



Virtual Travel through Space and Time



Overview



Virtual Time Travel



Type of Immersion



The future of time travel



The virtual and the real



Connecting people



Connecting places

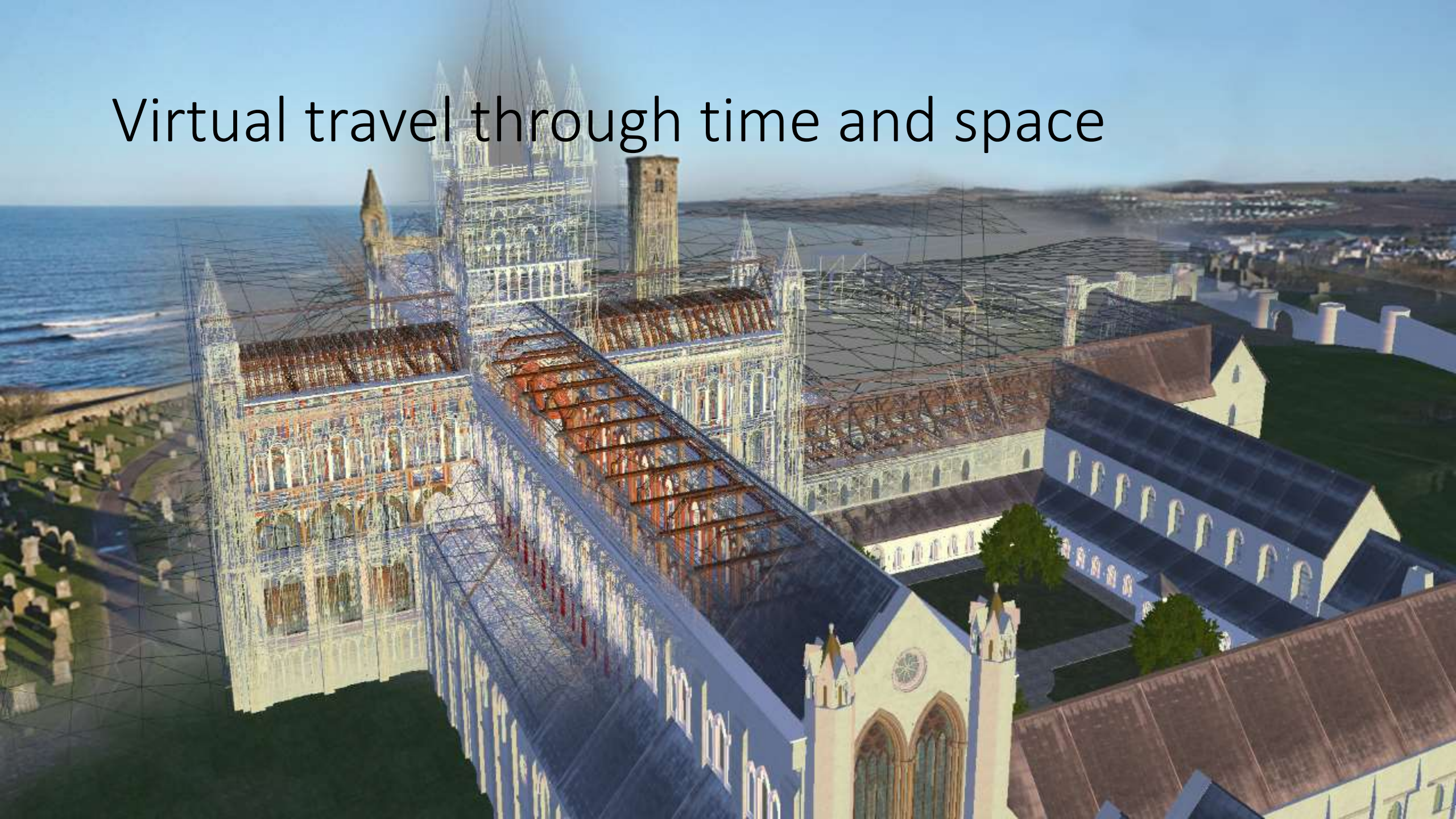


A view from the hill



Resources

Virtual travel through time and space



Why do virtual travel?

- Understand the past, present and future
- Extend experiential learning
- Extend collaborative learning
- Communicate understanding to new generations
- Save the environment
- Imagine new futures
- Create different futures?



