DigiCanTrain

Digital Skills Training for Health Care Professionals in Oncology

Project Number: 101101253

WP 3 Co-design of the DigiCanTrain programme

Deliverable 3.2: DigiCanTrain modules

Executive Summary

This deliverable report (D3.2) describes the process of module content development within the DigiCanTrain curriculum completed as part of Work Package 3 (WP3) for the DigiCanTrain project, task 3.2 *Co-design the DigiCanTrain programme curriculum implementation* and task *3.3 Content production of DigiCanTrain Programme*. The Project task group, led by University of Galway, collaboratively developed the DigiCanTrain modules along with the wider WP3 group. This deliverable report includes the timeline over which the module content was developed based on the finalised curriculum in deliverable report 3.1 (D3.1). Additionally, this report outlines how the task group lead managed the content development process and includes the materials developed and provided to the content production group (wider WP3 group) to ensure consistency with and timely content development.

The curriculum demonstrated the modules within the programme and the learning strategies and assessment approaches to assist learners in achieving the learning outcomes (addressed in the DigiCanTrain curriculum - D3.1, task 3.1 - *Co-design the DigiCanTrain programme curriculum*). The programme modules to support the development of effective, person-centred digital health care, and digital interventions in cancer care services and the use of digital health interventions will be evaluated during the pilot phase in WP4. A partner meeting in Spain is organised (17-18.9.2024) before piloting the DigiCanTrain programme.

Chapter one provides an overview of the timeline of meetings conducted to facilitate developing the DigiCanTrain modules. Chapter two illustrates the different materials and templates developed to assist the content production group in developing the content and ensuring consistency with the development process. Chapter three describes the evaluation plan of the programme.

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1. Timeline for module development

The DigiCanTrain project aims to provide clinical and non-clinical healthcare professionals (HCPs) working in a cancer care setting with the necessary information to reskill or upskill in digital education and/or digital healthcare. The learners of interest for the project are grouped into trainers and participants (previously noted as trainees in D3.1). To reiterate from D3.1, trainers consist of clinical and non-clinical healthcare workers working in cancer care settings or societies who teach or train staff. Participants thereafter include clinical and non-clinical healthcare workers in cancer care settings or societies. The DigiCanTrain curriculum was previously finalised (D3.1) and was then developed into an e-learning programme. This deliverable report (D3.2) details developing the planned DigiCanTrain curriculum into a producible e-learning programme via the online digital tool ThingLink® embedded in the Moodle® open-source learning management system. Using ThingLink will aid in delivering a visual and interactive learning experience. Although during this pilot phase, it is not possible to accredit the e-learning programme as a formal micro-credential programme, to potentially future-proof the programme, it was designed following the common micro-credential framework (CMF) (European MOOC Consortium, 2019). How we aimed to meet the requirements set out by the common micro-credential framework in the DigiCanTrain curriculum, are noted in Table 1. The DigiCanTrain curriculum comprises 5 modules with 22 submodules (Figure 1).

Table 1. CMF criteria and its translation into the DigiCanTrain curriculum

CMF requirements	Original plan for DigiCanTrain curriculum (D3.1)	Current DigiCanTrain curriculum (D3.2)
Total workload of 100-150 hours (4-6 ECTS)	The workload for the DigiCanTrain e-learning programme ranges from 80 to 140 hours depending on learner group. However, participants have the option to complete more modules to increase the number of workload hours.	For the pilot study, trainers are allocated 140 hours. For the pilot study, participants (previously known as trainees) are allocated 80 hours. However, learners have the option to complete more modules to increase the number of workload hours.
Reach the European Qualifications Framework (EQF) of level 5–8	The learning outcomes of the e-learning programme have been guided by level 7 of the EQF.	Learning outcomes of DigiCanTrain (guided by level 7 of the EQF) include; • Learners will be able to explain the concepts of digital education and/or digital healthcare in the cancer care setting. • Learners will be able to analyse and critically appraise the application of digital health to support the development of effective, person-centred digital health care, digital cancer care services and the use of contemporary eHealth technology. • Learners will be able to apply the new digital and/or teaching skills to teach their peers. • Learners will be able to apply the new digital skills to their practice in the cancer care setting. • Learners will be able to integrate their new teaching and/or digital knowledge, skills and attitudes into the cancer care environment.

CMF requirements	Original plan for DigiCanTrain curriculum (D3.1)	Current DigiCanTrain curriculum (D3.2)
Assess learners to award the credits, such as following successful completion of the course	After every module, learners will complete an assessment e.g. self/peer assessment checklist or a multiple-choice questionnaire on the module content. A pass of 80 % is necessary before moving on to the next module.	After every submodule, learners will complete an assessment e.g. self/peer assessment checklist or a multiple-choice questionnaire on the module content. A pass of 80 % is required to pass the programme and receive the certificate. Learners can review their responses and repeat the assessment if they wish. The learning analytics from the Moodle platform should allow the WP4 group to evaluate whether learners have successfully completed the programme.
Provide a reliable method for identification verification at assessment which complies with university policies or a mode which is used across platforms which use CMF	Learners must sign into their e-learning programme using their personal email address and password.	Learners will receive individual logins for Moodle to complete the programme.
Provides students with a transcript which notes the learning outcomes for the micro-credential, total study hours completed, EQF level and the number of credits achieved	After completing the e-learning programme, learners will be provided with a transcript. This transcript/certificate will include relevant details required to ensure micro-credentials validation.	Figure 2 demonstrates an example of the updated certificate. Trainers will receive a certificate for 140 hours, and participants will receive a certificate for 80 hours.

Module 1 - Train the Trainees
- 1.1 Pedagogical Approaches on Digital Health Literacy and Education
- 1.2 Blended Learning Approach in the Era of Digitalisation
- 1.3 The Future Operating Environments and Education Technology
- 1.4 Remote Learning and Teaching in Oncology
- 1.5 Virtual Reality and Simulation in Post-pandemic World
- 1.6 Digital skills – the Educator's toolkit
- 1.7 Interprofessional Education in the Support of Digitalization of Oncology Services

Module 2 - Interprofessional education
- 2.1 Communication Training for HCPs in Digital Care Environment (HCP and patient coms.)
- 2.2 Advance Care Planning and Digital self-management support in cancer.
- 2.3 Digital Interprofessional Work Models in Cancer Care

Module 3 - Cancer nurses - Nursing cohort
- 3.1 Person-centred Care and Digital Self-Management Support in Cancer
- 3.2 Patient Involvement on patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs) for care and management (health data base)
- 3.3 Remote Monitoring and eConsultation in oncology nursing practice (Nurse to Nurse consultation services)

Module 4 - Specialists (clinical oncology, radiology, surgery) and general medicine - Medical practictioner cohort
- 4.1 Digital tools and artificial intelligence (AI) technology in cancer diagnostics
- 4.2 AI methodology as a part of modern radiotherapy planning
- 4.3 Digital decision supporting systems as working environments in implementing genomics to cancer treatment and prevention (Tumor DNA as well as genetic risk for hereditary cancer).
- 4.4 Electronic patients records and real-world data in supporting treatment decisions
- 4.5 eHealth and digital tools in patient surveillance

Module 5 - Non-clinical staff working in health systems and/or health authorities and or non-governmental organisation - Non-clinical cohort
- 5.1 Cancer organisations in person-centred digital cancer care
- 5.2 Collaborative models in building organisation resilience in Oncology
- 5.3 European Crises Response Model in Oncology
- 5.4 Digital Support in Health Care System Resilience and Leadership (Utilization of Data pools in Clinical Settings and Leadership)

Figure 1. DigiCanTrain programme modules and embedded submodules

Certificate

This certificate acknowledges that

_____

has completed 80 hours in the Level 7 EQF DigiCanTrain pilot programme.

