LABORATORY MANUAL

CE2006/CZ2006/CE207/CSC207: Software Engineering
SWLAB3 (Location: N4-B1C-14)

SCHOOL OF COMPUTER ENGINEERING
NANYANG TECHNOLOGICAL UNIVERSITY

Overview

1. INTRODUCTION

The laboratory sessions form an integral part of the student's learning in this course.

Students will put into practice concepts and skills learnt in the lectures and tutorials, in the context of a real-world problem. They will solve the given problem with tools and practices commonly used in industry.

They will traverse the entire Software Development Life Cycle to deliver a medium-size project in a team. Students will contribute to different types of SDLC work products e.g. requirement, design, code, test cases.

The project is to be scoped such that it can be completed by a team of 4~6 students within 10 weeks.

2. SOFTWARE TOOLS

The following tools are available for use in the lab. Students must prepare their development environment accordingly. The lab technical executives are able to help with installation and configuration issues. Students may use other software tools that they deem relevant to their projects. However, there is no support for these tools.

Name	*Description*
SVN Server 2.5	Source Repository
TortoiseSVN 1.7	Subversion Client
MySQL 5.5 (Community Edition)	Database Server
Java SE 1.7	JDK (Java Development Kit)
Netbeans 7.2	IDE (Integrated Development Environment)
Eclipse	IDE (Integrated Development Environment)
Visual Paradigm 10	UML Modelling Tool
Android SDK	adt-bundle-windowsx86_64-20140321

3. **ROADMAP**

The lab sessions will guide students in building the system step-by-step, culminating in a demo where students will showcase their work.

	Lab Focus	*Deliverables*
Lab #1	Requirements Elicitation (2 Weeks)	• Functional Requirements • Non-Functional Requirements • Data Dictionary • UI Mockups • Initial Use Case Model
Lab #2	Requirements Analysis (2 Weeks)	• Complete Use Case Diagram • User Case Descriptions • Class Diagram of Entity Classes • Identification of Major Boundary Classes and Control Classes • Sequence Diagrams of some use cases • Initial Dialog Map (State Machine of System UI)
Lab #3	Design and Implementation (**5 Weeks**)	• Complete User Case Descriptions • Complete Class Diagrams • Complete Sequence Diagrams • Complete Dialog Map • System Architecture • Application Skeleton
Lab #4	Implementation, Testing, and Preparing for Demo (2 Weeks)	• Test Cases and Testing Results • Working Application • Demo script
Lab #5	Project Demo and Submission (Week12 or Week13)	• Live demo • Final documentations • Peer reviews

In Lab#1, you will form a team of 4-6 people by yourself. You need to elect a team leader. The teams, once formed, shall not be changed unless there is a need due to changes during the add/drop period or other operational issues agreed by the Lab Supervisor.

Lab activities will mainly happen in between lab sessions. Your team should work together to produce the required deliverables.

During the Lab#2 (Lab#3 or Lab#4), your lab supervisor will evaluate your project progress against the required deliverables of the Lab#1 (Lab#2 or Lab#3).

Final documentations and peer reviews are due on 23:59:59, ending Sunday of Week 12 for the teams who demo in Week12, or 23:59:59, ending Sunday of Week 13 for the teams who demo in Week13.

4. **ASSESSMENT**

Team mark

- Continuous assessment: 15% (5% each for Lab#1/Lab#2/Lab#3 deliverables)
- Live demo: 20% (must be done in the Lab#5)
- Final documentations: 15% (due on Sunday midnight **after** your demo)

Individual mark

- team_mark X individual_contribution_weight determined by Peer and Supervisor assessment

Continuous assessment

- Ensure that the teams follow the SDLC steps properly and make good progress towards the final demo
- Correctness of the deliveralbes is **NOT** the focus of the continuous assessment. Deliverables can still be revised in the subsequent lab sessions.
- Use three levels of criteria
    - Perform the required SDLC activities and produce a clear collection of all the required deliverables
    - Start the required SDLC activities and produce some required deliverables
- Please submit the required lab deliverables to your dropbox or GoogleDrive repository before the lab starts.

Live demo

- Demonstrated understanding of the SDLC activities throughout the project
- Demonstrated system functionalities against requirements specification

Final documentations

- Completeness and correctness of the final documentations
- Effective use of good software engineering practices, architecture, design

Individual mark

- individual_contribution_weight will be calculated based on peer reviews