



YoungArchers

Module 3
Accessible Digital
Storytelling



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Module Description

The objective of this document is to unlock the potential of digital heritage and digital storytelling in order to maximise their impact when it comes to educating young students of 9 to 12 years old about architectural heritage. It will also help teachers and students understand the significance of developing accessible content for the benefit of all. To achieve this, Section 1 of this document will provide extensive information on digital storytelling, including its general uses and benefits in education. Section 2 will provide information specifically on accessible and inclusive digital storytelling. Finally, Section 3 will provide a list of digital storytelling tools that can be used.



Learning Outcomes

Upon completion of this module, learners will be able to:

- Identify key notions of digital storytelling and its beneficial role in education.
- Implement digital storytelling in education.
- Demonstrate the ability to recognise and design inclusive and accessible digital storytelling techniques in education.
- Use different digital storytelling tools.



Section 1: Digital Storytelling

Heritage is explained in UNESCO documents as ‘our legacy from the past, what we live with today, and what we pass on to future generations.’ **Digital heritage**, therefore, refers to computer-based materials, some of enduring value, that should be kept for future generations ([UNESCO, 2021](#)).

Digital storytelling uses multimedia tools to bring narratives to life. Digital stories can be used to explain a concept, to reflect on a personal experience, to retell a historical event or to make an argument. Digital stories are typically videos that combine audio, images and video clips to tell a story. This is a relatively new creative practice that does not require very sophisticated knowledge of technology and video production. Some basic knowledge is sufficient, therefore an easy way to communicate and/or learn.

Despite the plethora of galleries, archives, museums and library collections on digital heritage, as well as the variety of tools for digital storytelling, these resources are not put into effective use in the context of education ([Europeana, 2016](#)).

General uses of digital storytelling in education

- Digital storytelling can be used for educational purposes to enable specific learning outcomes.
- Teachers can use it to introduce projects and themes.
- It is helpful for students to gain a better understanding of more abstract concepts.
- Teachers can also use it to facilitate class discussions.



- Students can also create their own digital stories with multiple benefits, including the sense of ownership, analysis and synthesis of information, self-expression and use of technology.

Benefits of using digital storytelling for heritage learning

The digital storytelling of heritage is a useful educational tool for multiple reasons:

- Digital storytelling allows **easier discoverability** of built heritage and wider access to teachers and students.
- Built heritage is a rich **source of information** at a cross-curricular level, therefore, it can be an excellent source of inspiration for digital storytelling from an educational point of view (cf. Module 2, Section 5 of this toolkit).
- The advancement of technology ensures multimedia tools used for digital storytelling produce good audiovisual **quality**.
- Digital storytelling can be used in **open educational research**, which is made legally possible to be shared using copyrights.
- Digital format of storytelling makes it **easy to find** using direct links or embedded functions.

Section 2: Accessible and inclusive digital storytelling

Digital storytelling, which typically includes multimedia content that combines audio, images and videos to tell a story, is becoming increasingly important in teaching and learning contexts. This is because in an increasingly interconnected, multilingual world, digital technologies allow us to create new ways of explaining stories.

In this regard, when creating multimedia content accessibility, services such as subtitles and audio description should be included, otherwise, a large amount of

audience is left behind. In addition, these accessibility services are also beneficial for all people, for instance, foreign audiences, to support and enhance the understanding of the audio and visual content. Furthermore, while nowadays multimedia content often include more than one language in their original versions, any viewer might also require accessible versions of the audio and video content to ensure maximum engagement and satisfaction.

The current European legislation is shifting towards an accessible approach to digital storytelling in order to meet the needs of all users.

People who are deaf and others who cannot hear the audio or process written information need captions/subtitles which are “a text version of the speech and non-speech audio information of a video” ([W3C WAI](#)).

In the scope of the YoungArchers project the following three types of multimedia content can be created:



CONTENT 1: Podcasts (pre-recorded audio only)

For audio only, subtitles/captions allow people who are deaf and hard-of-hearing to get access to the audio content. In addition, transcripts are needed to provide access to people who are deaf-blind and use braille. Transcripts can also be used by other people to enhance the understanding of the audio.



