



The Digitourist toolkit helps heritage organisations to promote and manage tourist access to natural and cultural heritage. It is part of the Virtual Museum Infrastructure (VMI) (OT4.1.2) and is instantiated in CINE GATE. As part of work package T2 we developed digitourist tours for the Strath of Kildonan case study together with a toolkit to enable re-use. The toolkit supports three specific types of applications which enhance the visitor experience and help direct access to heritage.

- 1) Digitourist Virtual Time Travel service provides immersive simulations which support guided collective exploration to audiences in their home,
- 2) Digitourist Mobile Smart Spheres framework, supports creating packages for cross reality apps which enhance visits to locations by providing mobile immersive experiences,
- 3) Digitourist Questit framework supports creating trail packages for apps which provide directed location based interpretation.

These help management of cultural and natural heritage by promoting sustainable digital engagement with cultural and natural heritage. They help build capacity to manage heritage by building synergies between environmental, economic and social interests and raising public engagement with heritage locations beyond existing hotspots.

Digitourist Virtual Time Travel allows digital visitors to travel back in time to experience history by being immersed in digital reconstructions of historic places. Whether using a high fidelity screen or VR headset the virtual visitor moves can explore virtual scenes and interact with the environment. The experience can be shared with virtual visitors connecting from across the globe. This online virtual time travel component of the VMWW is supported through the provision of an unreal server together with twitch and discord servers. This allows users from multiple locations to log on and to be taken on a virtual tour of a digital reconstruction. The tour is given by a heritage expert on a specific topic. This cutting edge solution provides a gateway for museums opening new revenue streams.

Digitourist Smart Spheres are immersive apps which can be downloaded to a phone to provide interpretation and strong visual experiences while physically exploring a location. Pairing the phone with a headset will provide a virtual binoculars like immersive experience. This immersive app framework, makes it easy to create Cross Reality Apps that enable people to see into the past whilst exploring real world locations. This digitally enhances the tourist experience and helps direct footfall to locations beyond established hotspots.

Digitourist Questit is a trail app framework which pairs maps with hotspots and location awareness to deliver interpretation to visitors as they explore. It enables locations to be curated and allows heritage organisations to provide interpretation, connecting regional visitors to heritage locations. This supports the sustainable management of natural and cultural heritage by advertising an area's offer, by enhancing the visitor experience and spreading footfall beyond existing hotspots.

In addition to enhancing the visitor experience the Digitourist toolkit draws upon the VMI's virtual tours, galleries and maps to support tourists in planning visits. Its facilities for connecting with social media also enable visitors to share their experience. In these ways the Digitourist toolkit is relevant across all phases of the visitor journey.

Digitourist toolkit content

This toolkit is made up of three types of resources. There are links to exemplar content, created in the project which show how the toolkit can be used to engage with potential, virtual or real visitors. There are frameworks and tools which provide support for the creation of digitourist applications. These include resources used more widely in the virtual museum, such as metadata and archive forms and guides to using the VMI to make interactive maps and galleries. There are also frameworks and accompanying guides for developing Virtual Time Travel, Smart Spheres and Questit applications.

Name	Type	Description
Helmsdale Curring Yard	Virtual Time Travel	Exemplar content demonstrating Virtual Time Travel, to Helmsdale in the 1890's
Iron Age Kildonan	Heritage Live	Live social media broadcast
Viking Museum	Heritage Live	Live social media broadcast
East of Iceland	Heritage Live	Live social media broadcast
Caen clearance village	Virtual Tour	Virtual tour of digital reconstruction
Strath of Kildonan	Smart Spheres	Themed cross reality mobile app
Northern Highlights	Questit	Guided tour of Northern visitor attractions
Digitourist Virtual Time Travel	Framework	Framework enabling digital reconstructions to be made available as a VTT service
Digitourists Smart Spheres	Framework	Framework for making packages to use as content for Smart Spheres apps.
Questit	Framework	Framework for making packages for use in Questit trail apps
Digitourist Virtual Time Travel Guides	Guide	Guides for creating VTT tours and for going on Virtual Time Travel tours
Digitourist Smart Spheres Guide	Guide	Guide for making a package for use in a Smart Spheres app
Digitourist Questit Guide	Guide	Guide for making a package for use in a Questit app
CINE Metadata Archive guide	Guide	Guide for uploading resources into CINE
CINE Gallery Guide	Guide	Guide for creating and sharing an IIIF gallery
CINE Map Guide	Guide	Guide for creating and sharing interactive map

Target audience Sector agency, Interest groups, Local public authority, Regional public authority, Schools and education, Public service provider, Business support organisation, Higher education and research, Other, National public authority, SMEs. End user: General public.

Durability: The toolkit is accessible on www.cineg.org/toolkits/digitourist, ready to use and available on-line for the interest groups and the public to view and consult. The responsible partner will ensure that the website will be on-line and resources maintained for the next five years. Resources have been packaged and uploaded to Zenodo, where they will be available for a minimum of 10 years.

