WEEK THIRTEEN

Acknowledgements: Slides created based off material provided by Dr. Travis Doom

OBJECT-ORIENTED DESIGN EXTRA CREDIT

- Group of 5-6 students
- Design the class structure for a given problem using UML
- Utilize good object-oriented design concepts
- Topics to think about/discuss
  - Data structures, class/object, static/non-static, encapsulation, access modifiers, getters/setters, this/super, constructors, inheritance, overload/override, polymorphism, etc.
- To earn extra credit, you must
  - Participate in your group's design discussion
  - Explain an object-oriented concept related to your design

SECTION-02: LIBRARY APP

- Design a library application
- At a minimum, it should be capable of storing and searching for books
- May also consider:
  - Tracking library users
  - Systems for checking books out and returning books
  - Other media formats
  - Get creative!
- Topics to think about/discuss
  - Data structures, class/object, static/non-static, encapsulation, access modifiers, getters/setters, this/super, constructors, inheritance, overload/override, polymorphism, etc.

SECTION-01: ONLINE GAME STORE APP

- Design a game store application (think Steam)
- At a minimum, it should be capable of managing and selling video games
- May also consider:
  - User accounts
  - Sorting games by various pieces of information
  - Supporting adding new reviews
  - Get creative!
- Topics to think about/discuss
  - Data structures, class/object, static/non-static, encapsulation, access modifiers, getters/setters, this/super, constructors, inheritance, overload/override, polymorphism, etc.

SECTION-03: RESTAURANT APP

- Design an application to simulate a restaurant
- At a minimum, it should be capable of placing orders and calculating totals
- May also consider:
  - Tracking an order's status
  - Calculating tax and tips
  - Supporting a menu
  - Get creative!
- Topics to think about/discuss
  - Data structures, class/object, static/non-static, encapsulation, access modifiers, getters/setters, this/super, constructors, inheritance, overload/override, polymorphism, etc.

SECTION-04:

- Design a music listening application (think Spotify, Apple Music)
- At a minimum, it should be capable of storing and searching for songs/albums
- May also consider:
  - Tracking statistics for a specific user's listening habits
  - Ability to pause, skip, shuffle, repeat
  - Various formats: music, podcast, audiobook
  - Get creative!
- Topics to think about/discuss
  - Data structures, class/object, static/non-static, encapsulation, access modifiers, getters/setters, this/super, constructors, inheritance, overload/override, polymorphism, etc.