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Instructional design and creation of Digi-Fem MOOC

Maria Niari, Anastasios Tsolakidis, Cleo Sgouropoulou

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Instructional design and creation of Digi-Fem MOOC

Maria Niari
Institute for Lifelong Education
TEI of Athens
niarimaria@gmail.com

Anastasios Tsolakidis
Business Intelligence Analyst
TEI of Athens
fatsolakid@gmail.com

Cleo Sgouropoulou
Head of Department Computer Science
TEI of Athens
csgouro@teiath.gr

Abstract
The current paper describes the process of the instructional design and creation of the Digi-Fem MOOC, a European Erasmus+ funded project. The aim was to produce and develop online e-learning materials suitable for the needs of the target group, as well as to develop innovative online learning content, e.g. video courses, animation, scenarios, etc, in order to help young women to develop entrepreneurial skills. After a short introduction regarding the types and the philosophy of MOOCs, we present the aims, the design and the creation of the Digi-Fem MOOC.

Keywords: *Digi-Fem MOOC, instructional design, edX platform*

1. Introduction
1.1 What is a MOOC?
The development of MOOCs has its roots in the Open Education Movement, which advocates that knowledge must be freely shared, and that people's desire and need for learning must be met without demographic, economic and geographical limitations (Peters, 2008). The MOOCs are open, free courses (although there might be a fee for certification of attendance, but not for educational material nor for the use of the training platform), which are open to the general public and are offered by educational institutions.
The acronym of MOOCs (O'Prey, 2013; Hollands & Tirthali, 2014):

- **Massive:** they are designed to allow thousands of participants/learners to enroll. The number of participants in such courses can reach hundreds of thousands.
- **Open:** theoretically, everyone with an internet connection can enroll in the free course. Most of the MOOCs are offered free of charge by large organizations and usually they do not imply any specific criteria for the registration. They use open-access learning resources and are offered by open source software - free software.
- **Online:** a significant part of the interaction takes place online through discussion groups, wikis, or by watching short videos. MOOCs are usually offered via the Internet, but they can also be offered to closed groups of students through the network of their institution.
- **Courses:** there are specific start and end dates, student evaluation forms, quizzes and final exams.

1.2 Types of MOOCs

MOOCs are generally separated into cMOOCs and xMOOCs.

The cMOOCs (connectivist MOOCs) are based on web interaction, on the social dimension of learning through participants' communication, on the learner autonomy, and generally they follow a connectivist approach of learning. In cMOOCs the development of informal learning networks is fostered and the emphasis is on collaborative learning. The courses are built around a group of people of the same philosophy and are relatively free of the usual institutional limitations.

The xMOOCs (eXtended courses) rely on teacher's intervention to build and present the content, which is less learner-centered than the previous ones. They are more reliant on the structure of the lesson as they do in a traditional classroom, they use videos, trials, exercises and various evaluation methods. They follow a more behavioral approach. At xMOOCs, leading universities such as Stanford, Harvard, and others create the lessons and the learner's obligations focus on 'consuming' the content of the courses and completing evaluations to assess understanding of the content (Ahn et al., 2013).

1.3 The edX platform

EdX (https://www.edX.org/) is a non-profit MOOC platform created by MIT and Harvard, which funded it with $ 60 million. In 2013, 92 courses were offered through the platform.

In the case of the courses offered by edX (https://www.edx.org/) working with universities such as MIT, Berkley University of California and Harvard, the learning material is given mainly in the form of weekly videos, notes, links and e-books.

Evaluation is done by a weekly test, exercises, assignments, peer grading and a final test or paper.

Learner's support and guidance comes from either peer learning and/or teaching assistants via email, discussion boards and forums. Social media (facebook, twitter ..) also play an important role in student interaction and problem solving. There is always the ability to communicate with the teacher but this is rarely done as the need does not usually arise.

