

# CSSE 490 – Model-Based Software Engineering

## Project Milestone 4

This final project milestone entails developing the last evolution of the Model-Based Software Engineering environment platform for the course. This version assembles pieces, uses lightweight transforms to configure components from the previous iterations of the “FacePamphlet” system, and uses moderate level transforms to generate the full “FacePamphlet” system.

Components in the repository will have four types of forms:

1. Models (e.g., analysis, architecture, design, implementation, etc.)
2. Language (e.g., source code, scripts, XML, intermediate transform languages, etc.)
3. Configurations (e.g., configuration files for specific customizations, etc.)

Using the components captured in the repository, the “FacePamphlet” system should be generated using the mappings for assembling the product and transformation rules for configuration and generation of specific capabilities and/or optimizations. Note that this is the final deliverable for the project and the documentation and code need to be in good shape to be evaluated for a grade.

### Objective

To design and build a next evolution of the Model-Based Software Engineering environment platform for assembling pieces from the third iteration of the FacePamphlet application from Milestone 3 and introducing transformation rules for optimization.

### Due Dates

Documents and code: 11:59 p.m., Friday, Week 9, (May 13<sup>th</sup>, 2011).

Demonstration of the capability should be given at the project lab also Friday, Week 9.

### Tasks

This is a summary of tasks that are detailed in the pages that follow.

1. Develop three scenarios to test the capabilities of the Face Pamphlet MBSE environment and document them (include them in the final project document) for the demonstration:
  - a. Generation of a version of Face Pamphlet that demonstrates the assembly of components and operation of the main features.
  - b. Generation of a version of Face Pamphlet that demonstrates the light-weight transforms for configuration and operation of the main features.

- c. Generation of a version of Face Pamphlet that demonstrates the moderate transform of components (e.g., optimization) and operation of the main features.
2. Like in Milestone 3, Design an initial metamodel that accommodates mappings from the components identified in the repository and the configurations along with any transform rules. Please include it in the final project document.
3. Develop the Design of the Face Pamphlet MBSE environment and include it in the final project document. Organize your Milestone 4 project and design document into the following structure:
  - I. Cover Page with Title, Date, Team # (and Name), and Names of Team members.
  - II. Table of Contents for the Document
  - III. Introduction—brief description of the problem space and solution approach
  - IV. Logical Architecture
  - V. Face Pamphlet MBSE Software Design. Remember to include metamodel from above along with relevant transformation rules and mappings.
  - VI. Demonstration scenarios outline in #1 above to Test the various elements of the system. These should also include the models (and rules) that were used to produce the applications in the end.
  - VII. Who done what table
4. Source code and configuration material on a CD.
5. Demonstrate that the Face Pamphlet MBSE environment you produced can produce the FacePamphlet application at your project lab on Friday of 9th week. Please make sure your instructor is able to access your code on SVN.

### Submitting Your Work

Please submit your Milestone 4 document with your operational scenarios, Logical Architecture, Software Design, and the like as a single document to the appropriate Angel dropbox. Please submit a **pdf** file with a cover page containing your Names, Assignment Title, and Date. Please name the document: **MS4-Final-MBSE490-Environment.pdf**.

Please organize your source code so that it can be readily navigated with an ordinary editor (since we may not have your IDE to import your code structures) and submit your source code to the Milestone 4 Angel dropbox as a single **zip** or **rar** file. Name your file FinalProjectCode with the appropriate extension (zip, or rar). For example, **FinalProjectCode.zip** or FinalProjectCode.rar.