

# 7. Project Prep

CSCI 2541 Database Systems & Team Projects

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# Logistics

Today: Project Overview, Shopping Cart App

Wednesday: HWs due / Exam Review

*Normal + SQL*

Next Monday: Exam

End of next week: Shopping Cart App due

Weeks 9-12: Project Phase 1

Weeks 13-17: Project Phase 2

# The Project

A significant part of this course is a large database systems **team** project.

In the project you will design & implement a database system — Full stack development:

- Front End (HTML/CSS & optional Javascript)
- Application server — in Python with Flask
- DBMS backend — MySQL

The project will involve working in **teams** of ~3.

# University Management System

You will build a web application to manage many aspects of a university

1. Application processing system (APS)
2. Course registration system (REGS)
3. Advising system (ADS)

Demo soon...

# Team Project: Requirements & Expectations

## Project broken into 2 phases:

- Phase 1: teams build an application assigned to the team
  - Includes reports containing the design
  - Demo of the Application
- Phase 2: Work in new teams to integrate different applications and produce the final project assigned to you
  - This requires **integration** and NOT redesign

## You **have** to work in teams

- Each team member required to 'produce' equitable share 'product'
- Teamwork will be assessed...
- Not all team members may get the same grade on the project!
- You must bring teamwork issues to attention of the instructor

# Team Project....Warnings!

Requirements (for each Phase) will be provided, and your project must meet minimum requirements

- This only gets you a 80% - need to innovate to earn more!

**You have to submit a working project**

- No partial credit if your project does not work – you get a zero!



# What is a working project ?

Must meet all the specifications

Must have correct and complete workflow

- Workflow specified in the assignment

“Reasonable” user interface

- Easy to use
- You have to come up with “easy to use” based on user interfaces you have seen/used.

Extra features – after you have a working system

# Working in Teams

Each team works on their assigned project

Team members have to take lead on some aspect of the project

- Workload distribution is important
- Grades for team members can vary based on the project evaluation of each aspect of the “product” you produce

Every team member has to contribute to all aspects of ‘full stack’ development

- You can’t work on just HTML/CSS !!

We will be using some of the weekly class sessions (lecture or lab) for teamwork – but this is not enough to work as a team!



# Team Assignment

We will assign you to a team of ~3 students

Be sure to fill out the Team Preferences survey

- Matching up teams is difficult, so you don't get much input... such is life

# Weekly Tasks Timeline

The Phase1 projects are due Wednesday March 31<sup>st</sup>

- You will give a demo, and work through a series of testing steps

There are going to be weekly checkins – required!

- Update your Mentors/Program Managers
- in the classroom, office hours,....

Deliverables after week 1, 2, 4

# Important: Asking Clarification Questions

This is a mimicry of a 'real world' DB system design and delivery

- Client gives project you have only a few opportunities to clarify
- You cannot assume client is available 24-7 to answer your emails

Each team is allowed FIVE questions by March 8<sup>th</sup>

- You must post as an Issue in Github
- You should NOT post your project clarification question to Slack
- This violates policies

Each team is allowed FIVE additional questions on March 24<sup>th</sup>

Posts to Slack can only ask about general Python, MySQL, etc. issues and NOT about your project

# Project Deployment

Your final project will be deployed on **our** server

You should have a separate development environment

- Install Python+MySQL on your laptop...but this only works for you
- AWS !!

Do all our development on your dev platform, and push final code to production machine

Yes, a bit more work thrown your way...BUT you will learn important new tools/skills

# How to complete the project and learn

## Start early

- This is a substantial project – waiting to last minute is recipe for disaster

## Communicate regularly with the team

Bring team issues to the attention of the instructors

ASAP

The project is deliberately open ended in some aspects

- You have to think through and come up with solutions or design decisions
- Design decisions should be justifiable based on common practices, sample systems, and/or constraints

Testing, Testing, and more testing!

# Homework....due after exam

Meet your team

Ensure everyone has AWS and VS Code setup

- Attend Office hours!

Read the project specifications individually BEFORE you meet as a team

- Sometimes “group think” can put blinders on our creativity and ability to identify problems...
- So individual reading following by team discussion

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Demo time!

# Shopping Cart HW

Mini-project to bring together all the technical skills we have covered in Labs and HWs

Build a simple web store. Users can...

- Display products divided up by category
- Search for products
- Add products to a temporary shopping cart
- Checkout to finalize a purchase and track quantities
- View a history of past orders

*Sessions*



# ER Modeling Reminder

A veterinary clinic wants to track information about its customers (human and animal). Pet owners have a name and account ID. Pets have a name, age, and weight. Whenever a pet comes for an appointment we must record a date, symptoms, and diagnosis.

