

# Massively Empowered Classrooms

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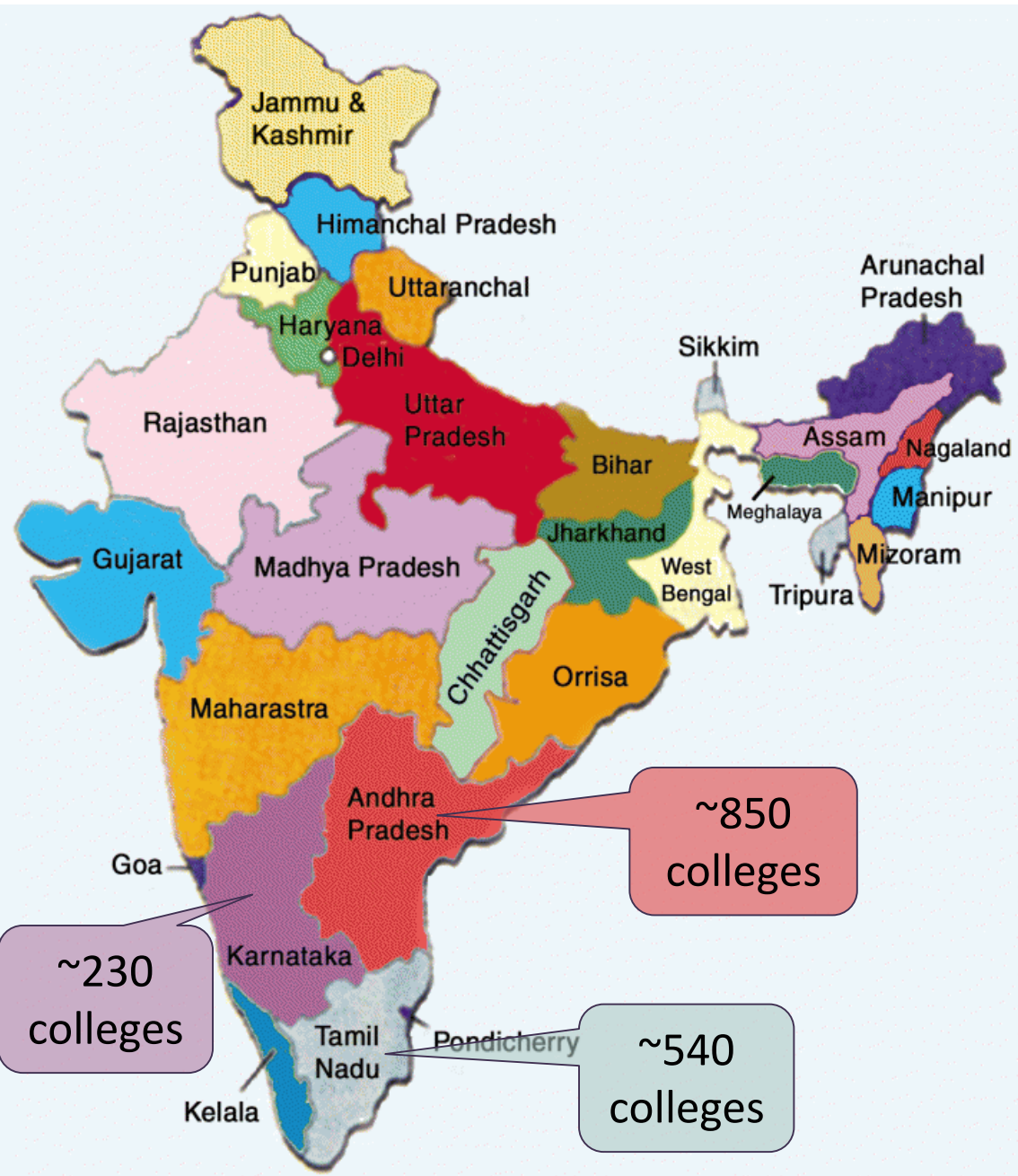
# MOOCs and Indian Elite Institutions

IITs, IIITs, NITs, BITS, etc.

