

# *Innovation in Education: A Report from the Field*

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The next big killer application on the internet is going to be education. Education over the internet is going to be so big it is going to make e-mail usage look like a rounding error.

*John Chambers,  
CEO of Cisco Systems*

Five years from now on the Web for free you'll be able to find the best lectures in the world. It will be better than any single university.

*Bill Gates,  
Chairman of Microsoft*

## MOOC Deep Dive

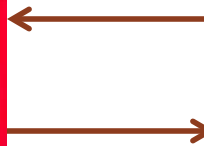
I'M A BELIEVER IN ONLINE TECHNOLOGY IN EDUCATION. I THINK WE HAVE LEARNED ENOUGH ABOUT THIS TO UNDERSTAND THAT IT WILL BE TRANSFORMATIVE. IT'S GOING TO CHANGE THE WORLD, AND IT'S GOING TO CHANGE THE WAY WE THINK ABOUT EDUCATION."

*JOHN L. HENNESSY*  
*PRESIDENT, STANFORD UNIVERSITY*



# Role of Universities

CREATE AND VALIDATE A COMMUNITY, BI-DIRECTIONALLY.

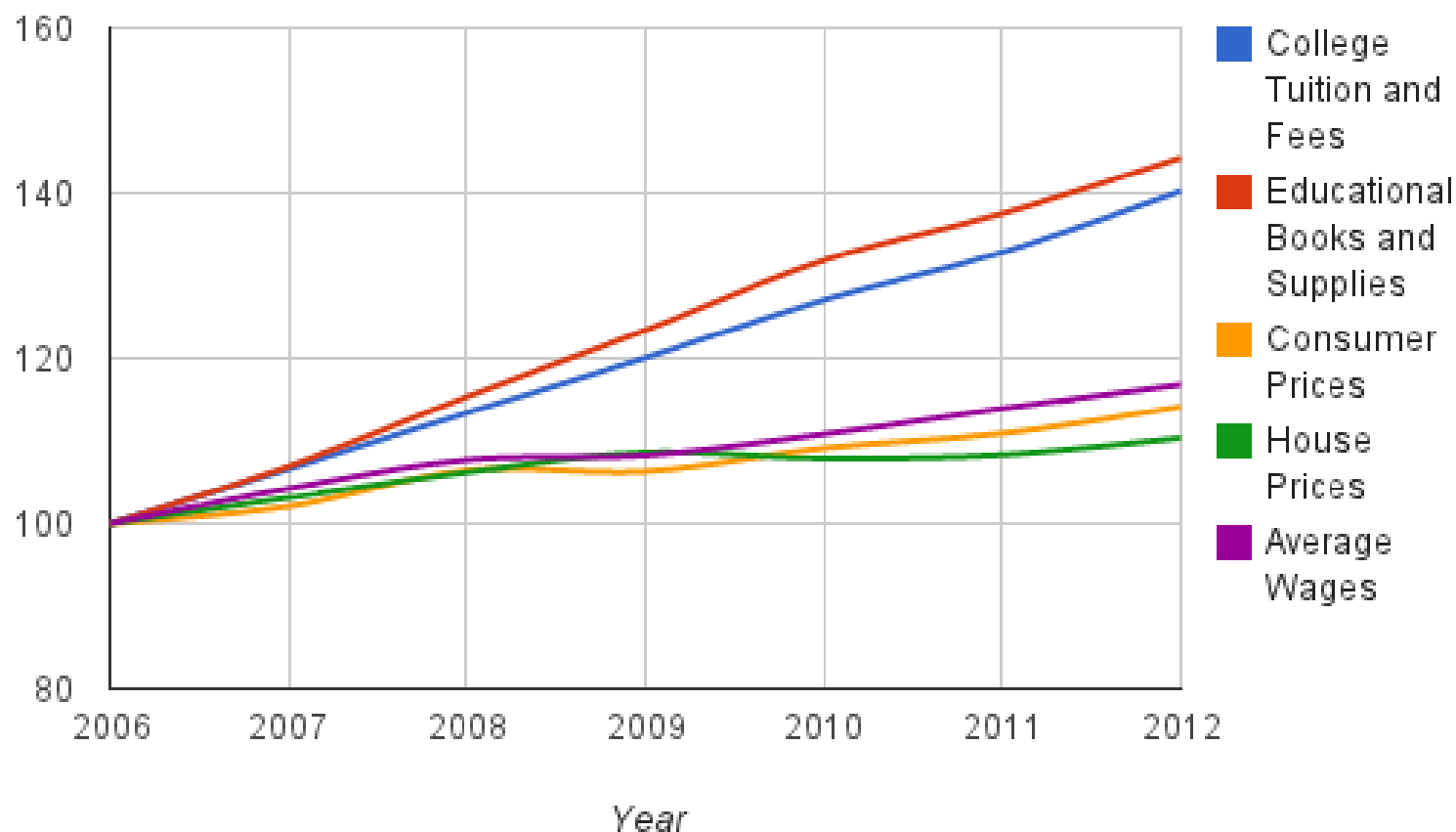




# Challenges to the Existing Model

COST OF TUITION FAR EXCEEDING CAPACITY OF STUDENTS TO PAY

## Academic Inflation



## Summer-Fall 2011

### SEBASTIAN THRUN, AI COURSE

- Udacity platform, controversial publicity

### FALL STANFORD COURSES

- Jennifer Widom, Databases
- Andrew Ng, Machine Learning

### STATISTICS

- Approx 350,000 registered interest online
- Tens of thousands completed courses
- Statement of Accomplishment



## **Introduction to Artificial Intelligence**

**Sebastian Thrun and Peter Norvig**



# Role of Universities

THIRD PARTIES UNDERMINE THE EXISTING MODEL



Coursera, Udacity



# Disruptive Changes

## THE REASON

THE CONVERGENCE OF **INTEREST**, **TECHNOLOGY** AND **REACH** MAKES FREE CONTENT DELIVERY TO LARGE AUDIENCES COMPELLING TO SOME FACULTY. STANFORD IS EVOLVING POLICIES AND PROCEDURES TO ENABLE FACULTY TO EXPERIMENT AND DEPLOY FREE CONTENT WORLDWIDE.