Examples of time travel

- Stories
 - Doctor Who
 - Time Machine
 - Star Trek Holodeck
- Games
 - Assassins Creed
 - Total War
 - Time Commanders
- Exhibitions
 - Picts and Pixels
 - Edinburgh 1544
 - Lord's of the Isles



Scotland VR





HISTORIC
ENVIRONMENT
SCOTLAND

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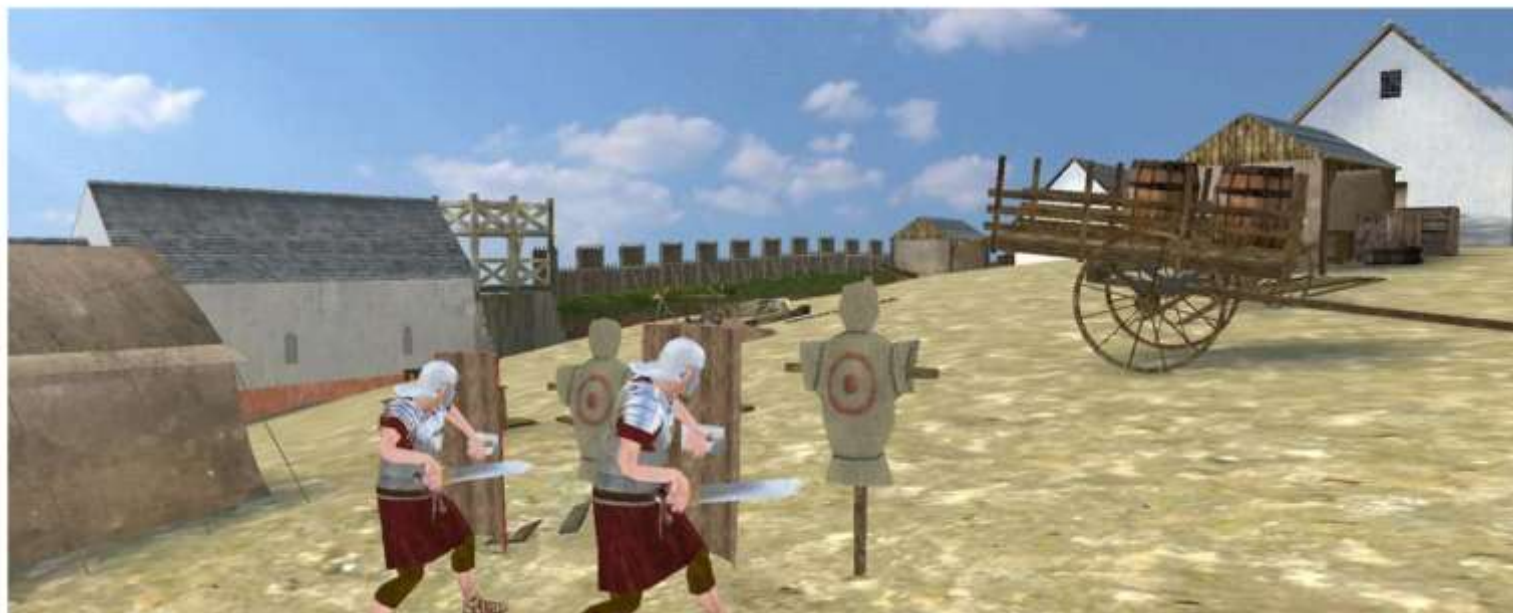
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ABOUT US

8 January 2018

Virtual Reconstruction App Lets Young People Step Back In Time

New app aims to inspire young people to explore Scotland's rich history through virtual reconstructions



