

## CS446102 Software Engineering Homework 3 (Group)

(Notes) Students should work as a team and please follow the format to upload the homework.

(註) 請以組為單位完成本次作業，檔案格式請參照最後的說明。

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In this homework, every group needs to design a system. The system can be any projects you have done before, e.g., any assignments or your own systems. The LOC of the system should range from between three hundred to ten thousand.

You need to hand in the system code and testing code (20%). You also need to write some documents for (1) requirement analysis (20%), (2) system design (20%), (3) testing (20%) and (4) maintenance (20%).

For each document, the items below are must-required, but you don't need to use the same name. You must explain them in detail. You can add items which are not mentioned below. It may lead to higher score for the assignment.

There are some hints to show you the tools you may use during the procedure or to write the document. Kindly remind you that you don't have to use exactly the same tool as we mention. It will be better and easier for you if you combine this homework with your final presentation.

### (1) *Software Requirements Specifications*

- Requirement analysis
- Introduction of the system
- Schedule for developing the system
  - Hint: WBS, Gantt Chart
- Others

### (2) *System Design*

- Diagrams
  - Hint: eMUL2, Enterprise Architect
- Others

### (3) *Software Testing*

- Testing plan
- Test case
- Test procedure

- Test coverage
    - Hint: gcov
  - Others
- (4) *Maintenance plan guideline*
- Maintenance Plan
  - Maintenance log and record
  - Maintenance tool
    - Hint: SVN, git
  - Others

## **Reference**

We recommend you to read the following reference for each documents. After reading the following documents, it will be much easier for you to do the assignments.

(1) *Software Requirements Specifications*

- IEEE Recommended Practice for Software Requirements Specifications.pdf
- 經濟部工業局軟體需求分析作業規範.pdf
- 數位典藏國家型科技計畫軟體需求規格書.pdf

(2) *System Design*

- IEEE Recommended Practice for Software Design Descriptions.pdf
- 經濟部工業局軟體設計作業規範.pdf

(3) *Software Testing*

- IEEE Standard for Software Test Documentation.pdf
- IEEE Standard for Software Unit Testing.pdf
- 經濟部工業局軟體整合與測試作業規範.pdf

(4) *Maintenance plan guidelines*

- IEEE Standard for Software Maintenance.pdf
- Software Maintenance Support Plan-v1.0.pdf
- 經濟部工業局軟體維護作業規範.pdf

## Format

Each small group need to hand in the code and three reports and pack these three folders into a zip file. The format is as below:

<SE\_HW3\_Group\_number>.zip

- Software Requirements Specifications.pdf
- System Design.pdf
- Software Testing.pdf
- Maintenance plan guidelines.pdf
- <System\_name>.zip

For example,

SE\_HW3\_Group\_13.zip

- Software Requirements Specifications.pdf
- System Design.pdf
- Software Testing.pdf
- SELAB\_system.zip

## Notice

**COPY will get zero!!**

**Deadline: June, 8, 23:59**

The following situation will surely lead to the deduction of your score:

- Not following the format
- Wrong-spelling in the documents
- Delay:
  - 1 day : \*0.9
  - 2 days: \*0.8
  - More than 2 days: **0**
- **You need to demo this assignment.** Please keep track on the announcement for the demo time.

If you have any questions, please feel free to contact TAs 😊