**Software Engineering**

Professors M. Brian Blake and Iman Saleh

*Final Project Instructions*

 Software engineering is art of directing a group of engineers to design a major software module or application. This semester will be taught based on a group developing a final design document for a *real* company. Groups should contain up to 5 people. We will grade the assignments with consideration of the size of the group.

Your final design document should have the following contents in three major deliverables:

1. Problem Statement (1.5. to 3 pages)
2. Three Relevant Written Scenarios of how the system is used
3. System Diagram (shows how the system is situated in real-life – a picture)
4. Use Case Diagram with Use Case Templates for main use cases

**Deliverable Date: Mid-Feb (Check Syllabus)**

1. Class Diagram (Domain-specific)
2. Three Relevant Sequence Diagrams (should be similar to scenarios)
3. State Diagram of the class with control aspects
4. Cost Estimation Model and Justification
5. Preliminary software design (Class Diagram with the underlying software in mind)

**Deliverable Date: Mid April (Check Syllabus)**

1. Final Project Management Discussion (How long to build the software systems, how many resources, projected schedule, identification of unknowns and risks, total project cost)
2. Prototype software/Mock-up/COTS integration approach (The further you get within your requirements, the better your grade)
3. Lessons learned statement (1 page)

**Deliverable Date: Early May (Check Syllabus)**

*Graduate Students:* You *also* need to pick 1 advanced software engineering technique and incorporate it. We will talk about 3 in the course (Aspect-Oriented Design (AOP),

Design Patterns, Model-Driven Architecture (MDA))

These companies were invited to talk to you:

1. *DirtPros (Marcell Haywood, CEO)*
2. *Service-Centric Computing, LLC (M. Brian Blake, CEO and Instructor)*
3. *Rosetta (Software Manager, but Dr. Saleh will act as a substitute at times)*
4. *University of Miami IT (Justin Hahn, Medical School Information Systems)*
5. *FLITE Center (Kristen Guerrise)*