Motivation

- Microeconomics education plays an important role in preparing future business leaders and practitioners and is a central part of undergraduate social science education.
- Traditional teaching methods: classroom lectures, pen and paper experiments
- Emerging practice: active student participation in experiments
  - Recent developments in experimental economics (e.g., 2002 Nobel Prize in Economics)
  - Technological feasibility (e.g., Internet-based experiments)
  - Emerging e-commerce practice (e.g., online auctions)

Experimental Software Collection Strategies

Category 1: Full In-House Development
- Component 1
  - Experiment Configuration
- Component 2
  - Data Acquisition
- Component 3
  - Data Analysis & Visualization

Category 2: Third-party Software Integration
- Component 1
  - Experiment Configuration
- Component 2
  - Data Acquisition
- Component 3
  - Data Analysis & Visualization

Category 3: Third-party Software Collection
- Component 1
  - Experiment Configuration
- Component 2
  - Data Acquisition
- Component 3
  - Data Analysis & Visualization

Dissemination Activities

- Presentations
  - May 2003 - NSF Workshop on Classroom Experiments in Economics
  - May 2003 - The Joint Conference on Digital Libraries
  - June 2003 - Economic Science Association annual meeting
  - November 2003 - Keynote address, Chinese National Economics Conference
  - December 2003 - Hong Kong University of Science and Technology Experimental Economics Conference
  - January 2004 - Allied Social Science Associations annual meeting
  - Two user studies involving 60 students at University of Arizona in June, 2003

- EconPort is provided to the community
  - Initially used in University of Arizona Economics classes
  - Work closely with select early adopters (e.g., National University of Singapore)
  - Encourage other Economics instructors to use EconPort through publications, workshops, and presentations at conferences

Project Goals

EconPort As A Collection

- Microeconomic Content
  - Experimental handbook
  - Interactive learning tools
  - Parameter sets designed to demonstrate specific economic issues
  - Access to related sites and software
- Experimental Software
  - Setup software
  - Execution software
  - Data visualization software

EconPort As A DL Approach

- Enabling Infrastructure
  - User management
  - Web-execution environment
  - Authoring and presentation tools
- Experimental Data Repository
  - Experiment parameters
  - Experiment results

EconPort As A Research Infrastructure

- Creating new types of digital contents, including simulated IT-enhanced market institutions and intelligent trading systems implemented as software agents
- Developing OAI-compliant metadata XML representations to incorporate "active" software objects such as experimental software and software agents

Integrated Experimental Software Infrastructure

Configuration

Teacher

Experiment Setup

WebStart / PHP

Student Participation

Students

Client

Server

Running

Students login into EconPort and are connected to the experiment.

Results

Analysis

Experiment Results

WebStart / PHP

Experiment Data

Teacher + Students

Re-conPort

Analysis & Visualization

All the experiment, teacher and students can view results on EconPort. Also, if the data is public, other people have access to the data.