CS 886
Foundations of Social Computing

January 7, 2013

Introduction

- Kate Larson
  - Associate Professor, Computer Science
  - Member of the AI research group

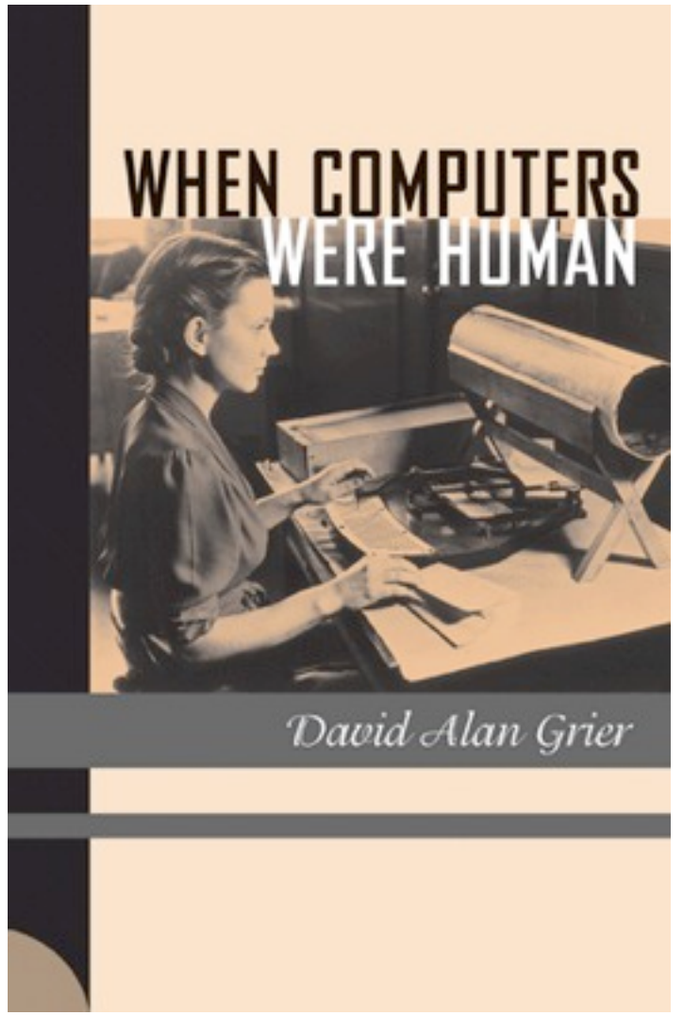
- Research interests include
  - Multiagent systems
  - Game theoretic models
  - Group decision making

