UCF
School of computer Science
COT 4910: Frontiers in Information Technology
Fall 2002

Instructor:
Euripides Montagne(e-mail: eurip@cs.ucf.edu)
Lecture meetings: TR   8:30 – 9:45(ENG2-302)

Office hours: CSB –239   MW   15:00 - 17:00
                                    TR   13:30 - 15:30
Tele.: 823-2684

Prerequisites: COP 4610L and CDA 4506C

Course Objectives and Pre-requisites:
The major objective of the course is to facilitate the development of students in conducting real-world projects in the IT arena. All the major facets of a project will be explored. These include the following:

1. Problem specification/identification
2. Development of proposal
3. Project planning and scheduling
4. Reading related papers
5. Performing research
6. Performing analysis or building simulation models
7. Drawing conclusion
8. Making presentations

Course outline and organization:
This course is envisioned as a project class in which students will choose a frontier area in information technology and conduct a thorough study of the area. Some areas are emerging technology and will be suitable for the development of prototypes or proof concept applications. A number of different areas of information technology will be introduced as a springboard and to stimulate interests.

The study should clearly address the capability of the technology and its applicability to address business problems along, but not limited to the following dimensions:
- Disruptive or industry transformation
- New growth
- Improved efficiency of current operations
- Creation of new markets and revenue capability to the enterprise

Reference Guide:
The textbook for the course is: Information Technology Inside and Outside by David Cyganski and John A. Orr. Prentice Hall, 2001.

Style of Class Meetings:
Class meetings will not consist of traditional lectures, with the instructor doing most of the talking and the student doing most of the listening. Rather, meetings will consist of discussions on each topic and the instructor will help guide the discussion by asking questions.

Possible Topics:
A number of topic areas will also be provided for the student to choose from.

1.- Voice over IP
   This is probably more a term paper, although I think comparations of some implementations should be required.

2.- Security
   Here we are thinking about a paper that deals with issues all the way from checking .class files to be sure they have not been messed with, to encrypted data, to JSSE(Java Secure Socket Extension), to JCE(Java Cryptography extension), to symmetric versus asymmetric schemes. They can do some prototype work in Java.

3.- Web Content
This could be very broad, including topics like:
   - Java3D
   - Flash animation(The scripting language)
   - Web game engines

4.- The Wireless Web, also applications:
   This could range from 3G technologies to BlueTooth to God knows where. Also, one could study and prototype applications using Sun's MidLets, IBM's Modal, J2ME CLDC, Java KVM, or even technologies for smart cards. It is certainly a hot, at the edge topic.

5.- The TeraGrid: High Performance Computing(HPC) and the next generation internet.

6.- Distributed object Model based on CORBA and Java.

7.- Microsoft Dot Net Architecture and the C# programming language

8.- MicroElectroMechanical System(MEMS)-based storage devices for PDAs.

9.- Evolutionary Software Interface:XML over RMI as a semantic interface.

Grading(Work in progress)
Grading in general will be based on the quality of the project. Some of the areas to be taken into account include the following:

- Innovative application of the technology to solving business problems.
- Formulation of the technology as a disruptive technology along with the identification of an emerging market space.
- Use of technology to facilitate improved automation and operational efficiency in modern business.

Grading Policy:
Proposal: 10%
Update Presentation: 10%
Final Presentation: 15%
Project: 65%

Letter grades: Over 89: A. Over 79: B. Over 69: C. Over 50: D. Below 50: F.

Important Dates:
- **Withdrawal Deadline is <u>Oct. 11</u>.**
- **Summer Holidays are:**
- **Labor Day - Sept. 2.**
- **Veteran's Day – Nov. 11.**
- **Thanks Giving's – Nov. 28 to Dec. 1**