**SE 2014 Spring Term Project**

**Development of Design Structure Matrix (DSM) Tools**

**제출 마감일 :** **June 4, 수요일.**

**프레젠테이션:** 수업 시간 중 각 팀 별 2~3회

**팀 구성:** 4~5명 (최종 문서에는 팀원 개개인의 역할을 명시할 것)

**평가 기준:** 데모 평가 + 발표 + 개발 관련 Document (Design / Implementation / Test Report)

**Project Description:**

The goal of this project is to develop a DSM tool helping the software designers to understand the overall dependencies of the software modules so that they can manage/improve the software design. Its basic functionalities include edit and visualize DSM. You may want to refer to a similar extant product such as Titan which you can download from the eclass. The author provides a summary of Titan stating that "Titan is a DSM viewer tool that accepts DSM (.dsm) files. After opening a DSM, the user can also load a clustering file (.clsx) to order the DSM in the predefined order. Or, the user can cluster the DSM using the GUI of Titan and save the clustering into a .clsx file" (<http://rise.cs.drexel.edu/projects/>). – Currently, download link in the web-site is not working (2014.04).

**Presentation 1:**

1. 팀원 및 역할 소개
2. 개발 프로세스 선택

* Waterfall Model / Incremental Development 중 택 1

1. 개발 일정

* 선택한 개발 프로세스에 대한 Activities 일정 계획표

**Presentation 2:**

1. 프로젝트 일정 대비 진행상황 보고
2. 중간 산출물 소개

* Design documents(Class Diagram, Sequence Diagram, etc.)

**Presentation 3:**

1. 팀 프로젝트 장점 소개

* 아키텍처 구조, 구현 방법, 테스트 방법, 효율적 과제 수행 방법 등 자유롭게

1. 프로젝트 최종보고 및 평가

* 일정 대비 진행결과 분석, 기능적 요구사항 달성률 평가

**Submission Materials:**

**Final document**

* program description
* development process model
* overall design (class diagrams, sequence diagrams, etc)
* **must explain how MVC architectural pattern was applied to your design**
* **must explain how your program was tested**
* **must explain how object-oriented design principles were applied to your program**
* usage of your program and the screen shots of examples
* NOTE: In case your program is not fully functional, you should mention those limitations in detail.

**Programs and data**

* source code (softcopy)
* test data files (softcopy)
* final document (softcopy)

**I/O Requirement:**

Your program should be able to read .dsm and .clsx files which are generated by Titan. Refer to the samples in "data dir" for detailed file format. Also, the .dsm and .clsx files generated by your program should be readable by Titan, too.

**Functional Requirement :**

On top of the functions provided in Titan, there is a major extension to Titan for this term project.

The extension is that your program should allow the user to edit (i.e., add and delete) the dependencies between the modules and edit (i.e., add, delete, rename) the modules.

The following menu descriptions reflect the changes due to the above extension. You will see that most of the menus are equivalent to those of Titan. The rests are newly defined for this term project.

File Menu

* **New DSM** **(New functionality: The program should ask *n* the number of rows. Then initializes the name of each row as "entity\_1", "entity \_2", ... , and "entity \_n")**
* Open DSM (equivalent to Titan)
* **Save DSM (New functionality: Save the current DSM into the disk)**
* Save DSM As (equivalent to Titan's Export as DSM)
* ~~Export DSM as Excel~~ (DO NOT IMPLEMENT THIS)
* New Clustering (equivalent to Titan)
* Load Clustering (equivalent to Titan)
* Save Clustering (equivalent to Titan)
* Save Clustering As (equivalent to Titan)
* Exit (equivalent to Titan)

~~Metrics Menu~~

* ~~Propagation Cost~~ (DO NOT IMPLEMENT THIS)

View Menu

* Redraw (equivalent to Titan)
* ~~Find~~ (DO NOT IMPLEMENT THIS)
* Show Row Labels (equivalent to Titan)
* ~~Show Dependency Strength~~ (DO NOT IMPLEMENT THIS)

Help

* About (Name your team members)

Left panel menu

* Expand All (equivalent to Titan)
* Collapse All (equivalent to Titan)
* Group (equivalent to Titan)
* Ungroup (equivalent to Titan)
* Move Up (equivalent to Titan)
* Move Down (equivalent to Titan)
* Delete (equivalent to Titan)
* Rename (equivalent to Titan)
* **New DSM Row (New functionality: Add a new DSM entity)**