# CS395T - Technology Driven Computer Architecture
# Term Project Assignment, Fall 1998

As a result of the insight into technological trends and projections that you have gained from CS395T-TDCA you have decided to start your own company, make millions, and move in next door to Michael Dell. Fortunately for you, executives at the venture capital firm of Dewey, Cheatham, and Howe have expressed interest and are considering making a substantial investment in you. However, you must convince them to cough up the bucks via a technical proposal.

Unusual to venture capital firms, the executives at Dewey, Cheatham, and Howe take a long term view on their investments. Ideally they want the projects they fund to exploit technology that will be commercially viable 10 years from now. On staff at the firm are some very sharp technical people who keep very close watch on technological developments and are unlikely to be fooled by unsound ideas.

Your task is to design, evaluate, and sell an architecture or product concept to the venture capital investors. Projects will be conducted in teams of two determined randomly by an in-class drawing. You and your teammate will submit a one-page project pre-proposal, accompanied by a brief oral presentation scheduled during office hours. In addition, you will submit a final technical report to me as the liaison to Dewey, Cheatham, and Howe. Your report should be no longer than 25 pages of text (10pt font, doublespaced) including figures. Your team will also make a 20 minute in-class presentation of your ideas to the executive board of the venture capital firm (ie. your classmates).

On your way to fame and fortune, you will need to take the following steps and include each component in your final report:

1. Select a particular technology that looks promising for the future
2. Research the technology
   - Describe the current state of the art
   - Provide information about current applications (if any)
3. Make projections about the future of the technology
4. Determine what "product" you will develop (ie. application of the technology) and "sell" it to the VCs. You will need to address the following issues:
   - Overview of your idea
   - Architectural design
     - Diagrams
     - Technical justifications (analytical model, simulation, etc.)
     - Implementation strategy
     - Areas of risk
   - Interface (how will it your concept be used/extended/connected)
   - Semi-detailed budget (how much money will you need - and don't skimp!)
     - Personnel requirements
     - Facilities requirements
     - Equipment requirements
     - Fabrication facilities

Some possible topics you may consider include:

- Special or general purpose billion transistor architectures
- Embedded computing devices
- Combination of electrical/image sensors
- Applications for reduced size disk drive technology
- Micro display technology
- Combination of electronics and physical sensors (ie. micro-electromechanical systems - MEMS)
- Ubiquitous computing/networking

**Significant dates:**

- October 26: Project proposals (oral/written) due
- November 25: Final project reports due + in-class presentations