlines.
 5. **Consultation:**
 - Regularly consult your instructor for feedback and support.
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Technology Stack:

- **RDBMS:** MySQL, MariaDB, or PostgreSQL
- **Programming Language (PL):** Any PL taught in CMSC 12, 21, 22, or 100. Anything beyond this should be approved by your lab instructor.