Date _____

The learning outcomes of the programme included;

- To be able to explain the concepts of digital education and/or digital healthcare in the cancer care setting.

- To be able to analyse and critically appraise the application of digital health to support the development of effective, person-centred digital health care, digital cancer care services, and the use of contemporary eHealth technology.

- To be able to apply the new digital and/or teaching skills to teach their peers.

- To be able to apply the new digital skills to their practice in the cancer care setting.

- To be able to integrate their new teaching and/or digital knowledge, skills, and attitudes into the cancer care environment.

This pilot programme was assessed with a knowledge test on completion of every submodule.

Co-funded by the European Union

Figure 2. DigiCanTrain certificate of completion for participants.

Once the curriculum was finalised regular meetings and virtual correspondence were conducted. The goal was to ensure that the content production team in WP3 would develop the module content in a timely manner, and that they would be kept up to date of module development progress and have a forum to interact with colleagues and discuss any challenges faced. Figure 3 provides a timeline for the meetings held with the wider WP3 group.
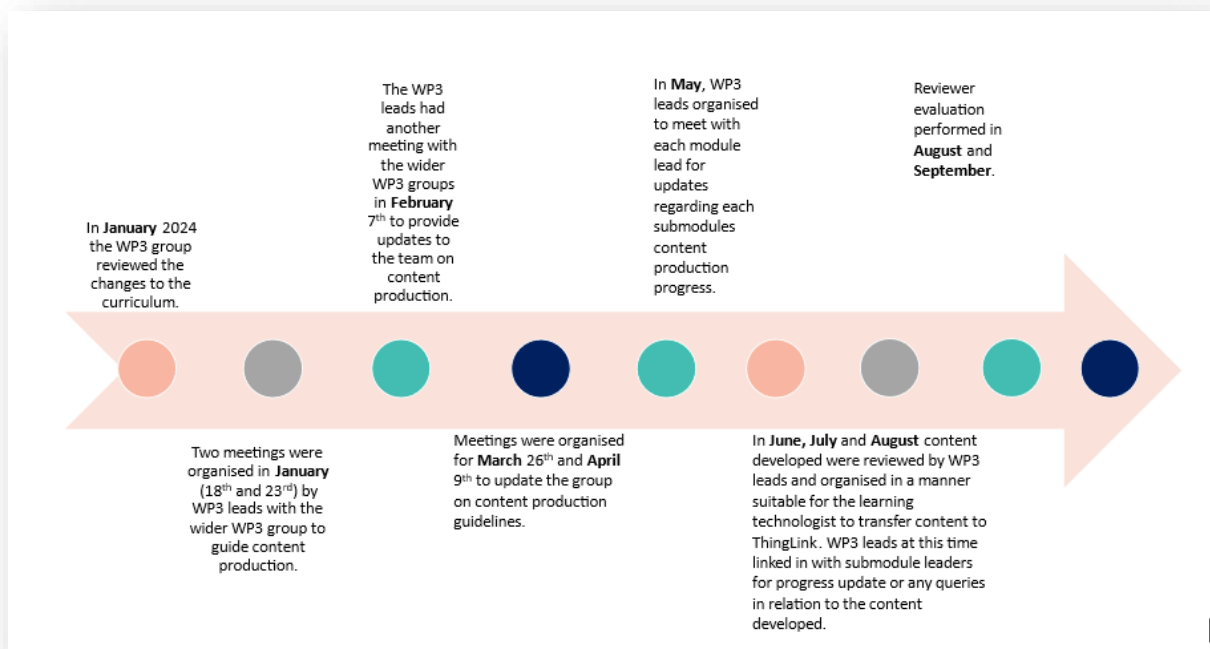

Figure 3. Timeline for module development

The meetings from January to April proved to be very productive about content being commenced. However, it also allowed for open communication on the progress, which highlighted certain challenges. Timely communication and notification allowed the opportunity to put processes in place to mitigate such challenges. The materials developed to help guide the production process are noted in Chapter 2 of this document. In May, WP3 leads met individually with each module lead to ascertain how modules/submodules were progressing. For updates on content production progress outside of virtual meeting times,

notifications were posted onto the relevant DigiCanTrain site for WP3 by the WP3 leads. This function and mode of communication was used to update the broader group on issues related to content production, and it served to update those who could not attend meetings.

2. Guidelines developed to assist module teams with module production

WP3 leads held regular meetings with the broader core group for WP3 to discuss and guide content production. The predominant topics of these meetings were grouped into categories.

Micro-credential

The wider group was informed of the micro-credential process such as the workload hours and European Credit Transfer and Accumulation System (ECTS) required to meet the needs of a micro-credential. Although the programme would not be accredited by any university at this stage, it was developed considering micro-credential criteria for potential future accreditation. After piloting the DigiCanTrain programme, there is potential for each partner country/university to submit the DigiCanTrain programme for accreditation in their local university. The content production group were informed that learners would need to be assessed to meet micro-credential standards. Therefore, multiple choice questions or some form of assessment were required after each submodule. A video providing an overview of micro-credentials was uploaded to the project Teams site on the 5th of February.

Module content (learning outcomes, teaching and assessment strategies)

It was reiterated to the group that learning outcomes were to address knowledge, skills, and attitudes/values. The group also knew that teaching and assessment approaches were to 'run themselves'. As there would be no facilitator or moderator to manage the programme once it was live, it was not possible to incorporate teaching approaches such as live discussions or online blog forums. The learning technologist demonstrated the functionalities of the ThingLink platform to the group, such as how videos and links could be added to the ThingLink platform. It was also considered appropriate to use relevant materials/content from other languages provided these could be translated into English e.g. English subtitles provided with videos in another language. The group were also advised to

provide the 'workload' expected from the submodules from the perspective of those for whom English is not the first language.

