

MOOCs as inventions:

opportunities and risks

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Outline

views are my own, that of a professor

- challenge course/textbook
- “invention”
- risks
- opportunities

Stanford survey

“What would you do if you were not taking this MOOC?”

A. Watch television

MOOC as a course

- “Simple” translation online of known concept
 - Coursera/edX selling certificates
 - Deadlines for homework
- but...
- Coursera moving to “on-demand”
 - Most students don’t use MOOCs this way

“MOOC is the new textbook”

David Finegold (senior VP lifelong learning, Rutgers)

- Textbook companies going digital
- Personalised learning experiences
- MOOC for flipped teaching
- Distribution starts to follow same model

but many differences...

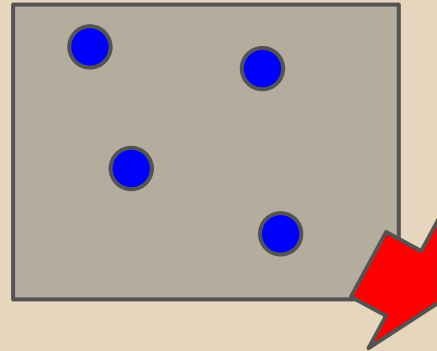
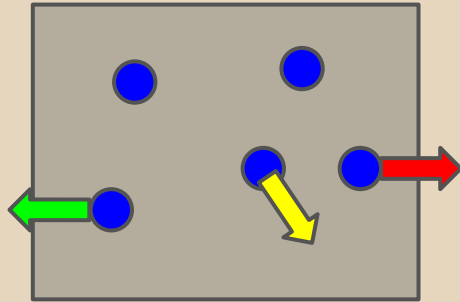
MOOC as invention

- new legal status/relationships
- new monetization models
- new pedagogy
- new sources of value

Lots of risks and opportunities with each!

Different legal status to textbook

- professor retains intellectual property
- non-exclusive exploitation right to Uni
- often agreement through University



New legal problems

- what if instructor moves?
- potentially crippling to instructors
- complexity of ownership
- multiple instructor/institutions unresolved
- (this is really an endless list)

New monetization models

why is it important?

The Net Delusion (Evgeny Morozov)

From the railways, which Karl Marx believed would dissolve India's caste system, to television, that greatest liberator of the masses, there has hardly appeared a technology that wasn't praised for its ability to raise the level of public debate, introduce more transparency into politics, reduce nationalism, and transport us to the mythical global village. In virtually all cases, such high hopes were crushed by the brutal forces of politics, culture and economics. Technologies, it seems, tend to overpromise and underdeliver, at least on their initial promises.

This is not to suggest that such inventions didn't have any influence on public life or democracy. On the contrary, they often mattered far more than what their proponents could anticipate. But [...] technologies that were supposed to empower the individual strengthened the dominance of giant corporations, while technologies that were supposed to boost democratic participation produced a population of couch potatoes.

(Hard) technological determinism

Society's technology drives the development of its social structure and cultural values

“Privacy is an evolving social norm”

“They trust me - dumb fucks”

“Move fast and break things. Unless you are breaking things you are not moving fast enough”

Mark Zuckerberg (Facebook founder)

Technological determinism

“MOOCs are the internet happening to education and it will take a long time for higher education to **digest** what that means”