- Top teachers, top students, good technical infrastructure
- Students know about MOOCs & take MOOC courses
- Often give course credit for MOOCs
- Teachers sometimes offer courses in internationally popular MOOCs (such as EdX) as well as homegrown MOOCs

The image displays three overlapping screenshots of MOOC platforms. The top screenshot shows the EdX website with a banner titled "The Future of Online Education for anyone, anywhere, anytime" and logos for MIT, Harvard, and Berkeley. The middle screenshot shows the Coursera website with a banner stating "33 Universities Have Partnered With Coursera" and logos for various universities including UC Berkeley, Columbia, Ohio State, Georgia Tech, UCSF, University of Toronto, Michigan, Berkeley College of Music, Duke, Wesleyan, University of Virginia, and Princeton. The bottom screenshot shows the Udacity website with the text "Udacity is a totally new kind of learning experience. You learn challenging problems and pursuing udacious projects with world university instructors (not by watching long, boring lectures). At you, the student, at the center of the universe." and "The Four Elements of Udacity" section with three numbered icons: 1. Take any of our 14 classes. 100% free! 2. Join a community of 112,891 active students and instructors. 3. Optionally certify your skills online or in one of our 4,500 courses.

# Most engineering students in large state technical universities



Undergraduate engineering Colleges: **~4700**  
Faculty : **~50,000**  
Students: **~4,000,000**

Large universities with many affiliated colleges

- Centralized curriculum
- Single shared exam
- A few high quality colleges, long tail

MOOCs mostly unknown & unused by students or teachers  
From our recent survey in Karnataka:

- ~80% of students never heard of edX, Coursera, ..
- < 3% had ever watched even one online educational video

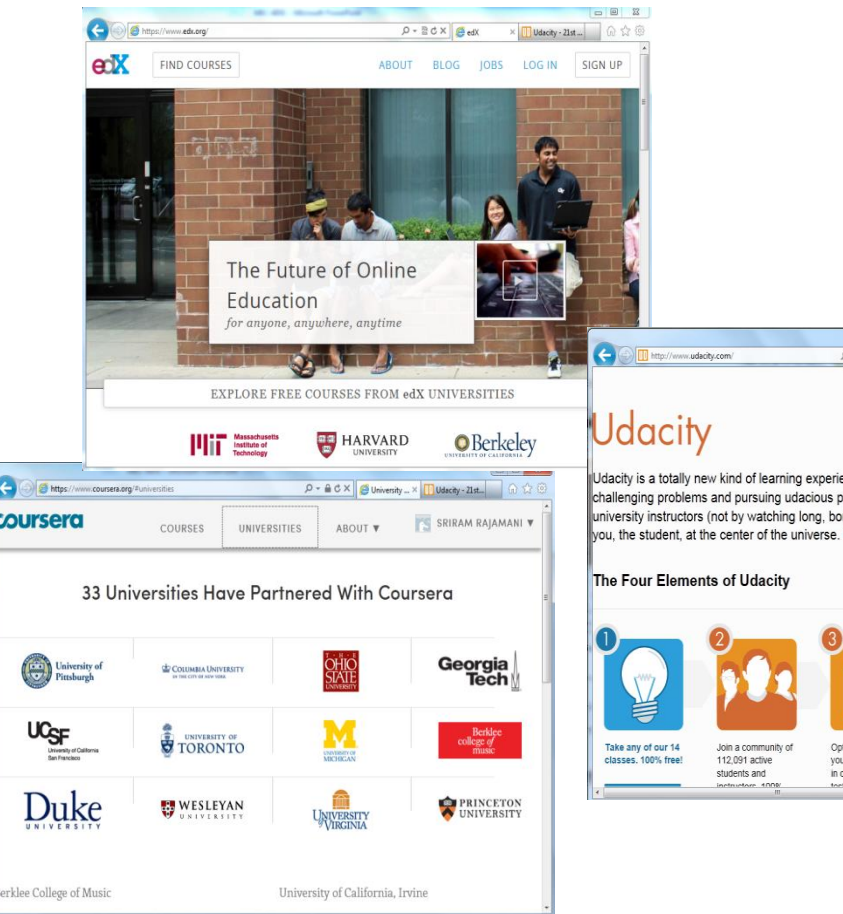
# Question

What is the reason for poor update of MOOCs among the masses?