## The Presidential Committee

### **CHARGED BY HENNESSEY TO ANSWER:**

- Platforms: Do we outsource or create internal alternatives to extend content? What are the key terms and alternatives?
- As content creator, how does Stanford quality and control as we experiment?
- External provider: how does Stanford ensure alignment with University's goals vs. profit motive of a startup?
- Course branding and certification? What about student validation?
- How do we incorporate this new student type?
- Appropriate policies for this type of teaching?
- Compensation models for faculty? For Stanford?
- How does Stanford handle the teaching load for external students? Cost recovery against this investment?

STANFORD  
UNIVERSITY | News

## Stanford offers more free online classes for the world

*In an ongoing experiment to leverage new educational technologies, the university is launching five free online classes this month.*

BY JAMIE BECKETT

Stanford University is introducing five free online classes this month, following a successful pilot last fall that drew more than 350,000 participants around the world.

The online classes are part of a university initiative to creatively use new technology to improve education both on campus and off.

"Stanford has been a pioneer in online education for many years, and we are pleased to continue expanding and refining our online offerings to benefit both our own students and students around the world," said Stanford University Provost [John Etchemendy](#).

Three classes will launch on March 12 – [Design and Analysis of Algorithms](#), [Natural Language Processing](#) and [Cryptography](#). Two more, [Game Theory](#) and [Probabilistic Graphical Models](#), are scheduled to launch on March 19.

L.A. Cicero



Computer science Professor John Mitchell will chair a multidisciplinary faculty committee on educational technology.

## MOOC Demographics

THE FOLLOWING WERE THE TOP 3 RESPONSES TO “WHO ARE YOU?”