George Siemens

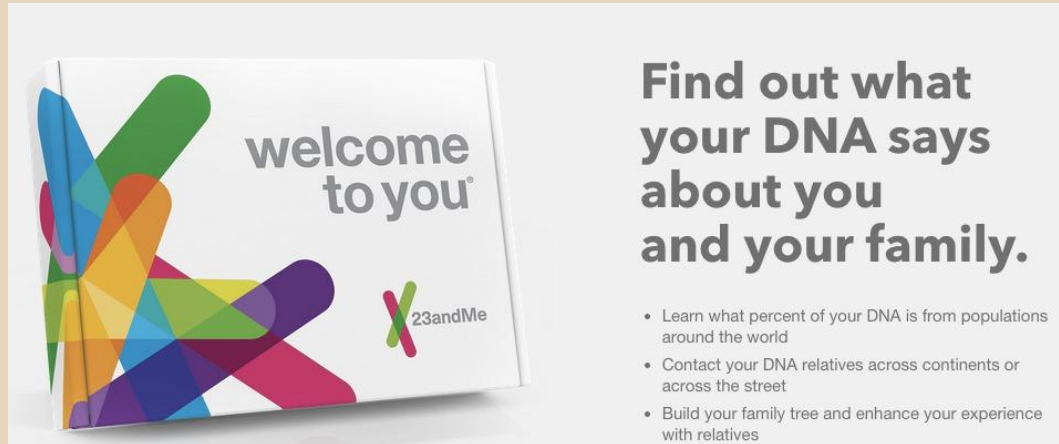
Caricature



Provocative question

NGO hepatitis vaccination campaign

Paid for by 23andme, helps medicine at home!



Would that be a good thing?

Coursera monetization models

Schedule 1 Possible Company Monetization Strategies

1. **Certification:** Company will provide University-branded certificates that can be purchased by End Users; these certificates, which do not carry University credit, will certify achievement by End Users of an Instructor-specified threshold of performance for a particular Course. These certificates might be provided either as (a) a signed pdf document, or (b) a badge posted on LinkedIn, Facebook, Google+, or other community websites, via a recognized badging system. The allowed forms of the Certificate or Badge are as shown in Schedule 2.
2. **Secure assessments:** Company may provide an End User, for a fee, the capability to undergo identity-verified testing at a private location or in a certified testing location.
3. **Employee recruiting:** With End User consent (via opting into emails of this type), Company will allow prospective Employers (whether an employer or a recruiter) to execute queries against End User records. These queries might involve End User performance in relevant Courses (as specified in the query) as well as End User-supplied demographic information (such as education or geographical location). Company will then allow Employers to email End Users via the Platform, to propose employment opportunities. Company will not reveal End User contact information to the Employer. End Users may choose to respond to the email with their contact information at their discretion.
4. **Employee or University screening:** Company will provide a prospective Employer the capability to assess prospective employees for a given level of expertise in Courses provided by Company, by having the prospective Employee take a set of assessments in a proctored environment at the Employer site. A similar model will be offered to Universities who want to verify a level of knowledge in incoming End Users (e.g., for evaluating course waiver requests).
5. **Human-provided tutoring or manual grading:** Company will provide access to (paid) human tutoring, grading, or other forms of human academic support.
6. **Corporate/university enterprise model:** Company will provide Employers access to an Enterprise Version of the Platform, which will allow Employers to (a) use the Content for training Employees (Trainees) using Courses provided on the Platform, (b) provide Employer instructors access to Trainee performance records, for the purposes of gauging performance and assisting Trainees in learning. Employers might also augment University-provided Courses on the Platform with additional Content of particular relevance to their own employee pool. Such Content will be accessible only to Employer's Trainees. The same model can be used to provide an Enterprise Version of the Platform to non-University academic institutions (e.g., community colleges) that seek to offer their registered End Users higher-quality courses at a lower cost, for credit at these non-University institutions.
7. **Sponsorships:** Company will allow third party sponsorships of Courses, by foundations or companies, using appropriate and non-intrusive visual elements on the Course webpage. A

sponsor will require the approval by University and Instructor, but such approval will not be unreasonably withheld without cause.

8. **Tuition fees:** For certain Courses, a tuition fee may be charged of End Users for access to the Course content (usually after a short initial viewing period where access is free). This fee will be mutually agreed to by University and Company. In the standard procedure, an End User will be allowed to indicate "Financial Hardship", upon which tuition fees are automatically waived with respect to access to Course Content. Certification to an End User declaring financial hardship may or may not be provided, as agreed upon by University and Company.
9. **Selling or facilitating the sale of Course materials:** Company may sell Course materials (e.g., books or Course readers required or recommended by the Instructor); these materials will be provided by University or Instructor, or by a third party. The Company Website may also point to third-party sites where Course materials can be purchased, and collect fees from such third parties.
10. **Transcript services:** Company may keep grade transcripts for End Users completing Courses on the Platform and provide these grades upon request, with End User permission, to third parties wanting to verify End User performance.