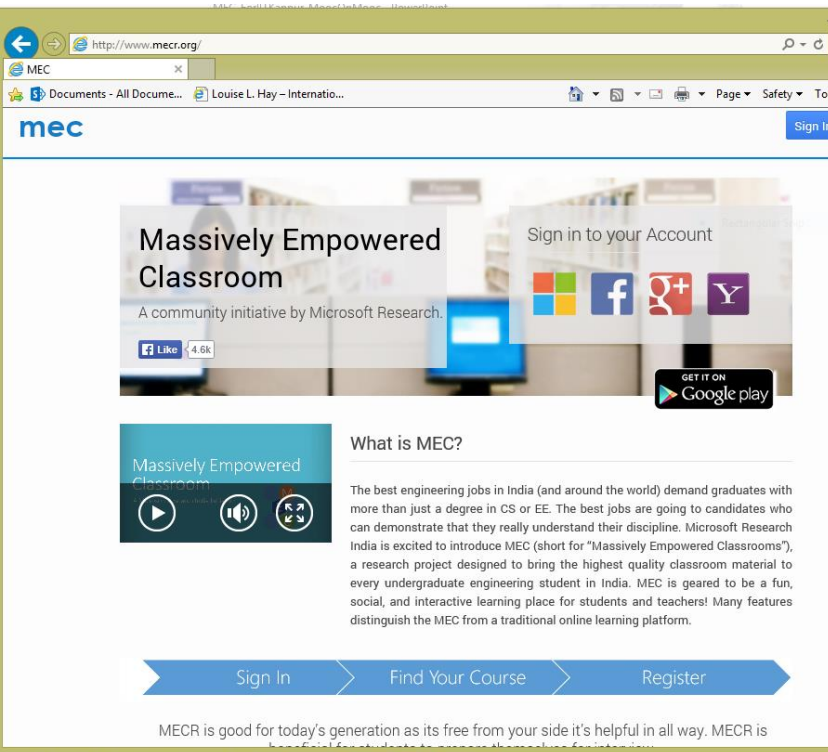
- Content mismatch with syllabus
- Lack of value proposition
- Poor infrastructure

Idea:

Rethink the MOOC model



# Massively Empowered Classrooms



The screenshot shows the homepage of the Massively Empowered Classroom (MEC) website. The browser address bar shows 'http://www.mecr.org/'. The page features a navigation bar with the 'mec' logo and a 'Sign In' button. The main content area includes a large banner with the text 'Massively Empowered Classroom' and 'A community initiative by Microsoft Research.' Below the banner is a 'Sign in to your Account' section with social media icons for Windows, Facebook, Google+, and YouTube. A 'Like' button shows 4.6k likes. There is also a 'GET IT ON Google play' badge. A section titled 'What is MEC?' contains a video player and text describing the program as a research project for bringing high-quality classroom material to undergraduate engineering students in India. At the bottom, there are three blue buttons: 'Sign In', 'Find Your Course', and 'Register'. A footer note states 'MECR is good for today's generation as its free from your side it's helpful in all way. MECR is based in India for students across the world for their education.'

## Local control

- Content synched with syllabus
- College-level identity and analytics
- Local supplementation

## MOOC-like content

- Short, high-quality videos
- Periodic quizzes
- Forum & community

## Address infrastructure limitations

- Offline video viewing
- Phone application

## Social Engineering

- Facebook campaigns
- Competitions
- Certificates

# Experience so far...

- **1<sup>st</sup> Pilot (2013):**  
3 universities, 120 colleges
- **2<sup>nd</sup> Pilot (2014 first semester):**  
5 state universities + MHRD QIP program
- **3<sup>rd</sup> Pilot (2014 second semester):**  
3 new courses (4 courses in total) +  
10 state universities + Microsoft DPE Academic Program + MHRD QEEE program.