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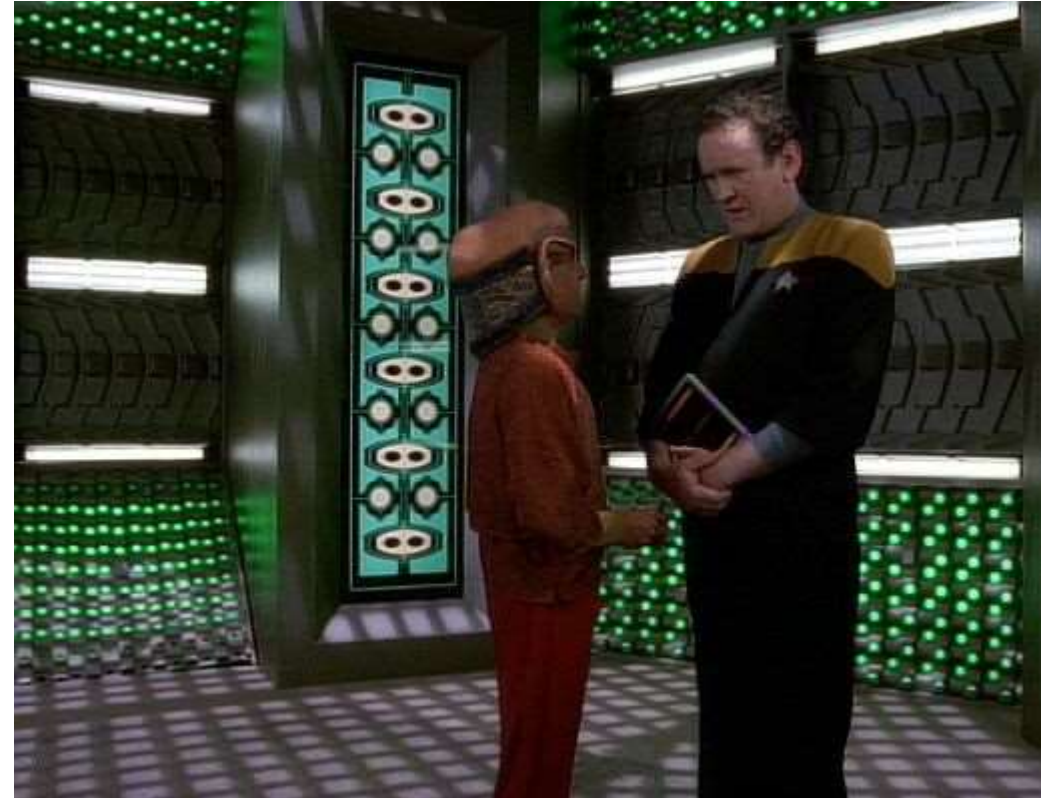
Types of immersion

- Shared Space Immersion
- Personal tethered
- Hybrid personal, shared space
- Personal mobile



Shared Space Immersion: Virtual Histories

- Shared space – holodeck
- Creating the view: projection
- Gestures



Pre-clearance Caen Highland Township



Tethered personal immersion

- Examples:
 - Skriduklauster
 - Illicit Still Experience
 - Lord of the Isles
- Virtual Reality Exhibit Template (VRET)
- VRET Framework
- COVID Safe
 - Control: User gestures and Mobile control
 - View: Stream to user's devices eg personal headsets + phone
 - watch this space