CONTENT 2: Animated presentations (pre-recorded video with no audio)

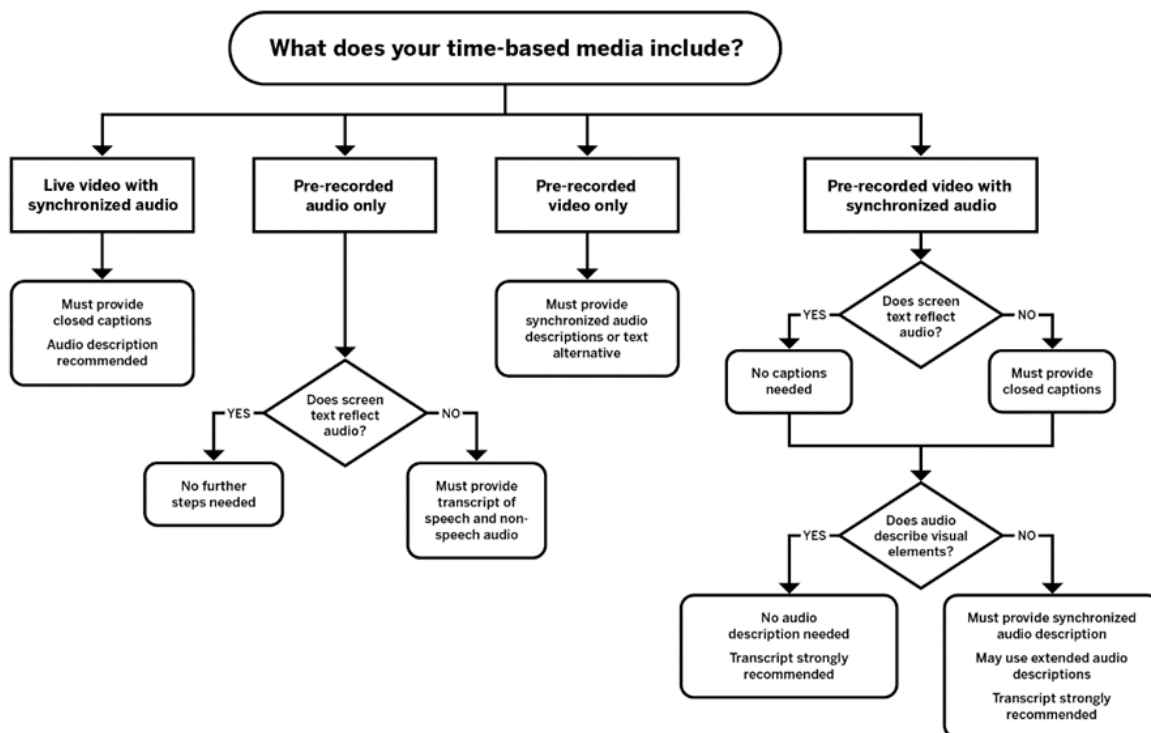
For video only, audio description allows people who are blind and can not see the content to get access to the visual content.



CONTENT 3: Video with synchronised audio (pre-recorded video with synchronised audio)

For video content with synchronised audio, subtitles/captions, transcripts, audio description and sign language can apply depending on the type of content being produced.

The following decision tree, will allow teaching professionals to detect which accessibility services need to be provided when creating the multimedia content.





CONTENT 1: Pre-recorded audio only.

- Option 1: If there is already text on the screen that accurately reflects the audio, no further steps are needed.
- Option 2: If not, you must provide a transcript of the speech and non-speech audio.

CONTENT 2: Pre-recorded video only.

- Single option: You must provide synchronised audio descriptions or a text alternative that presents the information in the video.

CONTENT 3: Pre-recorded video with synchronised audio.