Introductory module (country-based digitalization in cancer care)

During curriculum design (D3.1), it was decided that each country would provide an account or overview of the country's digitalization of cancer care. A guideline for how the group could complete their introductory module was uploaded to Teams (Appendix 1). An example of an introduction module was shown to the group by WP3 leads. There were concerns that there may not be specific digitalization updates in some countries which focus on cancer. Considering this, it was decided that national digital initiatives should be included in the module even if not specific to cancer, but which include cancer. It was also decided that a voiceover could be provided with the content for this module. The group were advised to add the content to PowerPoint slides and to use the notes section on PowerPoint for the script for the voiceover. Opinions were gathered regarding the voiceover to be used, and it was decided that the group would use a 'neutral' accent for the voiceover. An artificial intelligence voice generator https://murf.ai/ was identified. After agreement with the project principal investigator (PI) and learning technologist, it was decided to use this service for the voiceovers within the introductory module and any other submodule within the DigiCanTrain programme.

Content production resources and guides

Expertise in Curriculum production grid

The 'curriculum process grid' was developed and uploaded to Teams (Appendix 2). WP3 leads developed this table/grid for the group to keep track of their progress in developing their submodules. Appendix 2 demonstrates the grid for module 1 and its submodules. This was developed for every module/submodule to highlight the risks or challenges to the content production stage, and any resources needed could be added to the relevant section on the grid. The group was asked to meet with their respective submodule group members and to update this grid with their plan for the submodules (by 6th March). Details requested from the group included images/pictures for content. The group were asked to consider what images/pictures they would use for their modules/submodules via the ThingLink platform. The project PI provided a short video on ThingLink and how it uses these images/pictures. The group was also asked to consider the experts they hoped would

contribute to their modules/submodule content. Queries which were noted on the grid were addressed at broader meetings.

The content producers in WP3 were encouraged to regularly update the grid as they updated their submodules so that WP3 leads could track progress. A more interactive 'curriculum progress chart' was developed later in the module development to obtain more detailed updates on submodule progress. An example of this chart using Excel can be noted in Appendix 3. A separate sheet for each module was available in the Excel workbook. The wider WP3 group were asked to update this chart, specifically the column 'Content completed' as this would help monitor the progress of content production for each submodule and help identify any 'at risk' submodules.

Materials for helping develop content

To create consistency with content production, guidelines for content production were made available to the broader WP3 team. This included an appropriate proportion of content on slides, the process of using online videos in the content, the referencing guidelines to follow and how to direct the learning technologist to inserting the correct image into the content (DigiCanTrain Tips for formatting content and ThingLink guidelines from learning technologist can be found in Appendix 4 and 5). These guidance documents were provided to the group via Teams. It was also relayed to the group that only open-access articles should be provided on the reading list for learners to ensure equal access for all. The learning technologist also demonstrated how content can be incorporated into ThingLink. Similarly, PowerPoint templates were developed for the group to create a standardised content production process where possible (Appendix 6).

Process for uploading content

The group within WP3 was advised of the process for uploading the content produced to the learning technologist. Completed submodules were to be uploaded to the appropriate Teams folder.

Consents and disclaimers

It was noted from the meetings that a consent form would be required from patients who were willing to provide their information/experiences to the DigiCanTrain programme. This consent form was developed by WP3 leaders (Appendix 7) and approved by the project office (project PI). It was then made available to the broader group on Teams.

A disclaimer was also to be developed for experts to clarify the Creative Commons agreement they were willing to provide to the content produced. This was developed by WP3 leaders (however, the wider WP3 group were advised to link in with WP3 leads if they had any experience in the area). This form was then sent to the project team for review. Following this, the expert disclaimer was sent to legal services at Turku University of Applied Sciences for approval. Experts were to sign their approval of the access agreement for their material (Appendix 8).

Translation of content into ThingLink by Learning Technologist

Once the content for each submodule was developed, it was reviewed by WP3 leads and organised in a manner suitable for the learning technologist to transfer the content to ThingLink. This organisation was labelled in the 'DigiCanTrain ThingLink manuscript guide' (headings labelled for each module/submodule noted in Appendix 9), which was used to help translate the submodule content to the ThingLink platform in a manner understood by the learning technologist. This ensured consistency with how the content was presented for the learners in ThingLink. Alongside the 'curriculum process grid' this process allowed the leads to review which submodules were uploaded and subsequently transferred to the ThingLink platform. The WP3 leads linked in with submodule leaders to ascertain progress with submodules if they were not uploaded. Valid concerns were addressed in content production meetings regarding the ever-expanding area of digitalisation and that some information or content may become dated. A disclaimer was added to the module to alert learners to this.

3. Programme Development Evaluation

Once the content for the DigiCanTrain programme has been completed, members of the DigiCanTrain project group will review and evaluate the programme before the pilot phase as a final quality check. This review includes those who have prepared the content for the DigiCanTrain programme to check their specific submodules to ensure all materials have been translated to ThingLink/Moodle appropriately. WP3 leads, using a specific evaluation rubric (Appendix 10), will review the programme to ensure all submodules have consistent content such as an information section for the learners, an assessment and an evaluation. Highlighting the missing elements to content creators. Other project team members (not WP3 leads) also reviewed the programme to evaluate its clarity, flow and appearance. A more thorough evaluation of the programme will be completed during the pilot phase in WP4.

Following the project teams' evaluation and when the modules have been updated, the programme will be ready for the pilot phase where relevant. During this phase, after each submodule, learners will be asked to evaluate their learner experience using a Likert scale. Figure 4 details an example of the submodule evaluation to be completed by learners. The objective of the evaluation is to ascertain if learners perceive the submodule as meeting their expectations about their knowledge, skills, and attitudes. Additionally, learners will be asked if they felt that the assessment was helpful to their learning. Finally, learners will be asked to provide more feedback after each module. This evaluation will include more open-ended and binary questions (yes/no) regarding their experiences and opinions on the module. This module evaluation is also a part of WP5 (Quality Control and Evaluation). Figure 5 provides an example of the module evaluation to be completed.

Once learners complete the programme (during the pilot phase) and complete all assessments and evaluations intertwined within the programme, the DigiCanTrain programme/modules can be refined based on participants' experiences and formal evaluation. Considering that module production is an ongoing process until evaluation is completed by all relevant stakeholders, this deliverable cannot produce final module content.