## **Our Peaks:**

In progress: 2000 enrollments in one day.

- 4 courses so far
  - Started with Algorithms
  - Recently added: Computer Networks, Data Structures & Theory Of Computation.
- **1500** colleges and **~30,000** enrolments so far.
- Almost 30% students engaged throughout the semester.
- Offline solution seeing good traction.
- Phone App gaining lot of popularity.
- Significant interest from the government (MHRD)

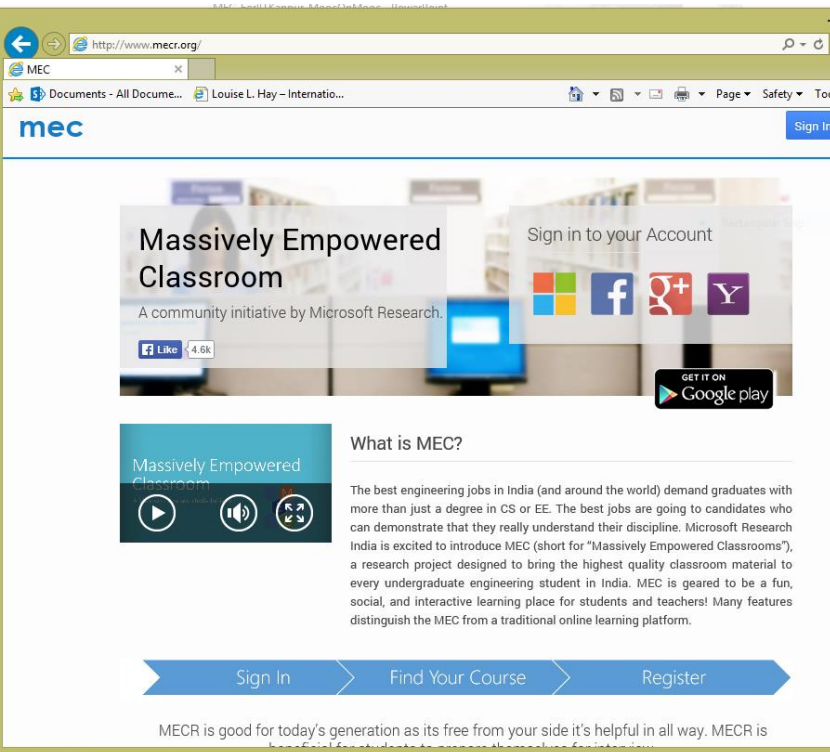
# Learnings

- Context matters: relevant syllabus, local engagement
- Bandwidth and access matters: offline windows app, mobile android app
- Awareness matters: systematic evangelism using social media matters
- Credentials matter: Certificate and other incentives matter

# Research

- Control vs experimental group
- Intermediated video lessons
- Plagiarism
- Fairness of automatically generated problem variants

# MEC Call for action!



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MEC is a Research and experimentation platform