Roma Sapienza Framework Agreement

Coursera monetization + Uni model

Coursera monetization models

Tuition fee

Corporate/enterprise

Secure assessment

Selling course materials

Sponsorships

Certification

Employee recruiting

Employee screening

Transcript services

Human-provided tutoring

Course content

Peripheral services

sponsor will require the approval by University and Instructor, but such approval will not be unreasonably withheld without cause.

Student-is-the-product

only a start...

New pedagogy

Not 1 to many, not 1 to 1

Instead: 1 to diverse connected individuals
(cf. #ccourses)

Each has different goals, skills, interests,
potential, constraints,...

Need lots of creativity, different way to teach

Social machine

Environment of humans and technology interacting and producing outputs which would not be possible without both parties present

Tim Berners-Lee

Wikipedia, Facebook, reCAPTCHA, Amazon Mechanical Turk, MOOCs

Crowdsourcing

- output = work = services, ideas, content
- large group of people
- non traditional employees or suppliers
- less emphasis on social

Often turns into **digital sweatshop**

Amazon Mechanical Turk

Find **HITS** containing

[All HITS](#) | [HITS Available To You](#) | [HITS Assigned To You](#)

☒ for which you are qualified

☐ require Master Qualification 

that pay at least \$ **0.00**

HITS for which you are qualified

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1 2 3 4 5 > [Next](#) >> [Last](#)

Give Your Opinion - Simple and Quick! (US)

[View a HIT in this group](#)

Requester: [CrowdSource](#)

HIT Expiration Date: Jun 27, 2013 (52 weeks)

Reward: \$0.16

Time Allotted: 32 minutes

HITS Available: 14627

Help Us Find a URL's Search Results Page Ranking on Google (US)

[View a HIT in this group](#)

Requester: [CrowdSource](#)

HIT Expiration Date: Jun 27, 2013 (52 weeks)

Reward: \$0.12

Time Allotted: 1 hour 30 minutes

HITS Available: 6309

Find an Image on a Website! (New Job, come on in)

[View a HIT in this group](#)

Requester: [CrowdFlower](#)

HIT Expiration Date: Jul 4, 2012 (6 days 23 hours)

Reward: \$0.06

Time Allotted: 60 minutes

HITS Available: 2003

Search Google and answer questions about the search results

[View a HIT in this group](#)

Requester: [CrowdFlower](#)

HIT Expiration Date: Jul 4, 2012 (6 days 23 hours)

Reward: \$0.05

Time Allotted: 60 minutes

HITS Available: 998

Read 2 Blog Posts, then Judge their Relevance to Each Other

[View a HIT in this group](#)

Requester: [CrowdFlower](#)

HIT Expiration Date: Jul 4, 2012 (6 days 22 hours)

Reward: \$0.10

Time Allotted: 60 minutes

HITS Available: 993

Modality Classification

[View a HIT in this group](#)

Requester: [CrowdFlower](#)

HIT Expiration Date: Jul 4, 2012 (6 days 23 hours)

Reward: \$0.01

Time Allotted: 60 minutes

HITS Available: 972

Social machine in teaching

- peer feedback: students grade each other
- “Ask a question to the professor”
- mechanisms to surface good content/ideas