Introduction

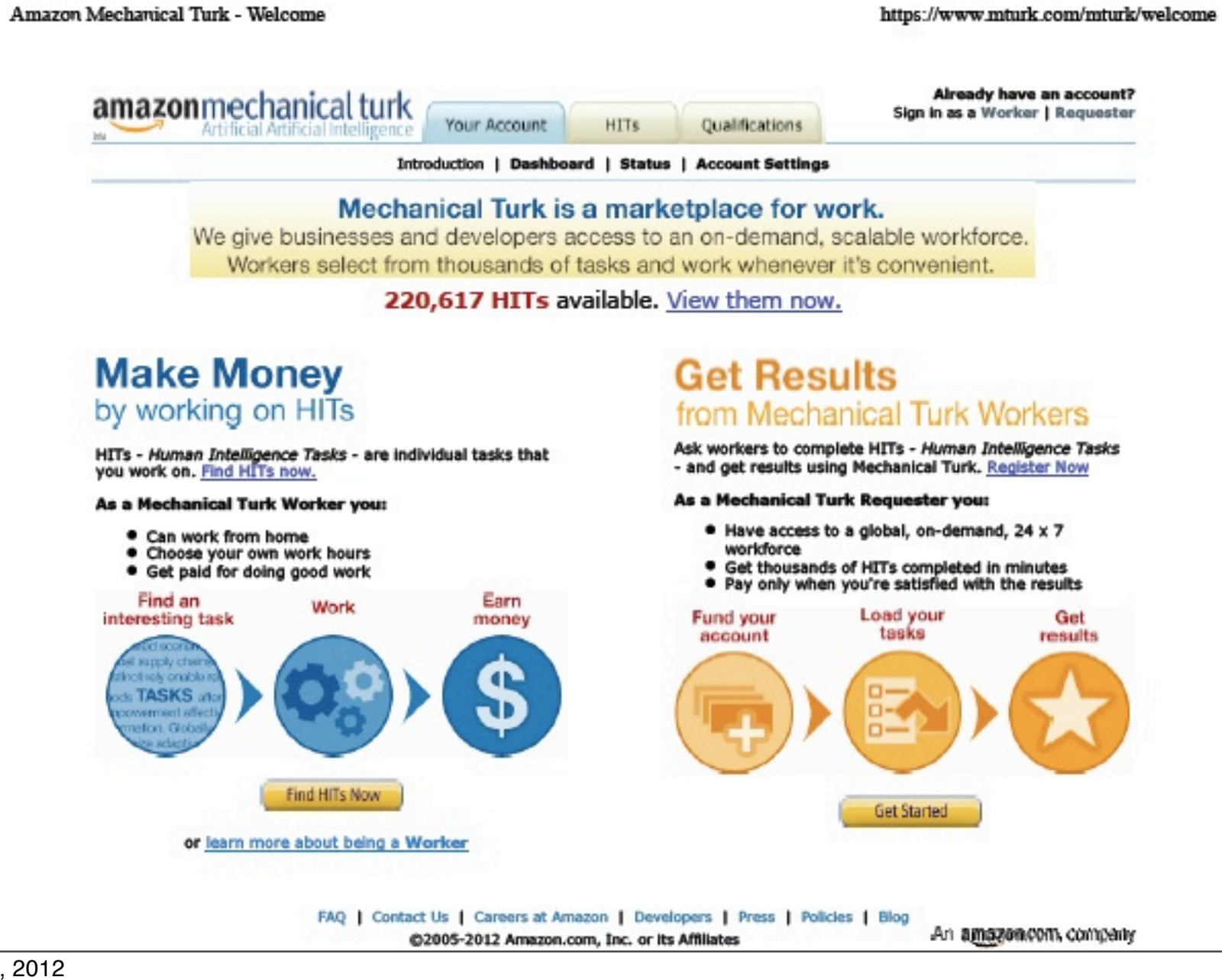
- Focus of this course is ***social computation***
  - Research area at the intersection of computational systems and social systems
  - Focuses on supporting *computations* that are being done by groups of people

This is not a new idea

- Clairaut 1758: computed Halley's comet orbit by dividing the numeric computations across three astronomers
- Maskelyne 1760: astronomical almanac with moon positions (for navigation). Two people did the calculations and one verified
- De Prony 1794: hired hairdressers to create logarithmic and trigometric tables
- ...
- 1938: Math Tables Project - employed out-of-work clerks