Please join us and work with us

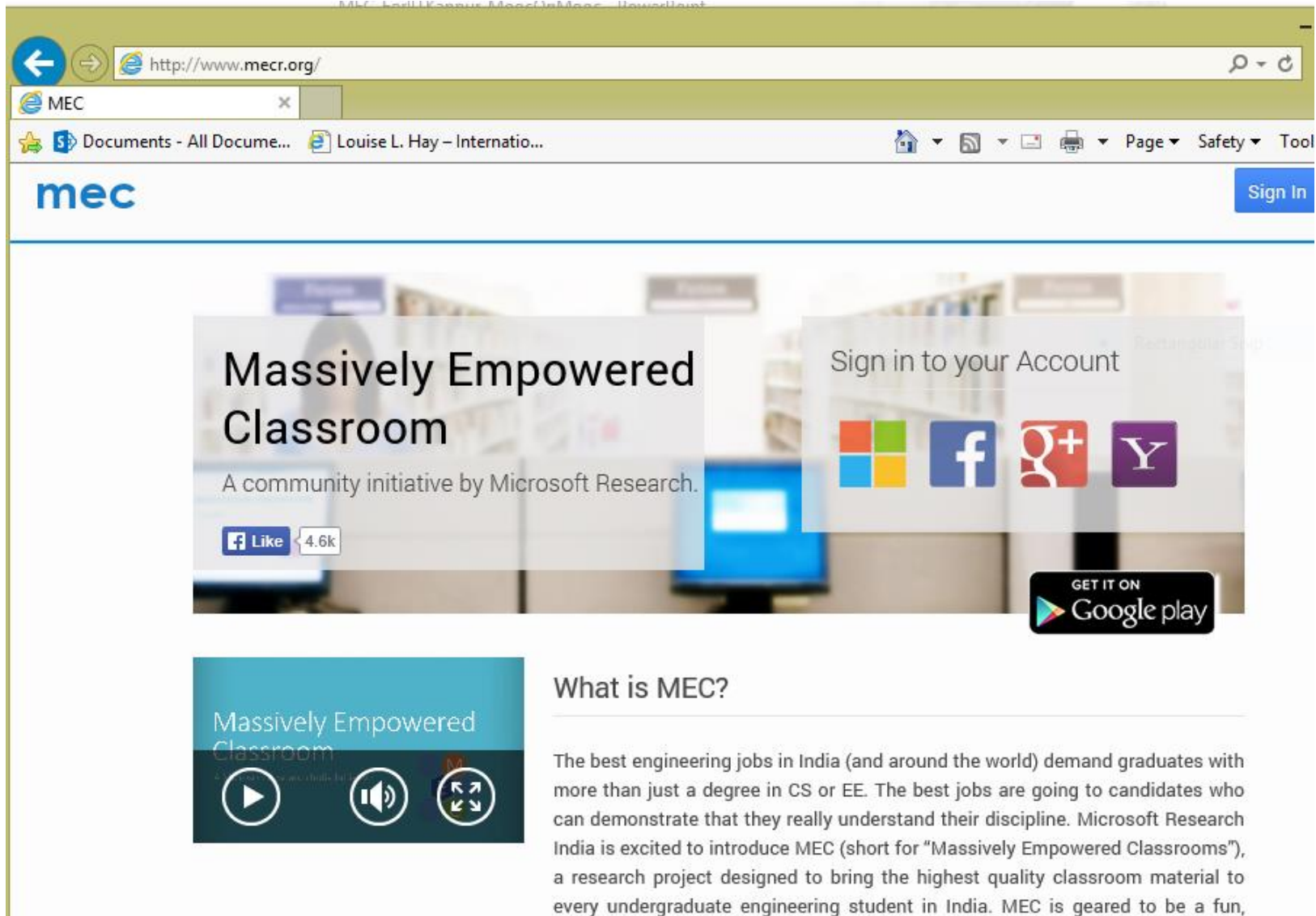
- Learn from our courses
- Teach courses on MEC
- Do research experiments with online learning



# Contributors

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- Sridhar Vedantham
- Srinath Bala
- Vidya Natampally
- Viraj Kumar

Visit us @ <http://mecr.org>



The screenshot shows a web browser window with the URL <http://www.mecr.org/>. The browser's address bar and tabs are visible. The website header features the 'mec' logo on the left and a 'Sign In' button on the right. The main content area is a large banner with a blurred background of a classroom. On the left side of the banner, the text reads 'Massively Empowered Classroom' in a large, bold font, followed by 'A community initiative by Microsoft Research.' Below this text is a Facebook 'Like' button showing '4.6k' likes. On the right side of the banner, there is a 'Sign in to your Account' section with icons for Windows, Facebook, Google+, and Yahoo!. At the bottom right of the banner is a 'GET IT ON Google play' badge. Below the banner, there is a section titled 'What is MEC?' with a play button icon and a volume icon. The text in this section describes the initiative: 'The best engineering jobs in India (and around the world) demand graduates with more than just a degree in CS or EE. The best jobs are going to candidates who can demonstrate that they really understand their discipline. Microsoft Research India is excited to introduce MEC (short for "Massively Empowered Classrooms"), a research project designed to bring the highest quality classroom material to every undergraduate engineering student in India. MEC is geared to be a fun,