Day 7 Notes

3 projects + Term project – One month long each. Dr. Saad gives us a handout.

- **Project 1 (due Mar 8)** – Software Application Requirements
- **Project 2 (due Apr 2)** – Software Application Design
- **Project 3 (April 30)** – Software Application Implementation using CASE / OOP

**Term Project (Due by Final EXAM day)** –
- date: ?
- Term Project Presentation
- Term Project Integration of projects 1-3
- Some additional requirements related to the software development process.

The 1st 3 chapters – Why software engineering / modeling the process and life cycle / planning & managing the project.

What are we building? What does the user want? How do we capture the requirements? How do we commit to it?

**Chapter 4 – Capturing the Requirements.**

(slide 3) Definition of Elicit: To draw or bring out or forth.

(slide 8) – Customers don't always understand what their needs are. Dr. Saad has a friend who wants a mobile app that works on iPhones that can capture the history of a town. If tourists want to schedule a pickup/dropoff... They always have a vague idea of what they need. [Http://ossabest.org](http://ossabest.org) needed a web presence for the project. 2 IT tracks. Need to interact with teachers and students. They know their needs...

Can you declare victory after you have the SRS (Software Requirements Specification)... No, they'll come back asking for more functionality.

(slide 13) – Dr. Saad's assignment tries to get us to think about these issues. Expected deployment platform... Desktop? Distributed setup? And so on... Answers these to some degree and capture them in the requirements.

Functional requirements – What will the system do? When? What transformaiton to data must be performed? input/output format? Must the data be retained for any period of time? How many people?

Quality – Performance, accuracy, time to delivery... [Dr. Saad reference table 4.2 as a handout.](#)

Design constraints – Where is the equipment to be located? Environmental restrictions?

(slide 14) – Making the requirements testable... a module will encapsulate the data representation of at most 1 data type. Computation errors must be fixed within 3 weeks of report. System shall not be unavailable for a max of 3 minutes a year. Mean time should be no less than a year...
In this course, let’s focus on essential with some desireable on the side. Optional isn’t mission critical.

XML – DTD=data type definition. The other one? A complete listing of everything the customer wants...

Are the requirements feasible? You can’t have the same response time for remote users as local users. Testable- Can the software pass a test to determine if it meets the requirements or not? Are the requirements organized and uniquely labeled? How do you document the requirements?

Dr. Saad would like a UML diagram like this slide for our application. If students have ideas about the latest cutting edge IBM process modelling or flow processing, he’s open to ideas about emerging tech. We need something concrete to work with, such as this UML diag. Http://vinci.org/uml/class.html - Which one is the “has a” and which is the “is a?”

What would event trace capture for us? What is the UML diagram describing? ENTITIES and how they RELATE to eachother.

Message sequence chart... Ivan thinks UML is a redundant way to convey info as a whole. We got stuck with it. For the project, Dr. Saad wants to know how we’re going to describe our software requirements. For what it’s worth, Dr. Saad will discuss the techniques, then we can punch holes in them.

UML statecharts for big systems is difficult. Too much complexity.

How are (36) and (37) functionally equivalent? Somehow, in a picture or plain english, we should capture our requirements. Look at the handout Object Oriented Analysis – Is it Just Theory? How did they use diagrams?

What do we mean by periods of time?

Petri Nets – Developed to show state transitions. Conditions / transitions / places / tokens, etc...

Captures the state of the system. Shows the flow of a token.

Get started on the project so that by Monday we're ready to discuss ideas. Brainstorm. Commit to an idea by next wednesday. Group project? Dr. Saad will check with Dr. Su to see how individual grades are given to group projects.

...