COURSE INFORMATION

Class structure:

I would like to organize this class as a practicum/workshop. The class will decide upon a group project and develop a software product by the end of the quarter. The goals of this class are

1) to develop an HCI interactive software product,
2) to learn to manage a group programming process,
3) to understand the technical details of developing software for HCI.

The project orientation is similar to the capstone project, except that we will focus on designing and writing software, and *not* on requirements, statement of work, project management, scheduling, and other planning documents. We will use whatever software tools are necessary to achieve our goals (Java, XML, C, Common LISP Interface Manager, Visual Basic, etc).

Evaluation:

Available grades:

non-completion: Incomplete, Withdraw, etc.

completion: A A- B+ B B- C

A:	reserved for superior performance
A- or B+:	expected grade for conscientious performance
B:	adequate work
B-:	barely adequate
C:	equivalent to failing

Grading Options:

1. Grading Contract: specify a set of behaviors and an associated grade.
2. Performance Quality: attendance, participation, assigned exercises
3. Self-determined: negotiate with instructor

Discussion:

If you already understand the field, if you plan to excel, or if you need clear performance goals for motivation, then **Option 1** is a good idea. If you prefer a clearly defined agenda, if you do well with concrete task assignments, or if you need a schedule of activities for motivation, then **Option 2** is a good idea. If you are not concerned about grades, if you intend to do what you choose anyway, or if you are self-motivated, then **Option 3** is a good idea.

I will notify any student who is not on a trajectory for personal success.

SOME PROJECT IDEAS

1. **Virtual University Course**
   Develop a short course to be presented on the web. A clever twist would be to develop this course as a web-based remote course.

2. **Web-page Refinement**
   Select a web-site from a moderately large company. Review and critique their design and performance. Then rebuild the entire site to correct the identified problems. A clever grounding for this work would be to send our results to the company.

3. **Internet Software Tool**
   Select, design, and implement a software tool which facilitates some aspect of web-interaction. Ideas may include intelligent agents, search engines, web-page builders, site mapping and layout, download analysis, etc.

4. **Customized GUI Interface**
   Evolve an existing interface toolkit with some customized refinements, such as a new type of widget, customization tools, dialog management, or interaction traking.

5. **Virtual Reality System**
   Develop existing C code for parts of a VR system, including 3D interaction devices, smart terrain, multiple participants in a single environment, new virtual bodies, etc.

6. **Finite State Machine Emulators**
   Software to emulate an interactive system, such as an ATM, a soda machine, a telephone answering system, airline ticket booking, etc.

7. **Java-based Gaming**
   Implement a fun game for the internet. Could be a version of a standard adventure and fighting game, or a strategy game such as Diplomacy or Stratego, or a graphics/visual game such as Life or Centipede.

8. **Mathematics Visualization**
   Develop a visual interface to some abstract mathematical structure such as an N-dimensional cube, 3D knots, or Fractals

9. **Spatial Arithmetic and Algebra**
   Develop a graphic interface for 7th grade math, using manipulative structures rather than equations and symbols.

10. **Manipulable Logic**
    Develop an interactive interface for Boundary Mathematics

11. **Innovation Prototyping**
    Select a yet-to-be commercialized application, such as wearable computers or TV-wristwatchs, and develop a prototype functional design for the interface.

12. **Ideas Provided by the Class**