Introduction to Database Systems: CS380

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Meeting Time
Please read the syllabus before next class!!

- Lecture, Discussion, Presentations, and Group Work:
  - Monday, Wednesday, Friday 10:00AM - 10:50AM, Alden Hall, Room 109

- Laboratory Session:
  - Wednesday 2:30PM - 4:20PM, Alden Hall, Room 109
Instructor’s Office Hours’
Please make an appointment first!

- Monday and Friday: 1:30 pm – 3:30 pm (15 minute time slots)
- Wednesday 4:30 pm – 5:30 pm (10 minute time slots)
- Thursday 1:30 pm – 2:30 pm (10 minute time slots)

To schedule a meeting with me during my office hours, please visit my Web site and click the “Schedule” link in the top right-hand corner. Now, you can view my calendar or by clicking “schedule an appointment” link browse my office hours and schedule an appointment by clicking the correct link to reserve an open time slot.
Websites
Please read the syllabus before next class!!

- My website:
  http://www.cs.allegheny.edu/sites/obonhamcarter/

- Course webpage:
Introduction to Class
Instructor’s Office Hours
Overview
Consider this!
Group work

Textbook

Course Overview

- Database systems
- Data models
- Database design
- SQL
- XML
- Object-based databases
- Data Warehousing and Mining
- Distributed Databases
- NoSQL
- Graph databases (i.e., Neo4j)
- And more!!
What is a Database??
Some ideas...

- “A set of information held in a computer” - Oxford English Dictionary

- One or more large structured sets of persistent data, usually associated with software to update and query the data” - Free On-Line Dictionary of Computing

- “A collection of data arranged for ease and speed of search and retrieval” - Dictionary.com
Database systems allow users to ...

- Store
- Update
- Retrieve
- Organize
- Protect their data.
Database Systems

A database system consists of ...

- Data (the database)
- Software
- Hardware
- Users
- (We focus mainly on the software)
Let’s Discuss...

So, why study database systems??
Databases are useful

- Many computing applications deal with large amounts of information
- Database systems give a set of tools for storing, searching and managing this information

Databases in CS

- Databases are a core topic in computer science
- Basic concepts and skills with database systems are part of the skill set you will be assumed to have as a CS graduate
Applications of Database
Where do databases help in business?

FedEx and information handling
https://www.youtube.com/watch?v=lSZdKK14zgg
How do you think FedEx uses its database systems?
Databases and FedEx

- All package information must be easily accessible
- APEC tariff database: An Internet-base customs and trade database
- COSMOS (Customer Operations Service Master On-line System): A computerized package tracking system
Introduction to Class Overview

Consider this!

Group work

Group Work Discussion

General applications of databases

1. Chose one application of a database.
2. Describe how databases are used in that application.
3. What is the data in your application?
4. Who are the users of the application or database?
5. Share one an important and interesting fact that your group uncovered concerning databases in your application.
6. In your opinion, how could this work be done without the database?