ComS 362 Spring 2018 Mid-Term Prep
Vocabulary/Concept List

Basic Design Principles

- Information Hiding
- Separation of Concerns
- Abstraction

Code Smells (See The Chapter in Fowler's Patterns book)

- Duplicated Code
- Long Method
- Large Class
- Primitive Obsession
- Inappropriate Intimacy
- Data Class

Paradigm

Design Paradigms

- imperative class
  - naïve (Primitive obsessed)
  - procedural design (eg top down successive refinement)
  - modular design (later structured design techniques)
  - object-oriented design
- functional class
  - functional design

UML Diagrams

- Use Case Diagram
- Domain Model Diagram (restricted class diagram)
- Collaboration (old) or Communication (new) diagram
- For each
  - what is its purpose – its reason for existing?
  - Where does it fit in the analysis process? design process?
  - How do we use it during analysis and design?

CRC Cards

Refactoring

Encapsulation

Use Case Related

- Use Case
- Actor
- Stakeholder
- Goal
- Scenario
- Alternate Scenario
- Exceptional Scenario
- Scenario Extension
- Included Scenario or Included Scenario Fragment

Domain Model Related

- Domain Model
- Role
- Class
- Association
- Multiplicity
- Attribute

Requirements

- Functional Requirements
- EARS

Object Oriented Analysis vs Object Oriented Design

GRASP Patterns

- Expert
- Creator
- High Cohesion
- Low Coupling
- Controller

Complexity

- Complexity and Abstraction
- Detail Complexity
- Accidental Complexity
- Essential Complexity

Related Historically Significant Papers

- Dijkstra “On the Role of Scientific Thought”
- Parnas *“On the Criteria to Be Used in Decomposing Systems into Modules”*
- Dijkstra “Goto Considered Harmful”
- Beck “CRC Cards”
- Wirfs-Brock *Object Design: Roles, Responsibilities and Collaborations (book)*