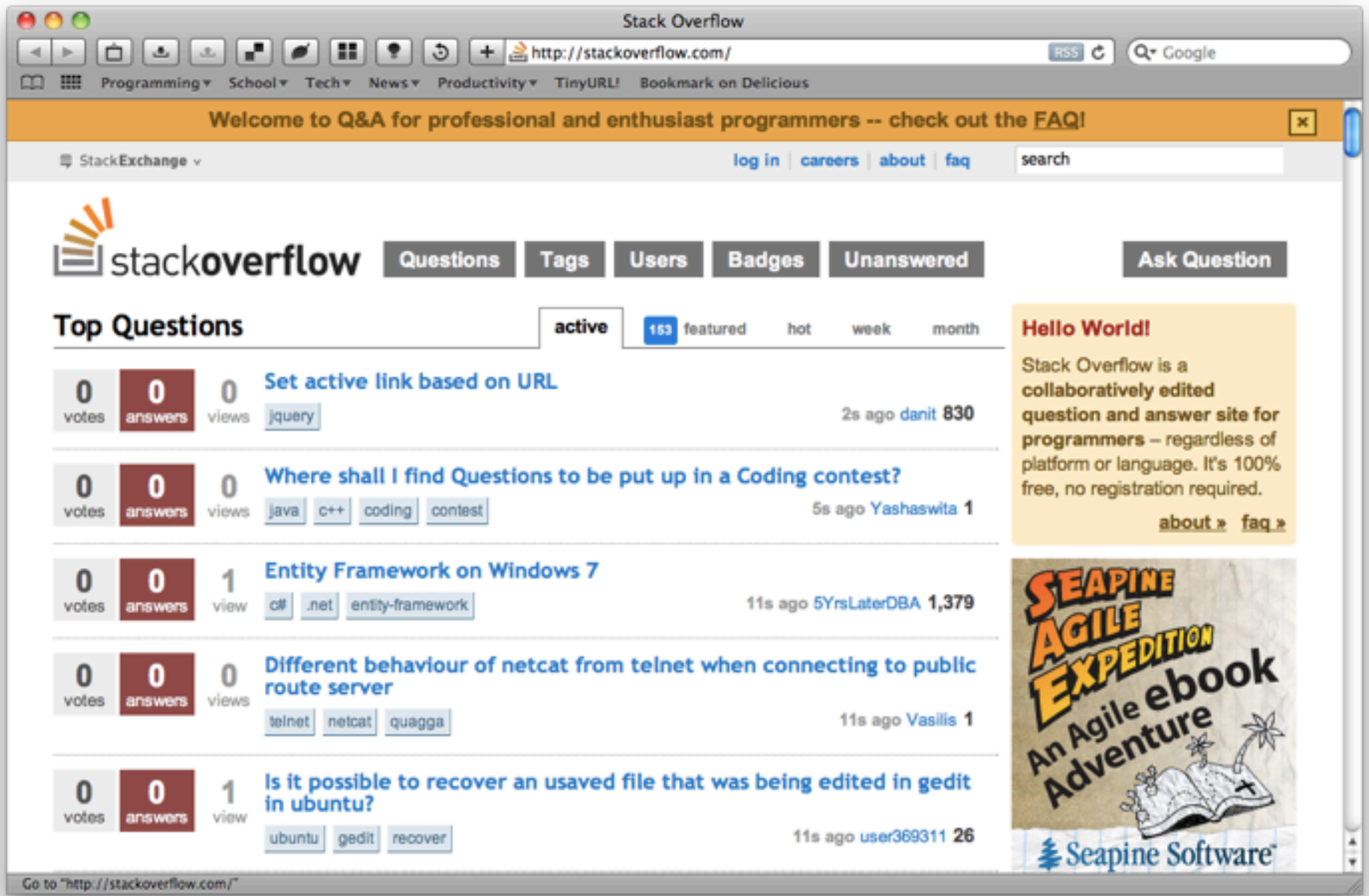


More recently: Online Labor Markets



Games with a Purpose

Q and A Forums



This Course

- We will focus on the ***analysis*** and ***design*** of social computing systems
- A particular interest will be ***incentives***
  - How can we motivate people to participate and contribute
  - How can we aggregate information in meaningful and robust ways

Topics

- Crowdsourcing
  - Task routing, Workflow control, Structuring incentives,...
- Games with a Purpose
- Prediction Markets and Scoring Rules
- Peer Prediction and Reputation
- Social choice
- Social networks

Structure

- A few introductory lectures on relevant background material (4 lectures on game theory, mechanism design, social choice)
- Two invited speakers
- Seminar-based course covering recent research papers
- Student Expectations
  - Paper Presentations: 20%
  - Class Participation: 20%
  - Course Project: 60%

Course Project

- The goal of the project is to develop a deep understanding of a topic related to the course
- The topic is open
  - In depth literature review, theoretical work, empirical work, etc
  - Can relate it to your own research
  - If you have trouble coming up with a topic, come and talk to me
- Projects will be presented in class at the end of the semester

Paper Presentations

- Ideally two presentations per class
- 40 minutes total:
  - 20-25 minute presentation (conference presentation)
  - ~20 minutes to lead the discussion
- Presentations are peer-reviewed
  - After each class everyone will fill out a survey
  - Anonymized results will be given to the presenter
    - Be constructive in your feedback!
  - **Note: *I*** decide the presentation grade, but will take into consideration the peer-reviews

Class Participation

- This is a seminar course: you must participate!
- Part of participating is being prepared to discuss the papers
- Each day of class, you need to submit reviews of both papers being presented by ***noon***
  - Forums on learn.uwaterloo.ca

Paper Reviews

- Your short review should address the following questions:
  - What is the main contribution?
  - Is it important? Why or why not?
  - What assumptions are being made?
  - What applications could arise?
  - How can it be extended?
  - What was unclear?
  - Did you find the paper interesting?
  - ...

Other Info

- Class time: Mondays and Wednesday 2:30-3:50
- Class room: DC 3313
- Webpage: www.cs.uwaterloo.ca/~klarson/teaching/W13-886
- Office hours: By appointment