

# CS 440: Introduction of Software Engineering

Spring 2012

## Design Document

Your next submission, as part of the project, is the Design document. Given below find the format of the design document.

**For the Object Oriented Approach:**

### 1. Introduction

This section provides an overview of the entire design document when the design is done using classical approach. This document describes all data, architectural, interface, and component-level design for the software.

#### (a) Preface

Overall goals and software objectives are described.

#### (b) Scope

A description of the software is presented. Major inputs, processing functionality, and outputs are described without regard to implementation detail.

#### (c) Definition of Acronyms

An explanation of each abbreviation is presented here, if any one is used in this document.

### 2. **Class Diagram** The completed class diagram including the types and sizes of all attributes together with the methods for each class.

### 3. Detailed Design

For each method

#### (a) Method interface description

A detailed description of the input and output interfaces for the method is presented.

- (b) Local data structures
  - (c) Algorithm for the method (e.g., PDL) (this is the psuedo code for the algorithm)
4. **User Interface Design** (Need not be given, if already in the specification document)
- A description of the user interface design of the software and also of all the reports is presented.
- (a) Description of the user interface
 

A detailed description of user interface including screen images or prototype is presented.
  - (b) Screen images
 

Representation of the interface form the user's point of view.
  - (c) Objects and actions
 

All screen objects and actions are identified.
5. **Appendices**
- Presents information that supplements the design specification.
- (a) Requirements traceability matrix
 

A matrix that traces stated components and data structures to software requirements is developed.
  - (b) Supplementary information (as required)

**For the Classical Approach:**

Item 2 consists of the "Architectural Design". Here a pictorial representation of the architecture is presented.

Item 3 consists of detailed design of each componenet as give below. This section is repeated for each component.

1. Component  $n$  interface description
 

A detailed description of the input and output interfaces for the component is presented.
2. Local data structures
3. Algorithmic model (e.g., PDL) (this is the psuedo code for the algorithm)

All the other items remain same.