1.4 How do I participate in a MOOC?

Anyone who decides to participate in a MOOC is linked to the appropriate site by simply indicating his intention to participate. His/Her obligations are to attend the courses, to respond to tests, quizzes, tasks etc, to participate in the forum and to take the final quiz.

2. DIGI-FEM MOOC

2.1 Aim & Expected Results

According to the http://digifem.eu/, the aim of the Digi-Fem MOOC is:

The Digi-Fem Massive Open On-line Course (MOOC) will offer specially designed Open Educational Resources (OER) and learning pathways on the main thematic areas of startup basics (business planning, supporting technology infrastructure, digital marketing and social networking), built around a business scenario development approach. Each thematic area will integrate learning content, best-practice scenarios and on-line, step-by step planning through the integrated use of the Digi-Fem toolkit. The Digi-Fem MOOC, available 24-7-365,

aspires to offer young female entrepreneurs with valuable, readily applicable competences and skills, within a highly motivating and flexible environment. The main aim of the Digi-Fem MOOC is to be addressed to end users with EQF 5. Moreover, it will be directly linked to the mentoring and networking services, thus facilitating the establishment of business partnerships around Europe.

The expected results are:

After having completed the Digi-Fem MOOC, you will have acquired the necessary constituents of startup basics, such as classic good business planning sense (including financial and risk planning) blended with new technology enhancements (web advertising, e-commerce infrastructure, exploitation of social media and networking). Moreover, you will have acquired the desired skills and competences within a highly motivating environment, since you will be working on the creation of their own business scenarios.

2.2 Instructional design and creation of DIGI-FEM MOOC

The preparation phase for the Digi-Fem MOOC consists of the following steps:

1. Identification of the target group based on the proposal.
2. Literature review regarding the design of a MOOC.
3. Analysis and design of the Digi-Fem MOOC: TEI of Athens designed the MOOC Canvas that was used in Digi-Fem MOOC.
4. Review and redesign of the Digi-Fem MOOC based on the feedback from the stakeholders through qualitative research methodology.
5. Creation and production of the Digi-Fem MOOC. TEI of Athens, OUNL and BFI created four different MOOC Canvases for each one of the 4 thematic areas (Business Planning, Supporting Technology Infrastructure, Digital Marketing, & Social Networking) of the MOOC. The partners designed ways to achieve the Digi-Fem MOOC learning outcomes (knowledge, skills, competence) using a scenario-based approach.

2.3 Presentation of the Digi-Fem MOOC

The participants can register for the Digi-Fem MOOC via the Digi-Fem official site: http://digifem.eu/