WORKING FULL-TIME

RANGE 50-60% FOR ALL COURSES

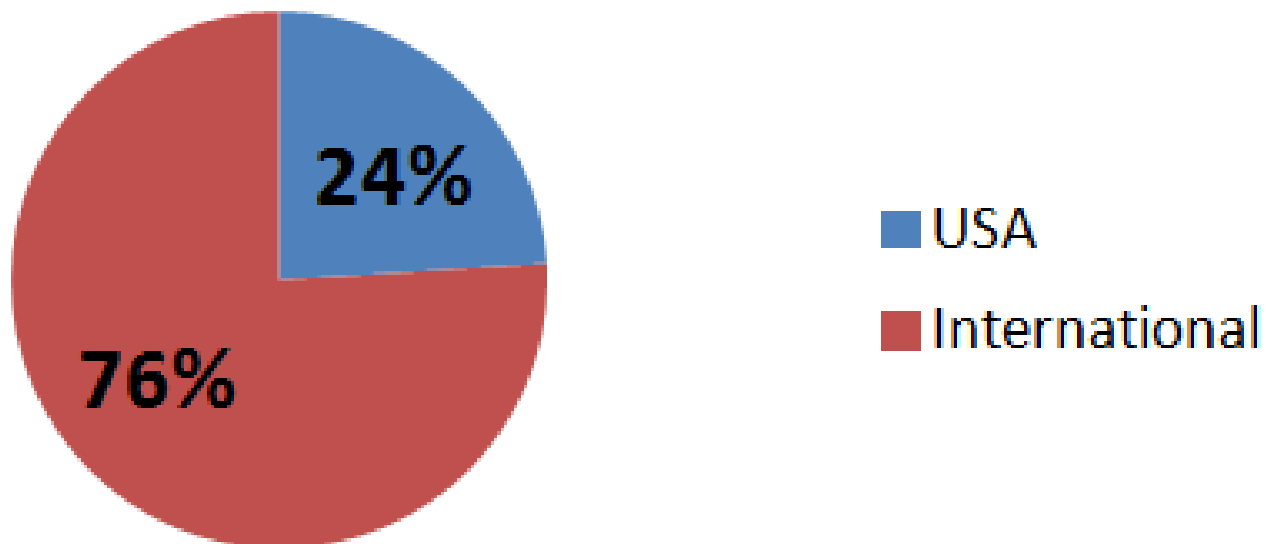
UNDERGRADUATE STUDENT

GRADUATE STUDENT

OTHER OPTIONS WERE: K-12 STUDENT, RECENT COLLEGE GRADUATE,  
WORKING PART-TIME, SELF-EMPLOYED, UNEMPLOYED, RETIRED, OTHER

## MOOC Locations

Location by IP Address  
(average across 4 courses - range within 6%)



## Surprising Results

>25% EXPECTED INTERACTION WITH THE TEACHING TEAM

>20% EXPECTED HELP WITH ASSIGNMENTS

>10% (IN FACT 10-15%) EXPECTED STANFORD UNIVERSITY CREDIT

THESE WERE NOT THE HIGHEST RATED, BUT THE MOST INTERESTING.

ALSO NOTEWORTHY:

THE LOWEST RATED SATISFACTION LEVELS ACROSS ALL COURSES WERE WITH:

TEACHING TEAM INTERACTION

CUSTOMER SERVICE RESPONSIVENESS



## Reasons for NOT Completing

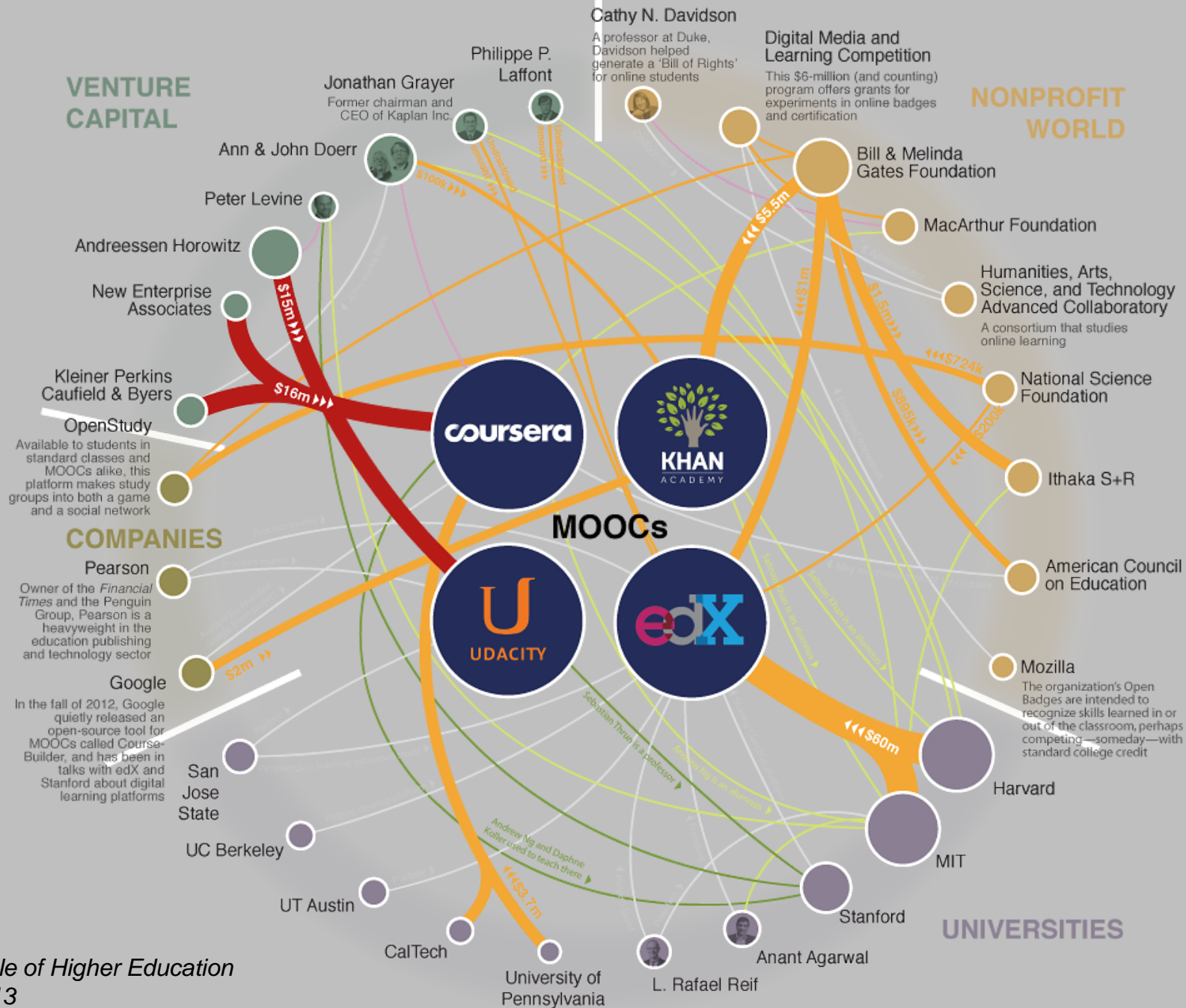
Course	Work Conflict	Personal Commitments	Demanding Course Workload
Game Theory	66%	55%	18%
Cryptography	62%	53%	23%
Natural Language Processing	63%	57%	34%
Algorithms	66%	55%	18%







Investor Donor Professor Alumni/fellow Board member Other



And Now...

**ONLINE 'MOOC' COURSES ARE TOO BIG TO WORK, SAYS  
STANFORD HEAD**

FINANCIAL TIMES  
*FEBRUARY 2, 2014*

## Focus on YOUR Users

THINK ABOUT EXISTING USERS, ON CAMPUS RESIDENTIAL

CONSIDER WAYS TO LEVERAGE NEW TECHNOLOGIES AGAINST OLD APPROACHES

DEVELOP NEW PARTNERSHIPS TO STRETCH AND GROW

CAPITALIZE ON THE WHITE HOT SPOTLIGHT

CLAIM VICTORIES!

## Questions and Discussion

FOR MORE INFORMATION:

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