

**SE 3K04 Lab 3: (Fall 2009)**  
**Software Design Specification – ABM System**  
**Instructor: Dr. Kamran Sartipi**

Design Specification and preparation of the SDS document

Week of October 5, 2009

## **1 Lab Overview**

In each lab session of this week, the TA will present a detailed and complete description of the requirement specification of the whole ABM system for all groups in the lab.

Through this laboratory session you shall be able to achieve the following two objectives:

1. Fill all the gaps you may still have regarding the different software requirements of the ABM system.
2. Produce the first version of your Software Design Specification (SDS) document, based on the complete software requirements presented in the lab.

## **2 Lab Requirements**

Every group is expected to take notes of the presented requirements. Based on these requirements, your group should design the architecture of the ABM system using components (i.e., *User Interface*; *Transactions*; *Bank Interface*; *Staff Operations*) and their corresponding interactions.

The resulting diagram is called Component Diagram and represents the services that each component provides to other components through their interfaces. The interactions among the components are modeled by Statechart diagrams that specify the sequence of service invocations triggered through external or internal inputs.

For this lab you will be required to use SDS1 template posted on the course web-site. The most important part of the first version of your SDS document will be the Component Diagram and the corresponding Statecharts. Make sure to delete all of the comments and update your table of contents, as well as to add a List of Tables and a List of Figures to your final document.

### **2.1 Introduction (15 Marks)**

Follow the template guidelines closely and use any relevant information you have already included in the SRS document. Make sure to specify how the different system requirements affected the design of the system in your System Overview section.

## **2.2 Architecture (40 marks)**

The Architecture section is one of the most important sections of your document. Make sure to confirm your Component Diagram with your TA, before leaving the lab. In this section you are also required to discuss the different non-functional qualities achieved by your architecture. These qualities include: maintainability (i.e., less interaction among the components) and understandability (i.e., clear and simple interfaces).

## **2.3 High Level Design (40 marks)**

You will be using the Statechart diagrams to specify the control view of your high level design. In this document you should include the following Statechart:

- Statechart diagram of the entire system representing the interactions between the different components through their interfaces.

## **2.4 Group Log (5 marks)**

As with the SRS, include an Appendix where you will specify all of the group-work related activities that you undertook in order to produce the first version of your SDS document.

GOOD LUCK!