Figure 1. The Digi-Fem official site

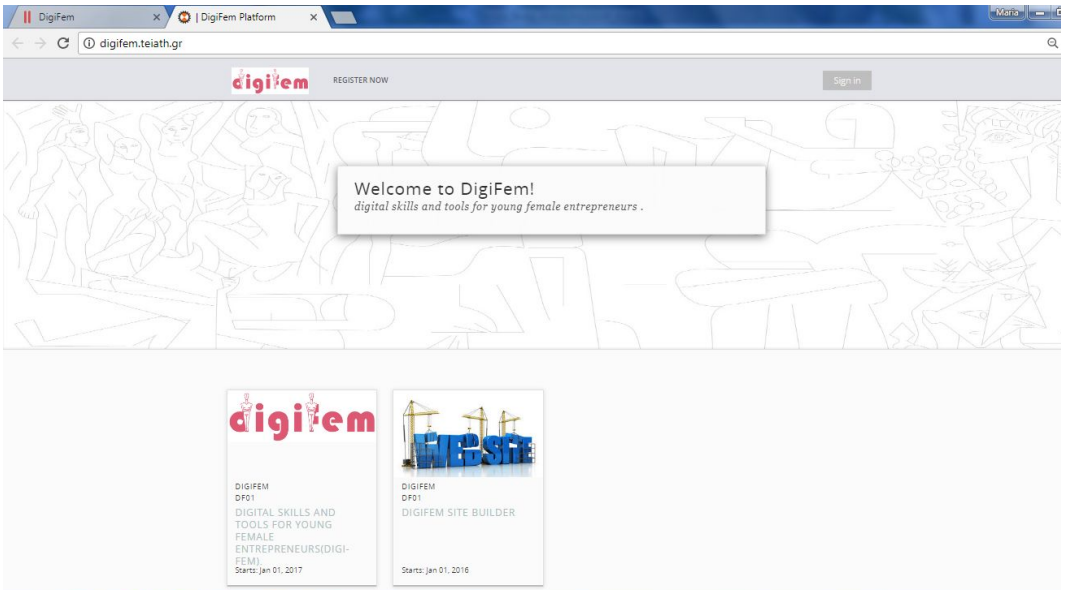

Figure 2. Sign in for Digi-Fem MOOC

2.3.1 The modules

There are four modules/units:

Unit 1 -- Business Plan
Unit 2 -- Supporting Technology Infrastructure
Unit 3 -- Digital Marketing
Unit 4 -- Social Networking

2.3.2 The content

We used videos that we have produced, videos from the YouTube, animation, OERs and e-books with open license.