Contributions Timespan Museum guided digital reconstructions and connecting with social themes like climate change, St Andrews University lead on technical development, Skriduklauster pioneered Digitourist Live and maps, University of Ulster contributed to meta data and digital galleries, Museum Nord contributed core design concepts and live events, Aurora Borealis contributed digital media and modeling, University of Oslo situated simulations, whilst Locatify contributed on location aware technologies and digital frameworks.

OT 2.3.2 Indicator Evidence

Number of solutions (services) for the sustainable management of natural and cultural heritage

The Digitourist toolkit contributes to the sustainable management of natural and cultural heritage by providing services which contribute to public engagement with heritage in ways which improve accessibility, engagement, awareness and sharing of heritage.

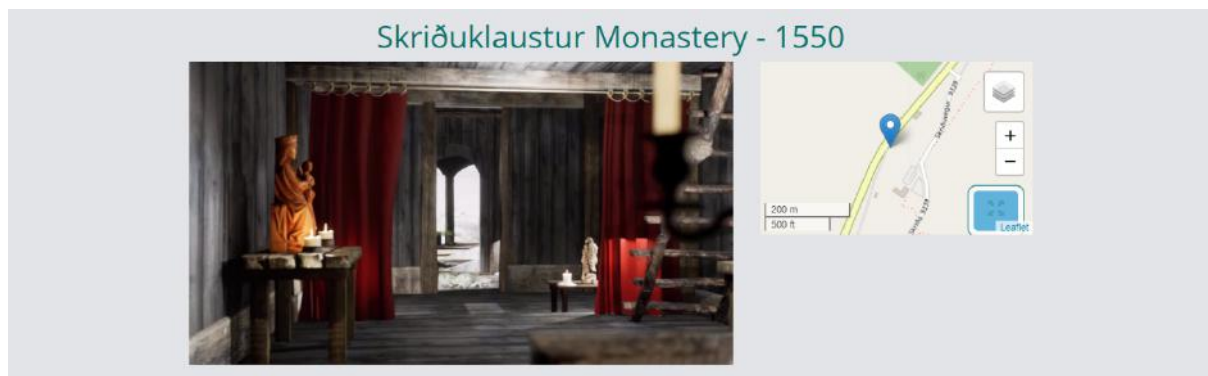


Figure 1 Online galleries, tours, videos promoting heritage sites through reconstructing the past. <https://cineg.org/digital-reconstructions-of-heritage-places/>

- 1) Hosting exemplar [reconstruction](#) media including: [3D galleries](#), [360 tours](#) and [maps](#),
- 2) Holding Live [heritage at home](#) events, broadcast on Social Media,
- 3) The [Virtual Time Travel Service](#) for collaborative exploration of digital reconstructios,
- 4) A service hosting new [Virtual Time Travel](#) tours,
- 5) Supporting organisations in setting [up their own VTT service](#),



Figure 2 Heritage Live! Social media events: <https://cineg.org/heritage-at-home/>

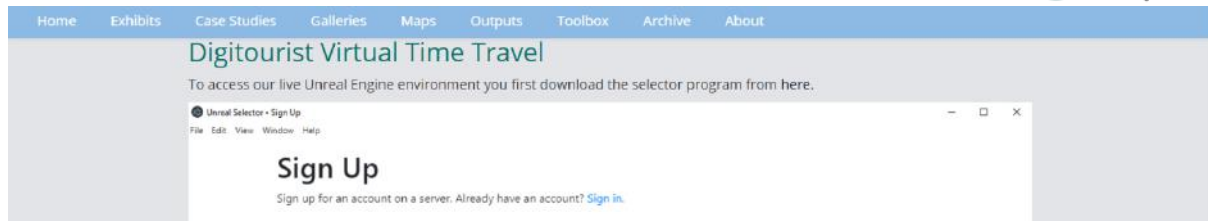


Figure 3 Sign up form for online virtual time travel. <https://cineg.org/digitourist-virtual-time-travel/>

The Digitourist Virtual Time Travel service enables virtual visitors to join from home and to explore digital reconstructions of the past. The reconstructions have been developed in line with the London Charter and Seville Principles, and are based upon archaeological and historical evidence. The digitourist service is the product of interdisciplinary work between archaeologists, historians, digital modellers and system engineers. The collaborations bring together community groups, museums, and Universities to create both exemplar content and the infrastructure which delivers the service. There are five types of service supported by the Digitourist toolkit.

There is also a page to go for to sign up to the server, where you can then choose which reconstructions to download and play. Like most computer games you will run a local simulation, but a server will connect you with other users so it will appear as though you are all in the same simulation.

In the Digitourist toolkit the unreal selector README, provides guidance on setting up a service. The unreal Collaboration Readme provides guidance on how to make an Unreal environment support multiple simultaneous remote users. These how to together with downloads enable an organisation to set up and run their own virtual time travel service.

Guides



Unreal Selector README



Unreal Selector Bot README



Unreal Collaboration README

Resources

Links

[The unreal selector client and server](#)

[The unreal selector discord bot](#)

[The unreal collaboration integration toolkit](#)

[The instructions for connecting to our unreal selector system](#)

[Strath of Kildonan trail app tester link](#)

Figure 4 Guides for setting up a Virtual Time Travel Service