

The Past, Present and Future of MOOC's and their relevance to software engineering

Massive Open Online Course (MOOC) is an online course aimed at unlimited participation and open access via the web. In addition to traditional course materials such as filmed lectures, readings, and problem sets, many MOOCs provide interactive user forums to support community interactions among students, professors, and TA's. MOOCs are a recent and widely researched development in distance education which were first introduced in 2008 and emerged as a popular mode of learning in 2012.

In particular, this paper distinguishes the free educational content provided by MOOCs from the emerging collaborative processes through which MOOCs are created, which is arguably more transformative on education than the content itself. Also this discusses the effect of stakeholders and investors in Software engineering.

MOOC's are mainly a topic of research in software engineering due to the following reasons:

- 1) ***Software engineering methods and tools are crucial*** to the development and delivery of effective, customizable, and assessable MOOC based courses at scale.(Ex: face authentication)
- 2) ***Software professionals increasingly receive life-long education via MOOCs*** and digital learning technologies.
- 3) ***The content creation and delivery of MOOCs is evolving*** into a new form of socially- and cognitively-embedded software development.

MOOCs can be viewed as multimedia textbooks for Internet-based distance education or as community based educational TV shows. In particular, they are more akin to YouTube combined with Wikipedia and Facebook, than they are to traditional books or TV shows. MOOCs are likely to evolve with all these media tools and services, resulting in richer learning and teaching environments.

Although MOOC's are now of many types they had these initial characteristics:

- They have been delivered to students and the public on line openly and freely.
- MOOCs are offered as standalone courses, rather than part of an organized curriculum. (Not like traditional university courses).

Some of the consequences are low completion rates, because they are free and also due to students not being motivated to complete the course. Also initial MOOC's tend to couple text and video material that can be browsed separately from other course material, such as assignments and exams. Students often find value in these text and videos, and feel no need to participate in all the trappings of the full course format. Another way to think of the evolution of MOOC's is in terms of the stake holders which include curators, professors, universities, students, public and scholarly communities. This

turns out to be a value proportion analysis. Some of the implications of the value proportion analysis are:

- MOOC content publishers must become profitable, evolve into something different, or go out of business.
- Universities need to become savvier about providing private enterprises valuable intellectual property, as well as the data produced by student engagement with these interactive systems.
- The benefits that professors have garnered from being MOOC stars will fade as barriers to entry and novelty diminish.
- Access to free, high-quality educational materials is positive for students.
- Visibility into the materials and processes of higher education is wonderful for the broad public around the world.
- Communities of knowledge are also likely to recognize the potential of MOOC like encodings of knowledge.

Alternative strategies for MOOC's: (Divided into two types)

1) Evaluation Criteria

Quality of real time feedback and motivation, Learner accountability, Curricular diversity and depth, Well-roundedness, Support and scalability, Cost, Flexibility, Accessibility and Diversity.

2) Alternate Digital learning adoption

Traditional residential education, Online education programs, Tightly-coupled blended learning environments, Classes co-taught locally and via remote satellite classes, Demand-overflow management, Continuing education and professional certification programs online and Remedial education.

Modern MOOC's and the future of MOOC'S:

Nowadays MOOC's have the ability to group courses under a similar category (Evolution of the "language" of MOOC's), more similar to a full-fledged course, have become a large platforms for open source education and also adapt themselves according to the students' abilities and grades in tests. Some courses are being handled by multiple institutions and have flexible degree paths(Ex: Udacity). Also they have discussion forums to make students interactive and promote participation making them social networks.

Finally, they can be very useful in case of computing, Social sciences and learning. Curators need to maintain these sites thus promoting computing. Universities offer education and management knowledge will lead to social science development.

Conclusion:

The first generation of MOOCs has largely focused on platforms, methods, and tools for scaling the delivery of high quality "in-the-small" video-based lecture content presented by one or a small number of faculty, typically from the same institution. In this regard, they have been quite successful, as evidenced by the millions of students who have enrolled in courses offered by the big MOOC content publishers. Now that there has been much development but there is still more to do than what is required as evolution is a continuous process.