

Milestone 4

System Design and Detailed Design Documents

CSCI 3130 – Summer 2011

Due: June 10, 2011

Purpose: The software design document helps to determine whether all necessary requirements have been addressed. In addition, it provides a forum to discuss design elements which do not align with a requirement in order to determine whether the design element is necessary. The software design document details the system architecture. During the development and reviews of the software design document, the system architecture will be finalized and any gaps, defects and/or inconsistencies should be resolved. The software design document gives the software development team an overall guidance of the architecture of the software project. The document should be as detailed as possible in order to keep the software development team focused and aligned. It also serves as a training manual for any new project members. In addition, the software design document may be used as a training manual throughout the life of the system.

Deliverables: A complete set of design documents that cover both the architectural level and the detailed design level. Taken together the design documents should cover the architecture, description of module level system design, and documentation associated with database schema and UI as required. The goal is a paper investigation of the system design that can be refined before it is frozen in code. The design documents should also support verification that the system meets the requirements described in the SRS and support the creation of test plans and cases.

See the class schedule (http://web.cs.dal.ca/~hawkey/3130/3130_schedule.htm) for examples and templates.

As you develop and refine your design documents, keep the following assessment criteria in mind:

- **Completeness:**
 - Are all levels/components of the design (architecture, static structure, DB, UI, ...) clearly articulated?
 - Are design decisions documented as completely and as thoroughly as can be known at the present time?
 - Does every design decision documented have only a single interpretation that is the same for both those who produce it and those who read it?
- **Consistency:**
 - **Upward Consistency:** Is the design documentation consistent with higher-level documents (e.g., System Requirements Specification, Project Charter, etc)?
 - **Lateral Consistency:** Are the design documents at the same level consistent with each other (e.g., Database Design Document, Human Interface Design Document, etc)?
 - **Internal Consistency:** Is each design document internally consistent in that all design decisions that it contains are compatible?

- **Organization:**
 - Does the design documentation have a coherent, easy-to-use organization?
 - Are the design decisions neither redundantly stated nor intermingled?
- **Usefulness:**
 - Can you confirm based on these design documents that the requirements specified in the SRS are likely to be met?
 - Could a set of talented programmers build the system using these design documents as a guide?
 - Could a Quality Assurance group specify a good test plan and set of test cases using the SRS and these design docs as a guide?