FEEDBACK

Submodule evaluation: 1.7 Interprofessional Education

‹ Back to course

Mode: Anonymous

Do you have an improved understanding and awareness of the knowledge and/or skills of the content provided in this submodule?
○ (1)I do not ○ (2) ○ (3) ○ (4) ○ (5) ○ (6) ○ (7) ○ (8) ○ (9) ○ (10)I do

Do you feel more confident in relation to your knowledge and/or skills after completing this submodule?
○ (1)Do not feel confident ○ (2) ○ (3) ○ (4) ○ (5) ○ (6) ○ (7) ○ (8) ○ (9) ○ (10)Feel confident

Do you think that you will integrate this submodules specific knowledge and/or skills into your workplace environment/clinical practice?
○ (1)Very unlikely ○ (2) ○ (3) ○ (4) ○ (5) ○ (6) ○ (7) ○ (8) ○ (9) ○ (10)Very likely

Do you think the assessment for this submodule was helpful to your learning?
○ (1)Not helpful ○ (2) ○ (3) ○ (4) ○ (5) ○ (6) ○ (7) ○ (8) ○ (9) ○ (10)Helpful

Submit your answers Cancel

Figure 4. Evaluation of submodules

📢 Module evaluation: 1. Train the trainees

< Back to course

Mode: Anonymous

1. The module title is explicit.
○ Yes ○ No ○ N/A

2. The module title links logically to other program modules.
○ Yes ○ No ○ N/A

3. Objectives are clearly defined.
○ Yes ○ No ○ N/A

4. Objectives identify competencies that will be covered in the module.
○ Yes ○ No ○ N/A

5. Objectives list the specific skills or knowledge the learner will gain by taking the module.
○ Yes ○ No ○ N/A

6. Content supports identified training objectives.
○ Yes ○ No ○ N/A

7. Content includes required topics.
○ Yes ○ No ○ N/A

8. Content or supplemental materials consider and include stakeholder recommendations.
○ Yes ○ No ○ N/A

9. Module and supplemental materials are culturally appropriate, use culturally sensitive language, and acknowledge cultural norms.
○ Yes ○ No ○ N/A

10. Materials are accessible in an individual's preferred language.
○ Yes ○ No ○ N/A

11. Module accommodates different learning styles.
○ Yes ○ No ○ N/A

12. The module accommodates a variety of relevant illustrations/examples/ visual aids.
○ Yes ○ No ○ N/A

13. The module is accessible to all potential participants.
○ Yes ○ No ○ N/A

14. Learning outcomes are clearly described.
○ Yes ○ No ○ N/A

15. Learning outcomes are measurable.
○ Yes ○ No ○ N/A

16. The instructional approach helps the learner to learn, assimilate, and apply the content.
○ Yes ○ No ○ N/A

17. Interactivity is used throughout the module to involve and engage the learner in active learning.
○ Yes ○ No ○ N/A

Next page   Cancel

Figure 5a. Evaluation of module (first page)

📢 Module evaluation: 1. Train the trainees

< Back to course

Mode: Anonymous

Which part of the training was the most useful for you?

How can the information gained be applied in your daily practice?

Do you have any recommendations on how to improve the training?

Was there sufficient time?

Would you recommend this module to other professionals?

Would you like to add anything else?

Previous page   Submit your answers   Cancel

Figure 5b. Evaluation of module (final page)

4. Conclusion

The DigiCanTrain project aims to provide digital skills training for healthcare professionals in cancer, focusing on reskilling and upskilling through an e-learning programme. Regular meetings and the development of project templates and documents ensured timely and consistent content development. The upcoming pilot phase will evaluate the effectiveness of the modules (5 modules, 22 submodules), ensuring they meet the learning outcomes and are ready for future accreditation. This initiative represents a significant step towards enhancing digital competencies in cancer care services.

References

European MOOC Consortium. (2019). EMC Common Microcredential Framework.

Appendix 1. Introductory module – guidelines

Introductory module- guidelines

The DigiCanTrain curriculum will be introduced with a short 'Introduction module' which will provide an overview of the program and specific details for each country involved.

Each country will provide an overview of:

- The current state of digital health integration in cancer care services
- Background to national initiatives/policies
- Specific examples of digital health interventions in cancer care services

Learners will be informed of the purpose of this introduction module and that there is no assessment.

Learners will access this information on the landing page in Thinglink (The DigiCanTrain learning technologist will use a map/image of Europe as a landing page image with a hotspot for each country for learners to access to view the summaries)

Who is responsible for writing this module?	Universities leads and cancer care partners should jointly contribute to their country specific summary. Please add to the task list (below)	
	Introduction to DigiCanTrain program	
	Digitization of cancer care services in Ireland	
	Digitization of cancer care services in Finland	
	Digitization of cancer care services in Greece	
	Digitization of cancer care services in Romania	
	Digitization of cancer care services in Spain	
	Digitization of cancer care services in Estonia	
What format should be used in writing a summary?	A list and/or bullet points should be used (avoid long, detailed paragraphs). Video recordings if possible Links to relevant reports/policies etc. may also be provided.	
Is there a word limit?	No, but be mindful to avoid unnecessary or repeated information. However, as we would like this module to be maximum 1 hour in total we propose a workload of 5-10 mins per country summary.	
What is the deadline to have this uploaded to Teams site/sent to learning technologist?	Friday March 22nd	

Appendix 2. Curriculum production progress grid

Curriculum Module 1 – Train the trainees

	Module/Submodule	Submodule team	Image (e.g. video or still)	Expert content contacted/ created	Audio/visual content planned / created	Written (script) content planned / created	Assessment Content	Resources needed	Content sent to learning technologist
1.1	Pedagogical Approaches on Digital Health Literacy and Education								
1.2	Blended Learning Approach in the Era of Digitalisation								
1.3	The Future Operating Environments and Education Technology								
1.4	Remote Learning and Teaching in Oncology								
1.5	Virtual Reality and Simulation in Post-pandemic World								
1.6	Digital skills – the Educator's toolkit								
1.7	Interprofessional Education in the Support of Digitalization of Oncology Services								

Appendix 3. Curriculum progress chart

MODULE 3: Cancer Nurses	Submodule	Submodule team	Content completed (100% = all content uploaded to Teams site)	Content not completed	Work Progress	If content not completed, please provide details on progress
3,1	Person-centred Care and Digital Self-Management Support in Cancer	Turku UAS (BEN), ICO(BEN) EONS(BEN)	100 %	0 %	100 % / 0 %	Content complete, can be enhanced if needed.
3,2	Patient Involvement on PROMs and PREM or care and management (health data bas	GAL (COO), NCCP (BEN), ICO (BEN), EONS(BEN)	100 %	0 %	100 % / 0 %	Content complete
3,3	Remote Monitoring and eConsultation in oncology nursing practice (Nurse to Nurse consultation services)	Turku UAS (COO), ICO(BEN) EONS(BEN)	90 %	10 %	90 % / 10 %	One animation missing, coming in end of June.

Introductory Module   Module 1   Module 2   **Module 3**   Module 4   Module 5   +

Appendix 4. DigiCanTrain Tips for formatting content

Tips for formatting content

This guide aims at creating uniform content in the ThingLink and Moodle platforms. It contains material requirements, formatting tips and links to the template and file locations.