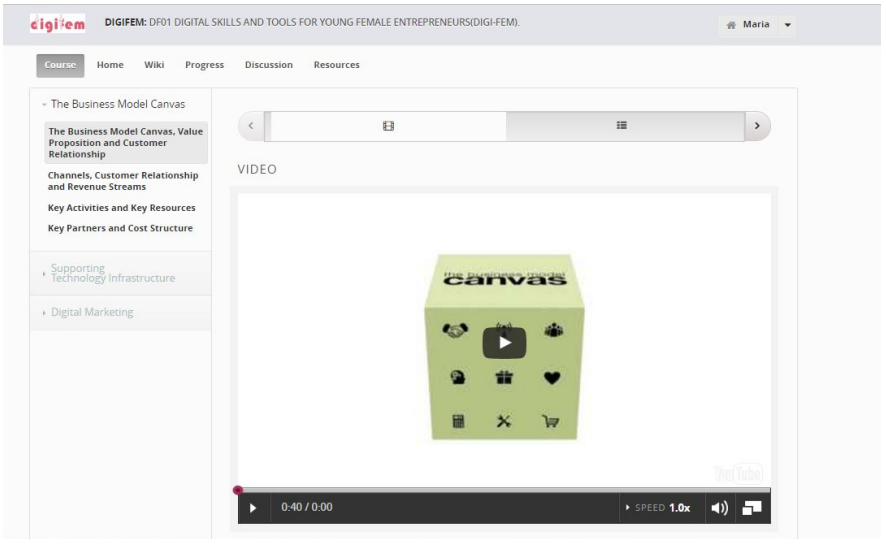

Figure 3. Example of a video

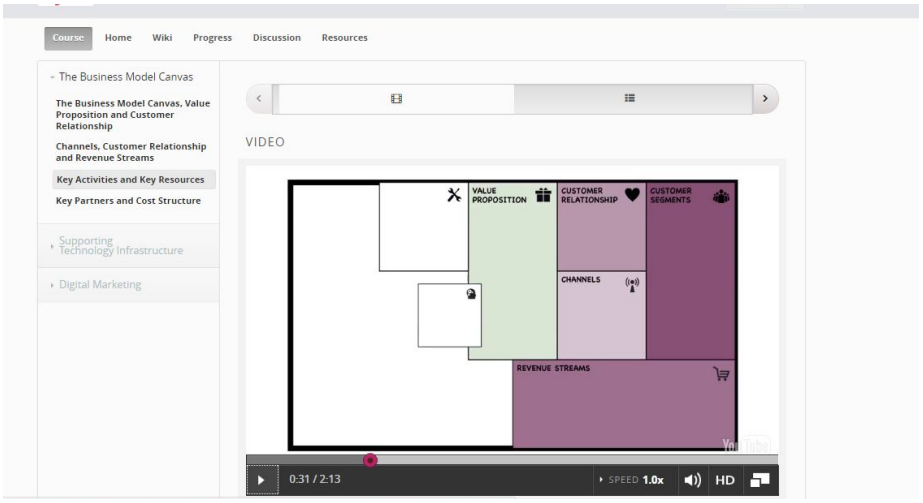

Figure 4. Example of a video

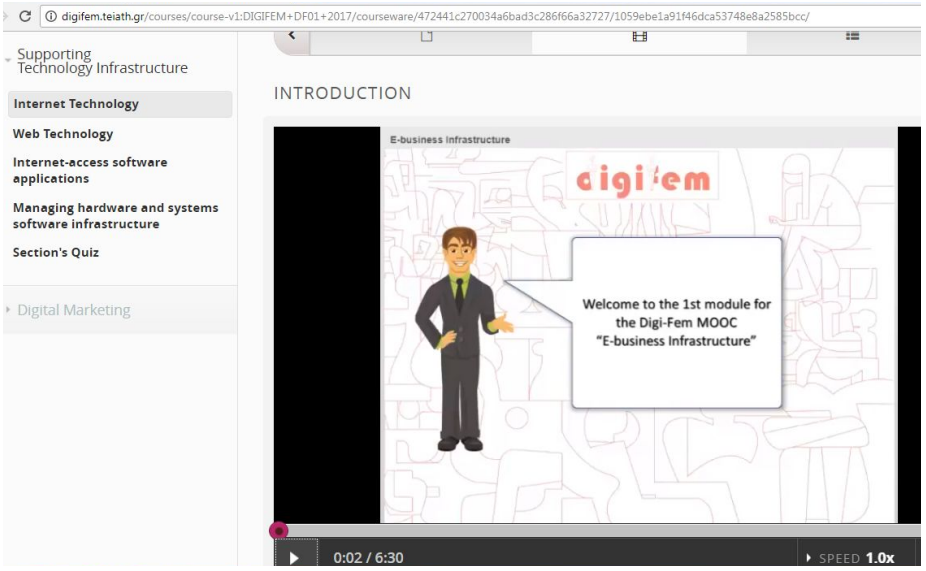

Figure 5. Example of a video

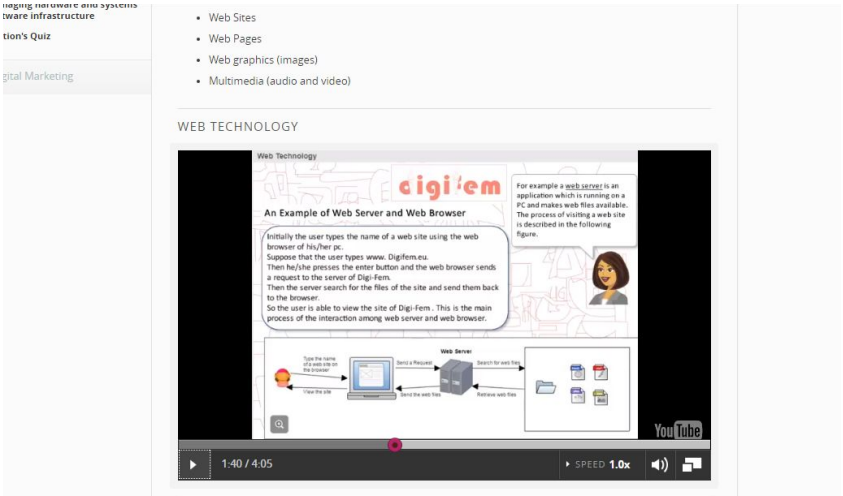

Figure 6. Example of a video

