Deliverable #2 Template

SE 3A04: Software Design II – Large System Design

1 Introduction

The following document is a description of the desired interaction between the intended user and the systems, as well as the architectural details of the software.

1.1 Purpose

The purpose of this document is twofold. First, it is to provide a higher-level view of the system, using simplified graphical representation of what the system must do. Second, it is to provide a basic general guideline for architectural implementation of the systems within the software. The intended audience of this document is mainly focused for the developers of the software by generalizing the internal details of the software, however any stakeholders may find the document of interest as the functional requirements are conveyed here.

1.2 System Description

SpaceBase Ephemeris (SBE) is a real-time system that simulates a human settlement on a foreign planet, named Ephemeris. The simulation takes place in a distant future where technology has improved to sustain humankind on extraterrestrial planets which are otherwise uninhabitable. As a commander of the base, the user has the responsibility of manipulating the sub-systems to ensure all of the key operations are functional, and possibly ideal. The three subsystems are power control, atmospheric simulation, and the station personnel.

1.3 Overview

The first part of this document provides a graphical representation of the functional requirements of the software and how it must interact with the intended users using an use case diagram. The remainder of the document provides guidelines for internal design of the software, using an analysis class diagram, a detailed discussion on the architectural design of the system, and a series of class responsibility collaboration cards.

2 Use Case Diagram

This section should provide a use case diagram for your application.

a) Each use case appearing in the diagram should be accompanied by a text description.

3 Analysis Class Diagram

This section should provide an analysis class diagram for your application.

4 Architectural Design

This section should provide an overview of the overall architectural design of your application. You overall architecture should show the division of the system into subsystems with high cohesion and low coupling.

4.1 System Architecture

a) Identify and explain the overall architecture of your system

b) Be sure to clearly state the name of the architecture

c) Provide the reasoning and justification of the choice

d) Provide a structural architecture diagram showing the relationship among the subsystems (if appropriate)

4.2 Subsystems

a) Provide a brief description of each subsystem. Be sure to document its purpose and relationship to other subsystems.

5 Class Responsibility Collaboration (CRC) Cards

This section should contain all of your CRC cards.

a) Provide a CRC Card for each identified class

b) Please use the format outlined in tutorial, i.e.,

Class Name:	
Responsibility:	**Collaborators:**

A Division of Labour

Include a Division of Labour sheet which indicates the contributions of each team member. This sheet must be signed by all team members.

IMPORTANT NOTES

- Please document any non-standard notations that you may have used
  - *Rule of Thumb*: if you feel there is any doubt surrounding the meaning of your notations, document them
- Some diagrams may be difficult to fit into one page
  - It is OK if the text is small but please ensure that it is readable when printed
  - If you need to break a diagram onto multiple pages, please adopt a system of doing so and thoroughly explain how it can be reconnected from one page to the next; if you are unsure about this, please ask about it
- Please submit the latest version of Deliverable 1 with Deliverable 2
  - It does not have to be a freshly printed version; the latest marked version is OK
- If you do NOT have a Division of Labour sheet, your deliverable will NOT be marked