CONTENTS

Template for creating content

Use the template
DigiCanTrain_PPT template for creating content_V1 available in Teams (*WP6/Templates*).

Naming the files

When submitting files, please follow these guidelines:

- Include the module/submodule in the filename.

- Specify whether the file is for background or tag content.

    - In ThingLink, a **tag** allows you to add small icons on top of the **background**, that can be either a 360° degree image or a 'normal' flat image. Clicking the icon opens interactive content, such as text, images, videos, links, or PDF files (**tag content**).

Example filename formats:

- Module1.2-Picture123-background.jpg
- Module2.3-videoname-tag.mp4

Avoid sending files directly via email to prevent potential size/quality reduction.

Submitting files

- Add the **slides, video files, PDF:s, audio content and images** (regular and 360°) in folder *Content production* (*under WP3 in Teams*). The folder contains a subfolder for each module.

- If you have **images on your slides**, upload the original images onto Teams. Name the image using the slide set name and slide number, i.e. 'Sub*module 3.1_Person-centred care and digital self-management support in cancer_slide 4*'. In addition, please include in the relevant slide the title of the image you want included.

Language

All content should be in English. It will be translated after the content is produced following review of all modules. Materials that have been prepared before the DigiCanTrain project in other languages than English can be utilised as long as English subtitles are provided.

2

How to create effective and user-friendly slides

Using some time to format your slides pays off. When the content is user-friendly, the reader will more easily and in less time absorb the provided information.

1. Layout and visual appearance

Easier said than done, but when making your slides, you should aim at keeping them clear.

- Avoid placing items (image, logo, text) too close or above each other.

- Avoid visual overload – leave some white space between the elements.

- Limit the number of elements on one slide. Instead, you can explain the overall situation on one slide and the clarifying details on the following slide(s).

Stick to the project style.

- Use the DigiCanTrain colour theme to create a consistent and professional look.

- An inconsistent style can be off-putting and may cause the reader to overlook your main argument.

IMAGE1. A bad example:
- *too many elements*
- *the elements are too close to each other*
- *there is too much text*
- *the font is too small*

3

IMAGES 2 AND 3. Better formulated slides with

- *less elements on one slide*
- *more white space around the elements*
- *less and text with better structure and bolded key points*

2. Text

There is no absolute maximum number of words per slide as it depends on the used method, difficulty level, the other elements on the slide and the used language.

Some say you cannot have more than 40 words per slide, because you don't want the reader to focus on reading the slides and not on what you say. The point is valid when you are giving a presentation on the spot, in an online meeting or in an educational video, and you want to use the slides to support your message. In such cases, the text can be very compact and consist of supporting words only.

When the reader consumes the material without a presenter's assistance, the focus is on the slides' content. This applies to i.e. online courses, when the reader has access to the material regardless of time and place. In such cases, the text must be more explanatory and consist of full sentences. Thus, you can increase the number of words per slide.

Assist the reader

You can make reading easier by formatting the text into a more accessible format.

- Add a list of contents in the beginning of the slides when possible.
- Use headings, bullet points and division into paragraphs.
- Guide the reader to the most essential content by bolding, adding an accent colour or underlining.
- If you have several slides of same topic, add numbering after headings, i.e.:
  - Cancer care in Europe 1/3
  - Cancer care in Europe 2/3
  - Cancer care in Europe 3/3

Font size

Again, there is no 'one size fits all' solution but here are some general instructions.

- Suitable font depends on the viewer's eyesight, screen resolution, and viewing distance.
- When reading from a short distance (screen) minimum body text font size should be 16 pixels.
- Be consistent with the text size throughout the presentation.

5

Pro tip

If your text overlaps with the slide elements (i.e., the logo), use a blank slide.

This is not ok

- Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec vitae mauris tristique, condimentum ex id, blandit ex.
  - Pellentesque facilisis, velit id egestas malesuada, ipsum ligula pellentesque magna, malesuada rutrum nisl ex eu metus.
  - Pellentesque sit amet lorem eget felis ullamcorper pretium. Nullam tempus facilisis sapien, et venenatis odio efficitur non.

- Vivamus vitae nulla rhoncus sem vehicula ullamcorper vel in est. Nullam sit amet arcu ac purus varius tempor. Integer quis turpis fringilla, pharetra tortor eget, convallis odio. Nunc eget efficitur odio, sed rutrum risus.

This looks better

- Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec vitae mauris tristique, condimentum ex id, blandit ex.
  - Pellentesque facilisis, velit id egestas malesuada, ipsum ligula pellentesque magna, malesuada rutrum nisl ex eu metus.
  - Pellentesque sit amet lorem eget felis ullamcorper pretium. Nullam tempus facilisis sapien, et venenatis odio efficitur non.

- Vivamus vitae nulla rhoncus sem vehicula ullamcorper vel in est. Nullam sit amet arcu ac purus varius tempor. Integer quis turpis fringilla, pharetra tortor eget, convallis odio. Nunc eget efficitur odio, sed rutrum risus.

3. References

It is important that all reading material that the learners are directed to are open access.

Provide the full references as appropriate throughout the document (on each slide) and then collate the reference list at the end of the presentation.

Use the APA format to references.

Example of reference provided throughout the document:

Challenges to blended learning

- Boelens et al. (2017) completed a systematic review which identified four key blended learning design challenges
  - incorporating flexibility
  - stimulating interaction
  - facilitating students' learning processes
  - fostering an affective learning climate.

- Please read Boelens et al.'s (2017) systematic review which discusses these challenges and provides examples from various studies on how they approached these challenges
  Four key challenges to the design of blended learning: A systematic literature review - ScienceDirect

Boelens, R., De Wever, B. and Voet, M., (2017). Four key challenges to the design of blended learning: A systematic literature review. *Educational Research Review*, 22, pp.1-18.

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4. Images

Well-selected image conveys your message effectively. Also, they keep your audience better engaged.

Here are some tips to regarding selecting images.

- Select images that support your message.

- Avoid images with too many details.

- Be consistent: use images that have same style and formatting.

- Avoid pixelated or blurry images.

Right to use images

When adding images, you must make sure you have the right to use the images in a presentation and distribute them.

The non-profit organization **Creative Commons** offers licenses that enable the creators to determine how their work is to be used. All Creative Commons licenses require that any reuse of the materials must be attributed to the author, creator, or owner.

CC Search Portal (creativecommons.org)

Public domain images are photographs, vectors, or any other graphic content that are not protected by copyright. When possible, you should give credit to the creators even if it is not required.

Here are a few examples of sources that offer public domain images:

Unsplash

Pixabay

Pexels

4. Videos

You can add **links to videos** to your slides.

When you add links:

- The video will play in YouTube's or Vimeo's website.

- The audience has access to the link.