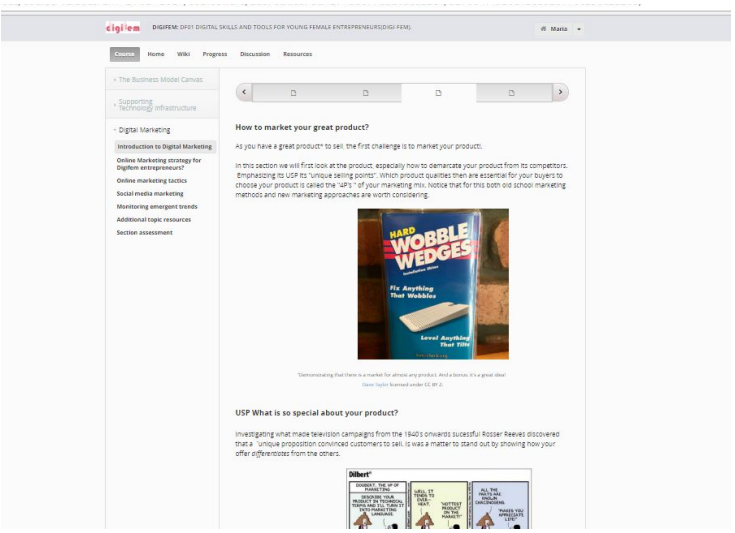

Figure 7. Example of a video

2.3.3 Student evaluation

The platform supports quizzes, multiple choice quizzes, true/false, assignments etc. We have chosen the multiple choice quizzes, written assignments and true/false questions.