Social machine in teaching: Duolingo



Social machine in teaching

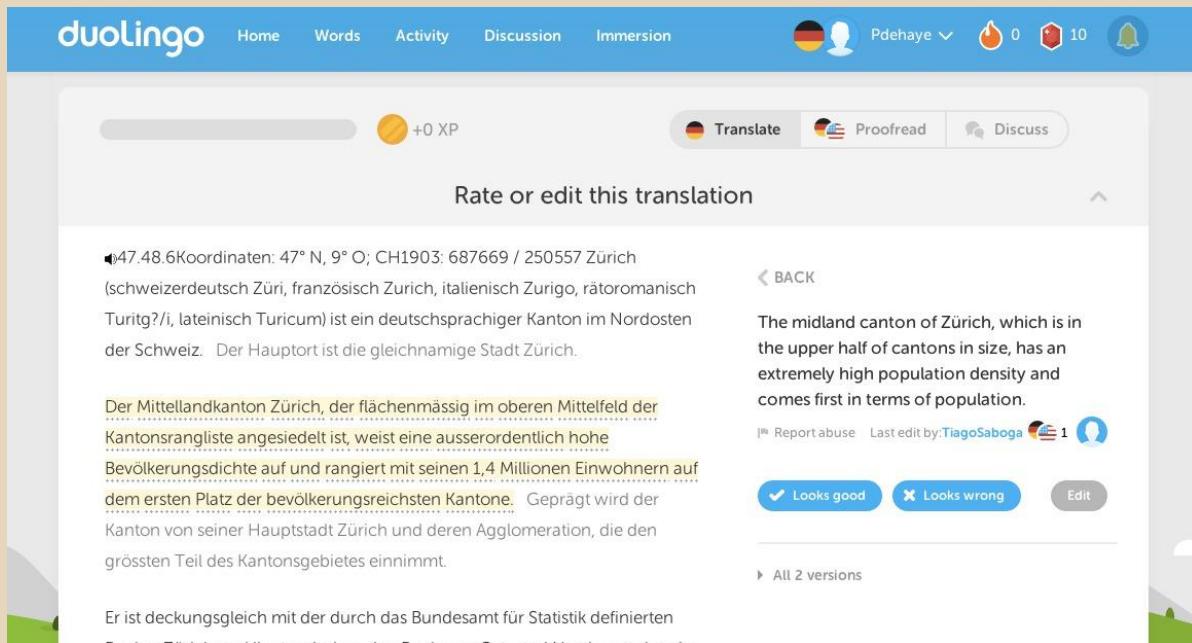
- peer feedback: students grade each other
- “Ask a question to the professor”
- mechanisms to surface good content/ideas
- Iversity grading cloud / cloud TA
- professors working often for free
- professor designs social machine
- tutoring in Coursera’s monetization model
- student data collection

Summary of risks

- labor issues
- egalitarian aspects of higher education
- academic freedom
- data collection à la Facebook?

but also, fortunately, fantastic opportunities

Opportunity: Duolingo



Interplay motivation / skills / massive crowd

Opportunity: new value from content

- Interactions in social machines give output
- Focus away from student data
- HCI research (MOOCLab INRIA, CEDE EPFL)
- topical research: citizen science (“cognitive surplus” in homework)

Qualitative “surveys”