En example of adding video links

Cancer care related videos available in YouTube:

- **PROTECT-EUROPE Project Presentation and Testimonial** by European Cancer Organisation
  https://www.youtube.com/watch?v=bCm3txK6I18

- **Access to Cancer Care** by United Nations
  https://www.youtube.com/watch?v=Z1oqGLicXw0

- **Sara Cerdas MEP - European Code of Cancer Practice** by European Cancer Organisation
  https://www.youtube.com/watch?v=I6XHCJR0N2w
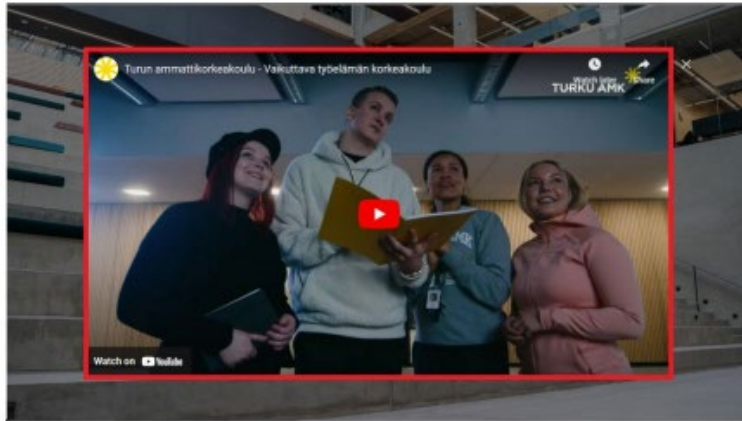
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ThingLink – material requirements

1. Background & base media

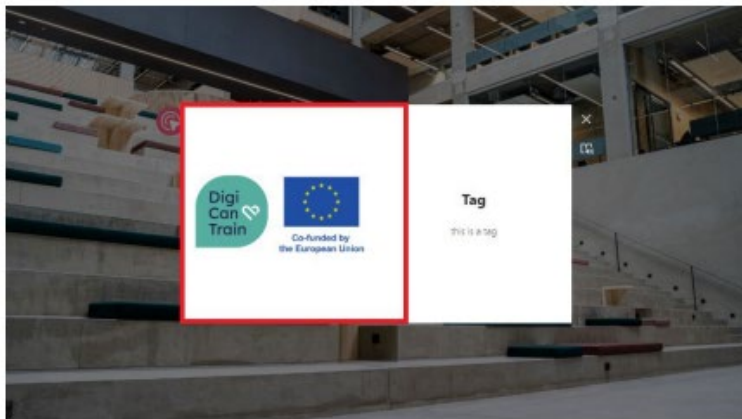(e.g. 360 or static background picture)
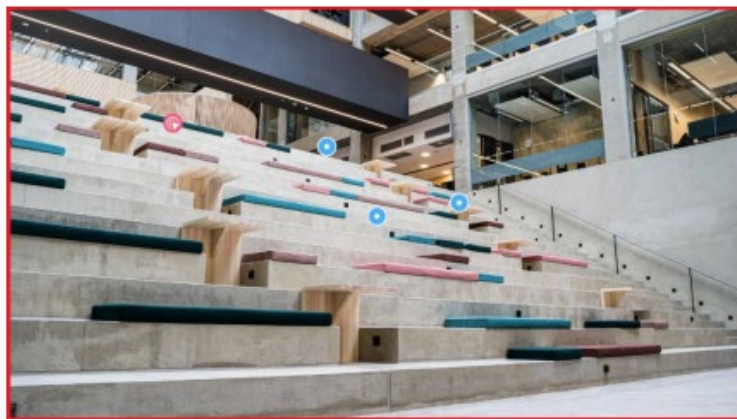
2. Tag

(e.g. tag with video)

(e.g. tag with picture)

3. Background & base media

Images
Supported file formats:	JPEG, GIF
Maximum resolution:	up to 12000 x 12000 pixels
Maximum file size:	25MB
Recommended file size:	up to 7 MB

Videos
Supported file formats:	MP4
Maximum resolution:	3840 x 2160
Maximum file size:	2 GB
Maximum duration:	20 minutes
Codecs:	H264 video codec and AAC audio codec

360° images
File format:	JPEG
Aspect ratio:	2:1
Maximum resolution:	8192 x 4096
Maximum file size:	25 MB
Recommended file size:	up to 15 MB

360° videos
File format:	MP4
Aspect ratio:	2:1 (e.g. 2000x1000)
Maximum resolution:	3840 x 1920
Maximum file size:	2 GB
Maximum duration:	20 minutes

4. Tag content

The 'Text & media' tag allows you to upload images, videos, 3D models, and PDF files.

Images

Supported file formats:	JPEG, PNG, GIF
Image resolution:	up to 12000 x 12000
Maximum file size:	25MB
Recommended file size:	up to 5 MB

Videos

Supported file formats:	MP4
Max resolution:	1920 x 1080, recommended resolution: 640x360
Max file size:	25MB
Recommended file size:	up to 10 MB
Codecs:	H264 video codec and AAC audio codec

PDF files

Max file size:	25 MB

Audio content (background & in-tag audio)

Supported file formats:	MP3, M4A
Maximum file size:	25 MB
Codecs:	AAC

More info: Uploading content & upload specifications – ThingLink

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Appendix 5. ThingLink guidelines from learning technologist

When submitting files, please follow these guidelines:

- Include the module/submodule in the filename.
- Specify whether the file is for background or tag content.

Example filename formats:

Module1.2-Picture123-background.jpg

Module2.3-videoname-tag.mp4

For file transfer, please use WeTransfer, OneDrive, or Teams.

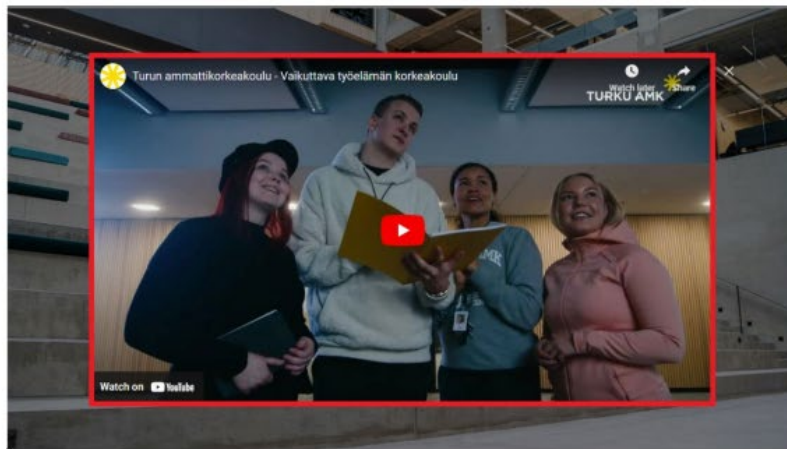Avoid sending files directly via email to prevent potential size/quality reduction.