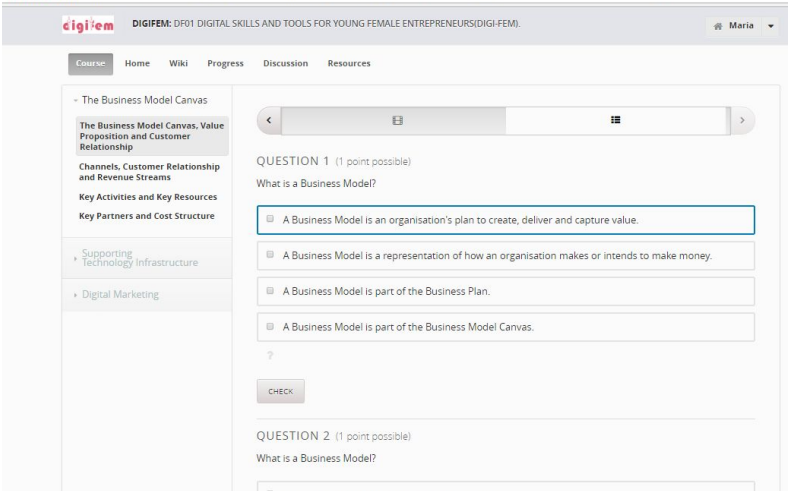

Figure 8. Example of a quiz

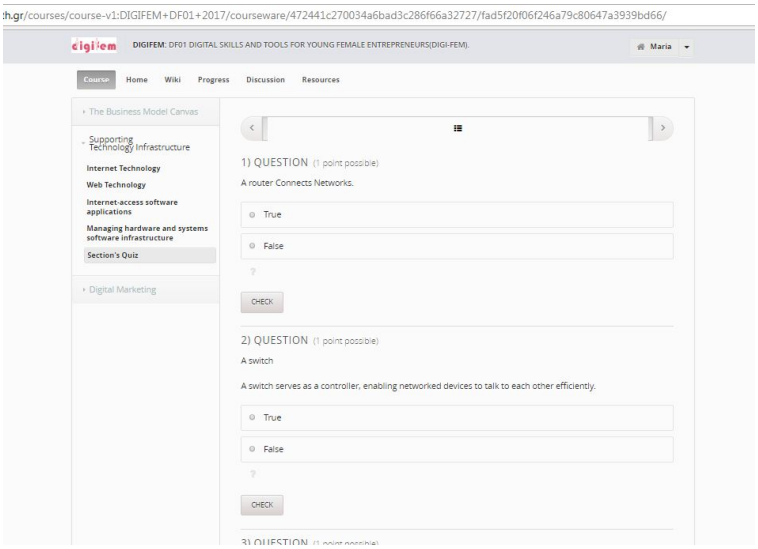

Figure 9. Example of the final quiz

2.3.4 Discussion forum

There is also a discussion forum where learners/participants can exchange ideas, promote collaborative learning and discuss topics.

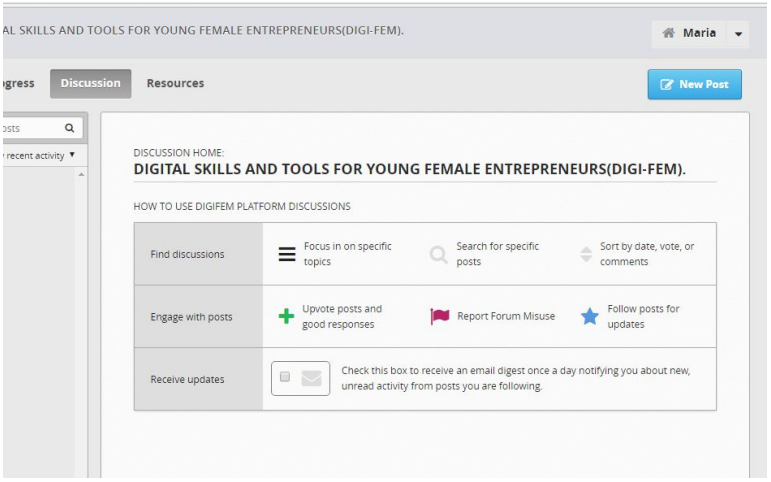

Figure 10. The discussion forum

2.3.5 Resources

At the end of each module there are open educational resources available for the learners.

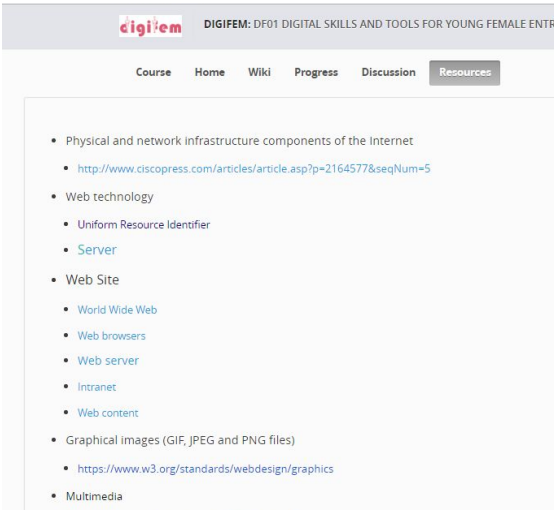

Figure 11. OERs

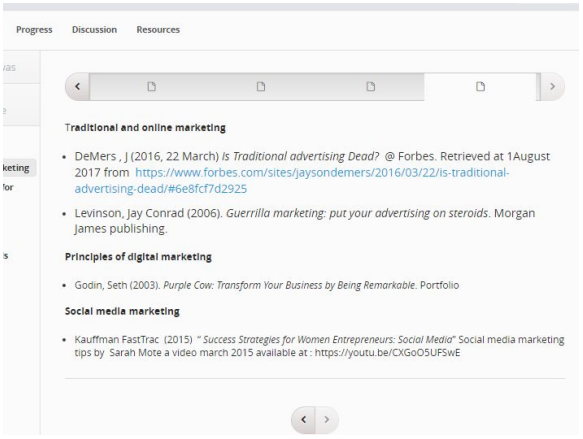

Figure 12. OERs

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