- Option 1: Is there text on screen that accurately reflects both the speech and non-speech audio?
 - Solution 1: If yes, captions or subtitles are not needed.
 - Solution 2: If no, you must provide accurate synchronised captions or subtitles of speech and non-speech audio.
- Option 2: Does the audio already describe the important visual elements? For example, text on screen is spoken as it appears
 - Solution 1: If yes, audio description is not needed. A transcript is strongly recommended but not required.
 - Solution 2: If no, you must provide synchronised audio description.

Some tips to create accessible audio and video content :

1. Audio content:

- Create high-quality audio
- Use low background audio
- Speak clearly and slowly



- Give people time to process information
- Use clear and easy-to-understand language
- Provide explanation for sensory characteristics

2. Video content:

- Avoid causing seizures
- Consider speaker visibility
- Make overlay text readable
- Plan for description of visual information
- Plan for sign language

Tips on content creation for primary education

Accessibility to digital storytelling is also helpful to content creation for primary education, given that the target audience includes younger students. Therefore, it is advisable for teachers to follow simple tips that facilitate the learning of younger students:

- Keep the story under 5 minutes to retain attention.
- Include vibrant pictures.
- Use age-appropriate music and narration.
- Narration accompanied by subtitles can also help build vocabulary.
- Keep a slow pace as far as it concerns visual changes and narration (not too slow though).
- Use applications that are familiar to children.



Section 3: Digital Storytelling Tools

Using digital tools, such as audio, videos and images, is a creative alternative to develop non-traditional ways of learning and enhance interactive experiences in education, and in parallel enhance digital competences.

List of Digital Tools

There is a wide array of digital tools to use to facilitate the creation of accessible and inclusive digital storytelling using podcasts, games and videos.



Visual materials: Images and videos (in alphabetical order)

→ [Artsteps](#)

This is a web-based interactive application that allows the user to make their own virtual reality (VR) exhibitions and in realistic 3D spaces .

Cost: Free

Languages: The tool is only available in English and French.

Accessibility Statement: Cannot confirm compatibility with screen readers; no function for video chat.

→ [Canva](#)

Canva is an online design and publishing tool with a mission to empower everyone in the world to design anything and publish anywhere.

Cost: Free and premium plans

Accessibility Statement: Canva itself does not have accessibility features, but you can use it to make images to import. These images should then have Alt text to make them compatible with digital accessibility guidelines.



→ [Flippity](#)

A useful tool for taking Google Sheets and turning them into helpful resources from flash cards to quizzes and more, thus allowing teachers and students to create activities for learning.

Accessibility Statement: Flippity activities are generally designed to be accessible.

Cost: Free

Languages: English only

→ [Genially](#)

A tool schools use to teach and learn through interactive learning materials, facilitating the digital transformation for all education stages and students. Teachers motivate with interactive and gamified content. Students learn creatively, while both teachers and students increase their digital competencies.

Accessibility Statement: Some of the resources provided in Genially format are not accessible

Cost: Free and premium plans

Languages: Does not support Greek

→ [Scratch](#)

This application is a block-based programming environment that can be used for programming purposes and as a storytelling tool. Scratch allows children to program and share interactive media such as stories, games and animation with other people.



Languages: Available in multiple languages

Accessibility Statement: The tool's design aspects allow for easy use to beginners, but can also challenge more advanced children. This means that Scratch is well-suited for students of all abilities and levels, including students with learning disabilities. Nevertheless, the designing of instructions under the framework of Universal Design for Learning (UDL) is still required by teachers. A basic UDL strategy might involve a teacher providing information to the learner in multiple formats, for example through printed handouts or delivering information orally.

→ [Storyboard That](#)

Creative lesson plans for teachers, which contain completed student examples and blank storyboard templates that teachers can tailor to their students.

Accessibility Statement: Information not found

Cost: Free basic account provides minimal functionality for people wanting to produce a few storyboards on a regular basis or to try the software before paying. Subscriptions starting from \$9.99 per month.