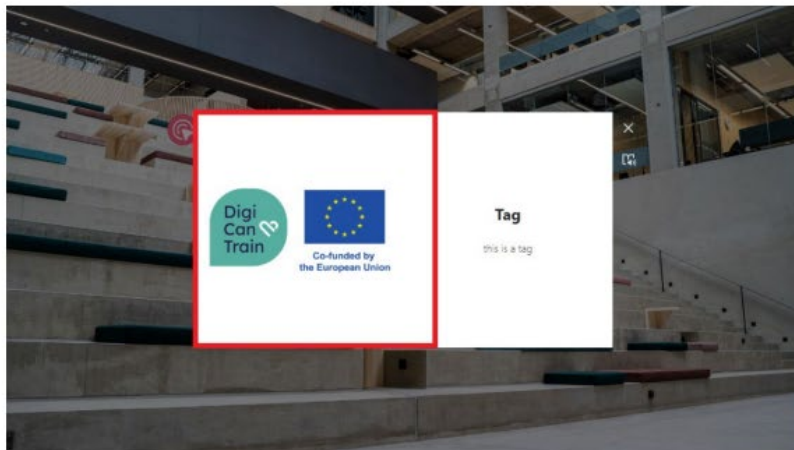## Background & base media

(e.g. 360 or static background picture)

Tag:

(e.g. tag with video)

(e.g. tag with picture)

Background & base media

Images:
Supported file formats: JPEG, GIF

Maximum resolution: up to 12000 x 12000 pixels

Maximum file size: 25MB

Recommended file size: up to 7 MB

Videos:
Supported file formats: MP4

Maximum resolution: 3840 x 2160

Maximum file size: 2 GB

Maximum duration: 20 minutes

Codecs: H264 video codec and AAC audio codec

360° Images:
File format: JPEG

Aspect ratio: 2:1

Maximum resolution: 8192 x 4096

Maximum file size: 25 MB

Recommended file size: up to 15 MB

360° Videos:
File format: MP4

Aspect ratio: 2:1 (e.g. 2000x1000)

Maximum resolution: 3840 x 1920

Maximum file size: 2 GB

Maximum duration: 20 minutes

Tag content

The 'Text & media' tag allows you to upload images, videos, 3D models, and PDF files.

Images:
Supported file formats: JPEG, PNG, GIF

Image resolution: up to 12000 x 12000

Maximum file size: 25MB

Recommended file size: up to 5 MB

Videos:
Supported file formats: MP4

Max resolution: 1920 x 1080, recommended resolution: 640x360

Max file size: 25MB

Recommended file size: up to 10 MB

Codecs: H264 video codec and AAC audio codec

PDF files:
Max file size: 25 MB

Audio content (background & in-tag audio)

Supported file formats: MP3, M4A

Maximum file size: 25 MB

Codecs: AAC

More info: Uploading content & upload specifications – ThingLink

Tag Types

1. **Text & media tag**

This tag serves multiple purposes and adjusts the layout based on the content. I It allows you to combine text, images, videos, links, and backgroud audio.

2. **Embed tag**

The embed tag allows you to add different third-party or ThingLink code to create interactive experiences within the scene. This includes:

- Embedding videos from YouTube, Vimeo or FlipGrid via a link;
- Embedding surveys and quizzes (e.g Google Form);
- Embedding maps (e.g. Google Maps);
- Embedding other ThingLink scenes to be viewed within in a tag – an alternative to transit tags described below;
- Embedding whole presentations from SlideShare or Google Slides;
- Embedding webpages (e.g. Wikipedia). Please note that some sites prohibit embedding their webpages, so you won't be able to display them in this tag.

3. **Transit tag**

This tag, when clicked, takes the viewer away from the current scene, and onto the page of another ThingLink image, video, or 360 image. Use this tag to move from one creation to another.

4. **Text label tag**

This tag displays up to 100 symbols when hovered over. Useful for annotating objects or presenting short texts at a glance.

5. **Poll tag**

Poll tags allow you to collect anonymous feedback or viewers' opinions using single-choice questions.

- Note that there's no character limit for the question and answers. However, we recommend using short answers (up to 80 characters).
- There's no limit to the number of answers you can enter.
- All answers are anonymous.
- Each viewer can only vote once. However, since all answers are anonymous they may be able to vote multiple times by using different browsers or opening the page in a private tab.
- Viewers will be able to see the poll results after they vote.

More info:

Tag Types – ThingLink

Text & media tag update: new layouts – ThingLink

Appendix 6. DigiCanTrain PowerPoint template for creating content
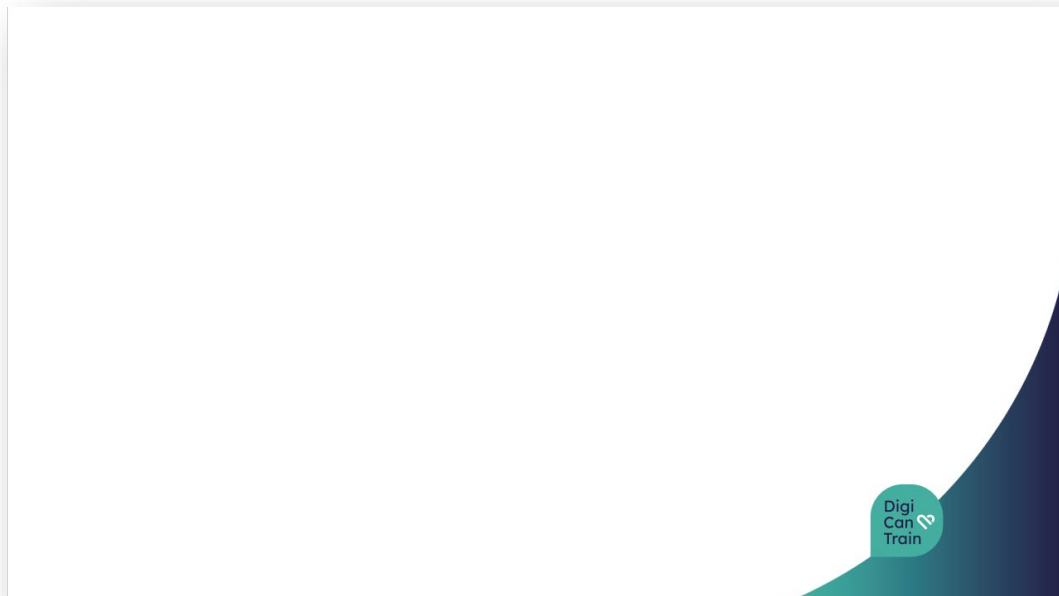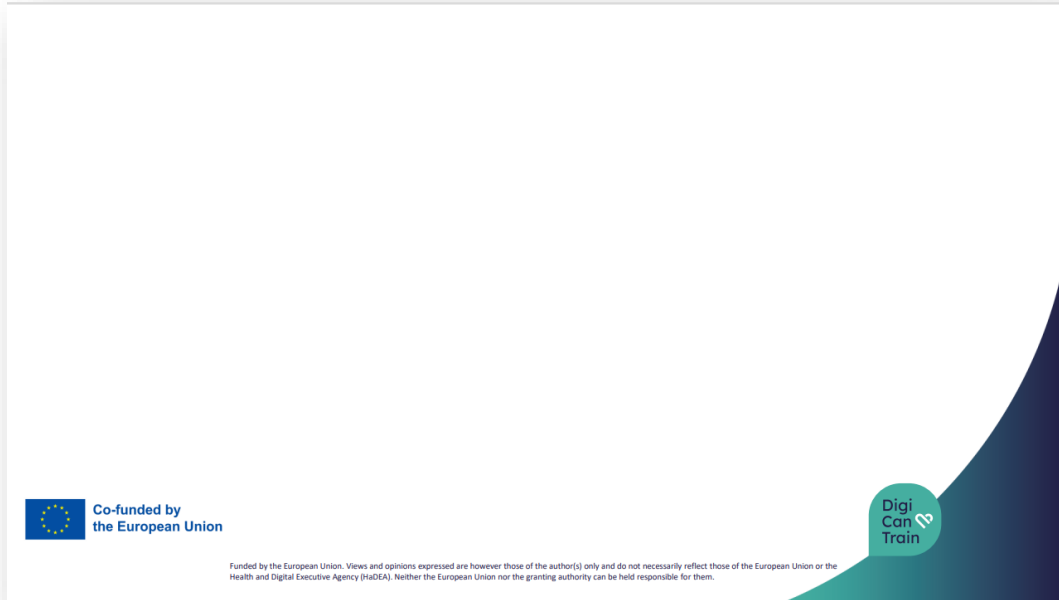
Appendix 7. Consent form for patient information/experiences

