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DigiCulture

O4.1 - Digital Skills E-Assessment Tool v0.2 DRAFT

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Executive Summary

This report shows the work done so far for the O4.1 Digital Skills E-Assessment Tool. It covers work from May 2019 to January 2020 on e-validation of digital skills for the DigiCulture MOOC (Massive Open Online Courses). During this period, the DigiCulture project has designed the e-assessment tool and started user testing with cultural stakeholders. For the next step, content will be produced for the e-assessment tool and technical development has started to integrate it into the DigiCulture VLH platform.

Ojectives of this document

This document is divided into three sections. First, it defines what goal the e-assessment tool serves (*Background and Rationale*). Second, the method by which the e-assessment tool is going to be work is described (*Methodology)*. Finally, the current e-assessment tool guidelines and design is described *(Preliminary Results*), and the future pln for O4.1 are covered (*Next Steps*).

Who is this document for?

This document for the DigiCulture partners who will have to implement and integrate the e-assessment tool into their own courses in the DigiCulture VLH. Secondly, researchers who work in the field of education, can make use of this document to understand how examination in an online context can be utilized for assessment of digital skill. Finally, the creative industry sector who work wish to create online training platforms can benefit from this document through an understanding how to validate learning amongst trainees and online course participants.

What topics are addressed in this document

The document addresses the following topics:

- E-assessment tool goals and scope.
- Method for designing the e-assessment tool.
- The current e-assessment guidelines including Preliminary Survey, Peer Assessment and Examination.
- Next Steps for Integration and development of e-assessment in Partner courses.

Contributors

This document was developed collaboratively by AAU (leading O4) with input from all partners.

Acknowledgements

Aalborg University is the author of this document. The DigiCulture project partners provided valuable feedback to the process through the transnational meetings and have carried out interviews with learners across country.

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1   Aims and Scope

The aim of this draft is AAU is designing an E-Assessment Tool O4.1, for the DigiCulture MOOC. A mock-up of the tool has been produced - the mockup consists of a document which provide partners with guidelines for how they should examinate adult learners in their online courses.

2   Background and rationale

The e-assessment tools serves the following goals:

1. To prove that our adult learners have "low digital skills" - or at least have interest in acquiring more digital skills.
2. To prove that the adult learners have obtained new skills, on completion of one/more courses.
3. Provide feedback to content by adult learners through peer assessment.

To accommodate those goals, the e-assessment tool will consist of two parts: a Preliminary survey which addresses Goal 1, and a Course Examination which addresses Goal 2.

3   Methodology, tools and research

O4.1 E-Assessment Tool

As part of the sign up process for the DigiCulture MOOC, each adult learner will answer a few questions which indicates what skills they are interested in acquiring. Their indications marks what kind of new digital skills the learners need. The examination part of the E-Assessment Tool uses the Moodle Quiz Tool to provide automated assessments of adult learners. In each course, partners should design 10-12 questions to be included in a summative test which should be indicative of the adult learners' abilities. After the Course Examination Part, finally a single self-assessment question is included to let participants subjectively indicate whether they believe they have acquired new knowledge, along with a feedback field which lets them write a subjective message.

For consistency in our e-assessment tool, we recommend using only Multiple Choice and Description types, to keep the bar for interaction as low as possible for adult learners. The other question types can require non-trivial interaction which block adult learners submission and they are generally less useful when compared to Multiple Choice questions (especially in terms of feedback possibilities).

4   Expected results / Intermediate results

Preliminary Survey

The preliminary will ask the following question:

Which of the following skills would you like to learn?

- ❏ How to Design Virtual Reality and Augmented Reality Experiences
- ❏ Creating and Publishing Digital Content
- ❏ Protecting and Licensing Data

❏ (list of courses continues) …

Afterwards, the preliminary survey shows recommendations to the learner for courses.

Peer Assessment of Creative Content

During the DigiCulture transnational meeting in Graz it was discussed how creative content could be evaluated. It was agreed to propose a method of *peer assessment*, in which learners can review each other's work and thereby provide valuable feedback to each other. The courses should provide tools which make learners capable of evaluating others material, as part of the learning activities within the DigiCulture MOOC. The peer assessment will not play any direct role for whether the adult learners pass or fail courses. This is because the evaluation of creative content can be subjective, even if it involves feedback on the s. A concrete implementation plan will soon be released on how partners can integrate peer assessment into their courses.

Examination

The e-assessment is designed to pass adult learners who can demonstrate lower level learning and applying their knowledge in real case scenarios (5 questions each). The resulting grade is Pass/Fail. Passing requires answering at least all lower level learning questions correctly. Passing allows users to earn a course badge. Underneath are recommendations for the question types which counts towards passing.

✔ **Recommended Question Types**

- Questions which test lower level learning. (2-4 questions)
  Fx. "What is Virtual Reality?

- Questions which test distinguishing between concepts. (1-2 questions)
  Fx. "Pick the image which show a Virtual Reality system."

- Questions for identifying meaning of terms. (1-2 questions)
  Fx "Augmented Reality means creating an experience which takes place in.."

- Applying knowledge in real case scenarios. (3-5 questions)
  "A colleague wants to try Virtual Reality. What should you warn her about?"

⊗ Question Types to Avoid

- Highly complex questions which test higher levels of learning.
  Fx. "Please analyze the following three scenarios and choose the correct assertion."

- Self-assessment questions in context of the course material.
  Fx. "Do you understand the term "Virtual Reality"? (Yes/No)

- Questions which require parsing graphs that can be inhibited by graph illiteracy.
  Fx. "In the graph below, what sort of relationship is found between VR Sickness and Time?"

- Questions which assume knowledge outside course boundaries (fx math).
  Fx. "Using the formula below, how do you derive the virtual object's location in Augmented Reality?"

An example of the E-Assessment flow can be seen in the attached document in attachment [1].

E-assessment Feedback

The Moodle Quiz Tool is capable of providing immediate feedback. For the final assessment, we instead recommend online courses to provide deferred feedback, but not reveal the right answer. In addition, we recommend that individual feedback is given based on the chosen answers to each question. The quiz should be designed with types of feedback which trigger based on how many previous questions were answered correctly (we recommend 50% as the pass mark).

PASS FEEDBACK   FAIL FEEDBACK
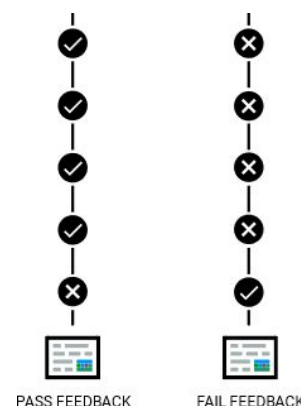
5   Next steps / Discussion

Partners are currently collaborating on a qualitative investigation, as part of O4.1.1 which require direct involvement of end-users (adult learners and potential employers). We have produced an interview outline, which can be used to direct the investigation, which can happen either face-to-face or via Skype (with screen sharing). Based on the interview outline, the e-assessment guidelines and role of peer assessment will be re-evaluated.

The team is now in development mode and the first prototypes of e-assessment have started to show (see attachment [1]). Before the user testing happening soon, partners need to adapt the e-validation tool template, based on the existing provided examples produced by AAU in the Virtual Reality course.

6   Conclusions

O4.1 E-assessment tool is still ongoing, and has so far settled the design and recommendations for all partners. The project partners will now shift to development mode and integrate the e-assessment tool into the DigiCulture VLH for each online course, following the guidelines agreed upon.

7   References

Attachments

[1] O4.1 Attachment - Example E-assessment tool.docx