“Terrorism and counterterrorism: Comparing Theory and Practice” Leiden/Coursera

“Sharia and the West” Leiden/Coursera

“Globalizing higher education”
Wisconsin/Bristol/Coursera

Transcription in Digital Humanities



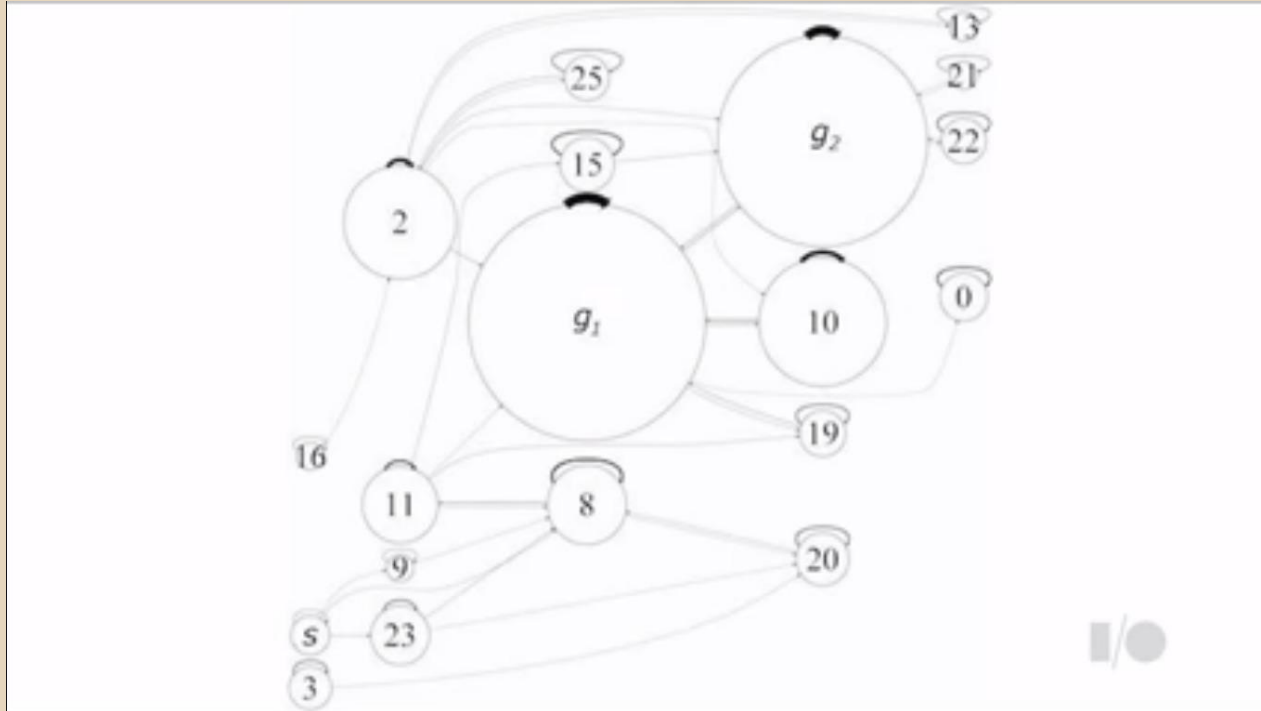
University of Colorado
Boulder | Colorado Springs | Denver | Anschutz Medical Campus

Deciphering Secrets: Unlocking the Manuscripts of Medieval Spain



<http://revealingcooperationandconflict.com>

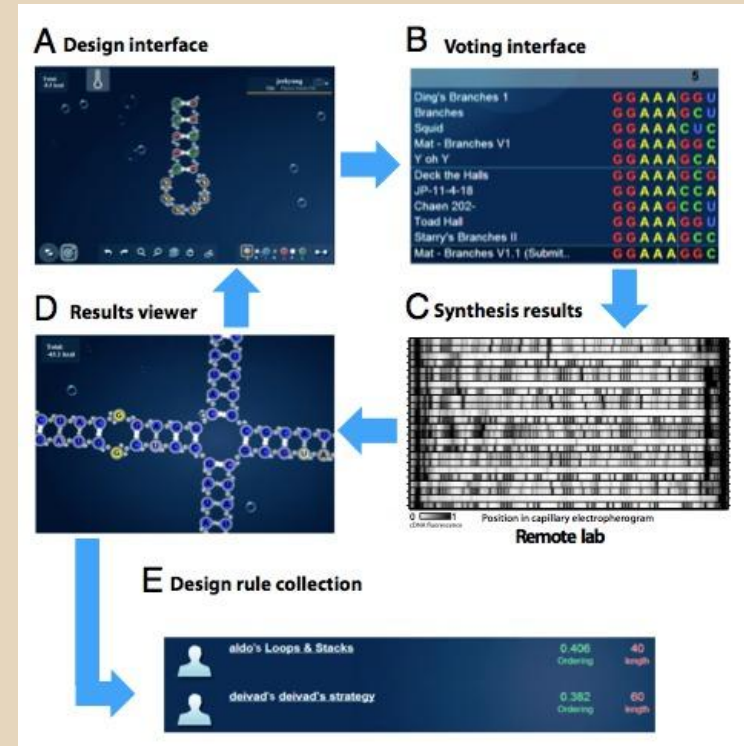
Google python course



Google I/O Peter Norvig

EteRNA game

- lots of different skills
- citizen scientific method
- GalaxyZoo, FoldIt@Home
- very high cognitive level
- MOOCs elevate that



“RNA design rules from a Massive Open Laboratory”

Conclusion

- old technologies cobbled together, with new business ideas around them
- huge risks, huge opportunities
- do not succumb to technological determinism (“Internet happening to HE”)
- ethical/moral obligation to actively shape technology to ensure promises are fulfilled
- new, underexplored citizen science options