

CISC3321 – Final Project Overview

Teams will be assigned (or choose) one of the following topics. In addition to outside of the classroom meetings, teams will work in class to develop analysis and designs utilizing use cases and the CRC Cards. After the design phase, teams will enter the implementation phase where they will implement their project. Completed projects will be presented in class in front of a panel (the team with the best project will be awarded 5 extra points each). Following the class presentations, group working on the same topic will be asked to defend their design decisions. Each group will evaluate its members' participation in the project and this evaluation could affect each individual's grade.

1. **Support Log** – A software technical support log at the software company where you just start working maintains a log of phone calls and email requests from customers, name of the technician providing the support, date and time of the request, was the problem resolved and how. The current system keeping all of this technical information is just too darn difficult to maintain and a pain to extend. You and your team's job is to completely redesign this system using object oriented techniques and principles, some of which are described in the overview. Feel free to discuss with your Boss (Professor) any addition (s) to the log you deemed necessary.
2. **Car Dealer Inventory** – One of the local car dealerships is having difficulties with its current inventory system. For once, the system isn't real time. Products are sold and bought, but the system does not reflect that until some times later. As a result of this frustration, the manager decided to hire your team to bail them out of this set back. Your team's job is to completely redesign this system using object oriented techniques and principles, some of which are described in the overview. Feel free to discuss with the manager (Professor) any addition (s) to the inventory you deemed necessary.
3. **An Aspiring Writer** – As an aspiring writer, you are involved in various writing projects to get you off the ground that it becomes too difficult to track your progress. You figure that you need a system to help you organize your work. The system consists of various writing projects, such as articles for newspapers and magazines, short stories and books. In addition, you often take short term ad hoc assignments, such as reviewing and editing jobs for publisher. You and your team's job is to completely design this system using object oriented techniques and principles, some of which are described in the overview. Feel free to discuss with your Agent (Professor) any addition (s) to the system you deemed necessary.
4. **Shipping Services** – A local parcel shipping business received a lot of complaints from its customers about the efficiency and the time it takes to deliver packets. The manager, in a letter to customers, blames it on the old tracking system and promise to fix it by hiring your team. You and your team's job is to completely design this system simulating a parcel shipping service that keeps track of parcels received from customers for delivery, the destination, receiver, method of transportation and delivery date, using object oriented techniques and principles, some of which are described in the overview. Feel

free to discuss with the manager (Professor) any addition (s) to the system you deemed necessary.

5. **Skills Tracking System** – CGI, an IT company has just moved to Belton, Texas. In their effort to improve the company's workforce, it has hired your team to develop a Skills Tracking System (STS) providing relevant information on potential employees. CGI Administrators anticipated this to be a huge system consisting of many job seekers each with unique skills set. Your team's job will be to design this system so that CGI hiring managers can browse the STS system examining various skills sets. You should design this system using object oriented techniques and principles, some of which are described in the overview. Feel free to discuss with the manager (your Professor) any addition (s) to the system. You should design your system so that the hiring managers have the flexibility to choose how to browse the system. For instance, they can browse the system by names (alphabetically), key word, field of major (specialty), experience, type of degree (AA, BS, BA, MA, PhD, etc.). Feel free to be creative by adding whatever you team deems necessary to make the STS as useful as possible, provided that you discuss it with your manager (Professor).

Tips to Getting Started

- Who are the people using this system daily?
- Identify primary and secondary actors, which may include other software systems
- For each actor, identify use cases through questions
- Describe current business process of proposed system
- Iterate and have user validate

CISC3321 – Project Assignment Details

Project assignments will be performed according to the groups formed in the class. Group members will be asked to rate the level of effort expended by other team members. Results may be used as a factor in determining an individual's project grade.

Teams are to use their OOA/D topic and perform the following:

- Utilize your use case template and CRC Cards as the basis for your analysis and design and refine as necessary to prepare for implementation
- Implement a prototype program in C#, feel free to use GUI if desired, to demonstrate for “customer feedback.” This should be a well-polished first attempt at communicating your understanding of the requirements to your customers. You may choose to fully implement a crucial subset of classes that accomplish some goal, or you may want to focus on implementing a small set of important use cases. Note that your console or GUI (if you choose this route) application may include some “bells and whistles” that are not fully implemented but stubbed out to demonstrate that you understand that particular requirement. Try to be creative in demonstrating the functionality of your program.
- Partition the work among team members
- See “Project Guidelines” for specific deliverables.
- Be prepared to present your project in class during the presentation week (order of presentation will be decided later).

CISC3321 – Project Guidelines

Presentation and project due date: Last two weeks of classes

- Everyone must be prepared to present during this time (order will be decided later). The presentation must include:
 - a. Demonstration of your executable program
 - b. PowerPoint presentation describing your project (corresponding to analysis and design, among other things)
 - c. UML diagrams in PowerPoint or similar format
- Project Deliverables include:
 - a. Project file of the source code
 - b. PowerPoint presentation
 - c. UML Diagram in PowerPoint or similar format (items a-c must be included in a zip folder)
- **NO LATE PROJECTS OR PROJECT PIECES WILL BE ACCEPTED. DEADLINE IS THE BEGINNING OF THE CLASS ON THE PRESENTATION DATE. NO SECOND CHANCES FOR WRONG PROGRAM, NON-WORKING PROGRAM, OR MISSING CLASSES, WILL BE GIVEN.**
- One or more team members may give the presentation
- Point values are as follows:
 - a. C# source code - 25
 - b. PowerPoint presentation – 10
 - c. Classroom presentation/demonstration - 5
 - d. UML diagrams – 10
 - e. Participation – 5

Total Point – 50
- UML diagrams must include at least:
 - a. Class diagram with relationships
 - b. Use case diagrams with relationship
 - c. One of the following: robustness, sequence or collaboration diagrams

CRC Card Syntax Example

Book – the set of objects that represent books that may be borrowed from the library

Back of the card

Book	
Super class: Lendable: Lendable:	
Know borrower Know due date Checkout	Date Fine

Front of the card

Conducting a CRC Session

- Brainstorm possible classes from the domain. Each person takes the responsibility for being a class.
- Select a scenario. Identify and allocate new classes and responsibility as the scenario unfolds.
- Each person is to focus on their own class: I am a bank account, I know my own balance and I have to watch out going overdrawn.
- The list of classes will grow and then shrink as the team filters out the good ones.
- The interaction should be recorded when a consensus is reached

CRC Good Practice

- Start with the simplest scenario
- Take the time to select meaningful class names
- If in doubt, act it out!
- Lay out the cards on the table to get an intuitive feel for the system structure
- Be prepared to be flexible