Consent Form for Photography and Video/Voice Recordings

I consent for digital imaging (photography and/or video recording and/or voice recordings) to be made of me. I understand that the information will be used as content production in the DigiCanTrain programme.

I understand that the DigiCanTrain project is a pilot learning project focused on the development of person-centred digital cancer care services for health care workers in Europe. However, after the pilot phase this online programme may be made openly accessible to all healthcare workers in cancer care settings.

I understand that the digital imaging made of me will be embedded in the learning materials and uploaded to a virtual learning site which will be viewed by health care workers in cancer care who register for the learning program.

By signing this form below, I confirm that this consent form has been explained to me in terms which I understand.

I consent to the use of my photograph(s) and/or video and audio recording(s) in the DigiCanTrain programme. I understand that the photograph(s) and/or recording(s) will be viewed by health care workers in cancer care in Europe. Although the photograph(s) and/or recording(s) will be used without identification information such as my name, I understand that it is possible that someone may recognize me.

DATE:_____

NAME:_____

SIGNATURE: _____

Appendix 8. Expert contract

(areas in yellow were to be adapted by project partners/content developers)

TRANSFER OF INTELLECTUAL PROPERTY RIGHTS

With this agreement the signatory,

[name here], (later Expert), an Expert producing material, including but not limited to [name of material produced] (later Material) during and for the Digital Skills Training for Health Care Professionals in Oncology Project; DigiCanTrain (later Project), transfers all intellectual property rights accrued during the Project to [Partner organization name].

'Intellectual property rights' includes all patents, registered designs, copyrights (including the copyrights on software in any code) and other similar statutory rights, as well as applications for any such rights, resulting from the performance of the Project.

In result of this transfer [Partner organization name] will be entitled among other things:

- to grant or transfer the generated intellectual property rights to a third party such as coordinator of the project, and to make changes and adaptations to the material produced during the Project and under this agreement,
- to produce new versions of the Material, e.g. by copying, printing, simulating, photographing or transferring to any digital format,
- to introduce and to present the protected Material in connection with e.g. lectures, exhibitions, and other similar performances.
- to patent or otherwise protect or register the results of the Project and the rights.
- to publish the Material with an CC BY-NC-ND 4.0 open license.

CC BY-NC-ND
This license enables reusers to copy and distribute the material in any medium or format in unadapted form only, for non-commercial purposes only, and only so long as attribution is given to the creator.

CC BY-NC-ND includes the following elements:
 BY: credit must be given to the creator.
 NC: Only non-commercial uses of the work are permitted.
 ND: No derivatives or adaptations of the work are permitted

The Expert will be entitled:

- to be recognized as the author of protected Material, and
- to maintain the right of respect, meaning the respect of the value and originality of the produced Material.

This agreement shall not affect the ownership of Background material which is material or immaterial property irrespective of its nature that has been generated outside the Project and which is owned by the Expert or to which the Expert has adequate rights.

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[Partner organization name] shall have the right to use the Background material which has become a part of the Material in such a way that the exploitation of the Material requires accessing the Background.

[Partner organization name] may contact the Expert during the pilot phase of the Project regarding the Material and need on revisions during the Project. The Expert shall inform [Partner organization name] in writing of any changes to their contact information. The Expert shall provide answers to the queries made by [Partner organization name] to their best ability without undue delay.

The Expert declares that the necessary rights to the Material and the image, sound, graphics, presentation, table, etc. material incorporated therein have been transferred to them from the original author.

The Expert is responsible for ensuring that the Material does not infringe a third party's copyright, other intellectual property rights or trade secret.

This agreement has been made in electronic format using a digital signature. Thus, the signed agreement's validity is equivalent to the agreement which contains the original signatures.

Location and date_____

Name (The Expert) _____

Signature (The Expert) _____

Name of the DigiCanTrain partner member signing, their role and affiliation:

_____

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Appendix 9. DigiCanTrain ThingLink manuscript guide

Module/Submodule	Image	Tags	Transition or transition options (as tags)	Updated by WP3 leads	Added to ThingLink Learning Technologist

Appendix 10 Evaluation rubric

MODULE 2: Interprofessional education	Uploaded to ThingLink		Info tab with title		Info tab with learning outcomes		Info tab with content info		Info tab with max hours		MCQs		Evaluation on moodle		Any feedback/comments/changes to be made	Learning technologist comments
MODULE 2: Interprofessional education	No		No		No		No		No		No		No			
	Yes		Yes		Yes		Yes		Yes		Yes		Yes			
2.1 Communication Training for HCPs in Digital Care Environment (HCP and patient coms.)	No		No		No		No		No		No		No			
	Yes		Yes		Yes		Yes		Yes		Yes		Yes			