Languages: Does not support Greek

→ [Padlet](#)

An educational technology startup company that provides cloud-based software, hosting a real-time collaborative web platform in which users can upload, organise and share content to virtual bulletin boards.

Accessibility Statement: Meets universal and inclusive standards.



Cost: Free and premium plans

Languages: Supports 42 languages

→ [Pixton](#)

Pixton empowers student learning by unleashing their artistic and writing potential, through the creation of comics.

Accessibility Statement: Information not found

Cost: Subscriptions starting from \$9.99 per month.

Languages: Does not support Greek

→ [Voki](#)

This tool allows the user to create an avatar whose voice can be used to transfer a message to children. Teachers can customise their appearance and what they say.

Cost: Basic version is free but limited. There are three more levels at different prices that unlock more features.

Accessibility Statement: No information found



Podcasts and audioguides (in alphabetical order)

→ [Anchor](#)

Creation and distribution of podcasts.



Accessibility Statement: No information found

Cost: Free

Languages: All partner countries

→ [Chat GPT](#)

Creation and adaptation of texts with the use of artificial intelligence (AI) for the audio guides.

Accessibility Statement: No information found

Cost: Free and premium plans

Languages: The models are optimised for use in English, but many of them are good enough to generate acceptable results in many languages.

→ [Natural readers](#)

Text to speech tool to create audio directly from text for the audio guides.

Accessibility Statement: No information found

Cost: Free and premium plans

Languages: All partner countries

→ [Nubart audio guides](#)

Innovative audio guides that enable museums, monuments, show rooms and other visitable venues to offer hygienic multimedia guides without the need for dedicated devices or expensive app development. Most importantly, it incorporates accessibility services.



Accessibility Statement: Accessible audio guides. The QR-code on the cards is printed with a slight relief, so that visually impaired people can detect its presence and its location with their fingertips and capture it with their smartphone's QR-scanner. Additionally, Nubart's in-house CMS has been developed in Universal Design and is inclusive.

Cost: Option for museums to request a quote

Languages: Supports 40 languages. Can integrate a language that is not yet supported, with no additional cost.



Heritage-specific learning tools (in alphabetical order)

→ [Europeana](#)

Europeana is assisting in the digitisation of the cultural heritage sector. It develops know-how, tools and policies to embrace digital change and encourage collaboration that promotes innovation.

Accessibility Statement: No information found

Cost: Free

Languages: At least all consortium countries



Case Studies

There are many examples of online digital storytelling, whose successful impact inspires for more creation and use of digital storytelling using podcasts, interactive games and videos.

Example 1: [3D models of Lublin](#)

The Lublin 2.0 project documents the spatial and architectural development of Lublin, Poland from the 1360s to the 1930s. The application includes blogs, maps and 3D models that offer an in-depth perspective on the city's history.

Example 2: [Things That Talk](#)

'Things That Talk' aims to explore humanities through the life of objects. It is a durable, living archive of stories about the interconnected world of things. The platform facilitates storytelling by giving contributors all the basic curation, sequencing and visual tools they need to narrate an object.

Example 3: [Let's Talk About Myths, Baby!](#)

Podcasts are a fun way to learn. This project uses podcasts with stories from Greek and Roman mythology to facilitate archaeology learning.

Example 4: [Swipe Story](#)

Swipe Story is a digital story that uses drawings, images, words, games, sounds, films and emotions to introduce the user to a new path of lively and stimulating knowledge and enable innovative storytelling for interactive learning.



Resources

- Europeana. (2021). [*Seven keys to unlocking digital heritage for use in education.*](#)
Europeana PRO.
- UNESCO (2005). [*Charter on the Preservation of the Digital Heritage.*](#) UNESCO
World Heritage Centre
- UNESCO (2023). [*World Heritage Media/Communication Training Workshop.*](#)
UNESCO World Heritage Centre.
- WAI/ W3C. (2021). [*Making Audio and Video Media Accessible.*](#) Web Accessibility
Initiative (WAI).