Mobile personal immersion

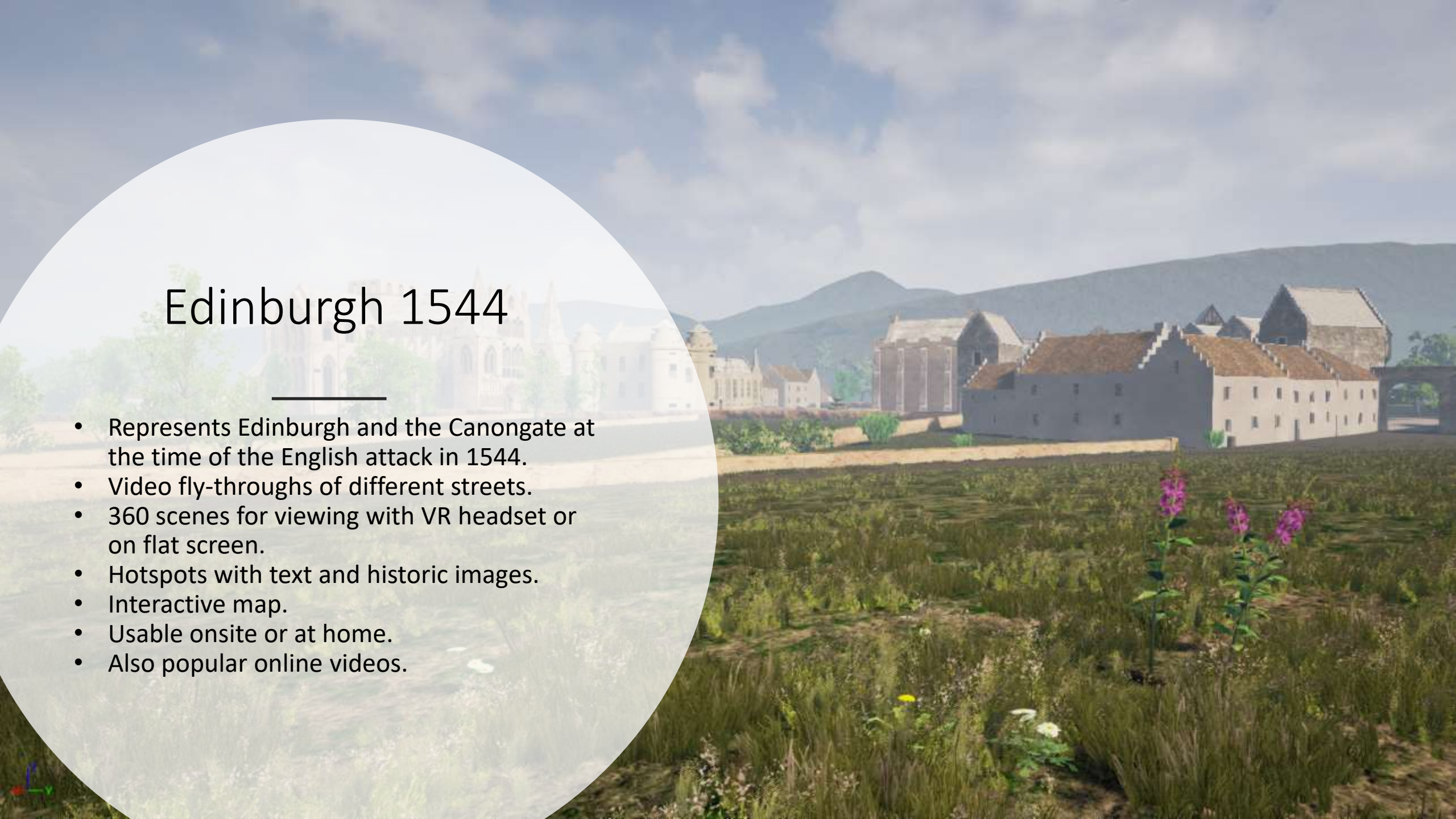
Virtual Time Binoculars

- Google Cardboard:
 - graphics engine,
 - computation,
 - personal head piece
- Reality spectrums
 - Augmented Reality
 - Virtual Reality
 - Cross Reality



Edinburgh 1544

- Represents Edinburgh and the Canongate at the time of the English attack in 1544.
- Video fly-throughs of different streets.
- 360 scenes for viewing with VR headset or on flat screen.
- Hotspots with text and historic images.
- Interactive map.
- Usable onsite or at home.
- Also popular online videos.





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Resources

What will the future bring?

- Technology and change
- Moore's Law
- Mobile Telephone
- Headsets, phones and computers
- Graphics, shadows and ray tracing
- Networks, service and experience
- Navigation

Our World
in Data

The graph illustrates the exponential growth of transistor counts in integrated circuits over time, following Moore's Law. The y-axis represents the transistor count on a logarithmic scale, ranging from 1,000 to 50,000,000,000. The x-axis represents the year, from 1970 to 2018. Key milestones and labeled chips include:

- 1970s:** Intel 4004, Intel 8008, Intel 8080, Intel 8085, Intel 8086, Intel 8088, Intel 80286, Intel 80386, Intel 80486, Intel 960.
- 1980s:** Motorola 6800, Motorola 6809, Motorola 68020, Motorola 68030, MOS Technology, WDC 65C02, WDC 65C816, Novix NC4016, ARM 1, ARM 2, ARM 3.
- 1990s:** Intel Pentium, AMD K5, AMD K6, AMD K6-III, AMD K7, AMD K8, AMD K10, ARM 5, ARM 7TDMI, ARM Cortex-A9.
- 2000s:** Intel Pentium 4, Intel Pentium D, Intel Pentium E, Intel Pentium Xeon, AMD K8, AMD K10, AMD K10.2, AMD K10.3, AMD K10.4, AMD K10.5, AMD K10.6, AMD K10.7, AMD K10.8, AMD K10.9, AMD K10.10, AMD K10.11, AMD K10.12, AMD K10.13, AMD K10.14, AMD K10.15, AMD K10.16, AMD K10.17, AMD K10.18, AMD K10.19, AMD K10.20, AMD K10.21, AMD K10.22, AMD K10.23, AMD K10.24, AMD K10.25, AMD K10.26, AMD K10.27, AMD K10.28, AMD K10.29, AMD K10.30, AMD K10.31, AMD K10.32, AMD K10.33, AMD K10.34, AMD K10.35, AMD K10.36, AMD K10.37, AMD K10.38, AMD K10.39, AMD K10.40, AMD K10.41, AMD K10.42, AMD K10.43, AMD K10.44, AMD K10.45, AMD K10.46, AMD K10.47, AMD K10.48, AMD K10.49, AMD K10.50, AMD K10.51, AMD K10.52, AMD K10.53, AMD K10.54, AMD K10.55, AMD K10.56, AMD K10.57, AMD K10.58, AMD K10.59, AMD K10.60, AMD K10.61, AMD K10.62, AMD K10.63, AMD K10.64, AMD K10.65, AMD K10.66, AMD K10.67, AMD K10.68, AMD K10.69, AMD K10.70, AMD K10.71, AMD K10.72, AMD K10.73, AMD K10.74, AMD K10.75, AMD K10.76, AMD 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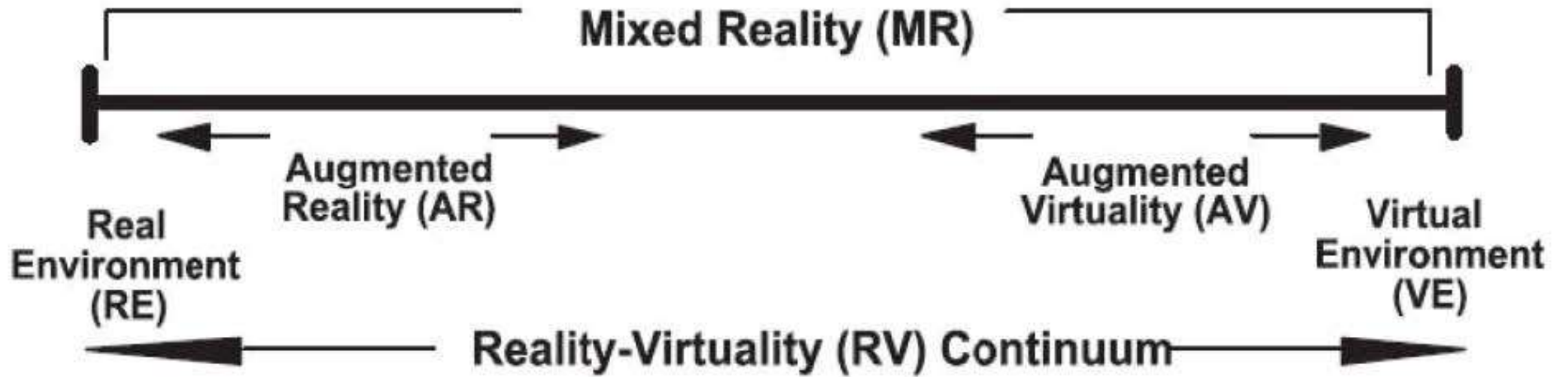


A view from the hill



Resources

Virtual Reality



- Is a simulated experience

Virtual Finlaggan



LORDS OF THE ISLES

15TH CENTURY FINLAGGAN

Cross reality – real reality and virtual reality

- Cross Reality: 2 realities in the same physical space
- Virtual Time Binoculars, Edinburgh 1544
- Automatically synchronise real world and virtual world
- Location with geo location
- Orientation with accelerometer and magnetometer

ABERNETHY 1072

VIRTUAL TIME BINOCULARS





BENNACHIE COLONY 1860

WEST END

QUARRY

SHEPHERD'S
LODGE

OLD ESSON'S

BOGHEAD OF
TULLOS

BURNSIDE

CAIRN COUTTIE

GOWK STANE

BENNACHIE CENTRE

BOUNDARY
MARKER

TOUCH FOR
GPS MAP

INSTRUCTIONS

ABOUT THIS APP

QUIZ

INTRO VIDEO

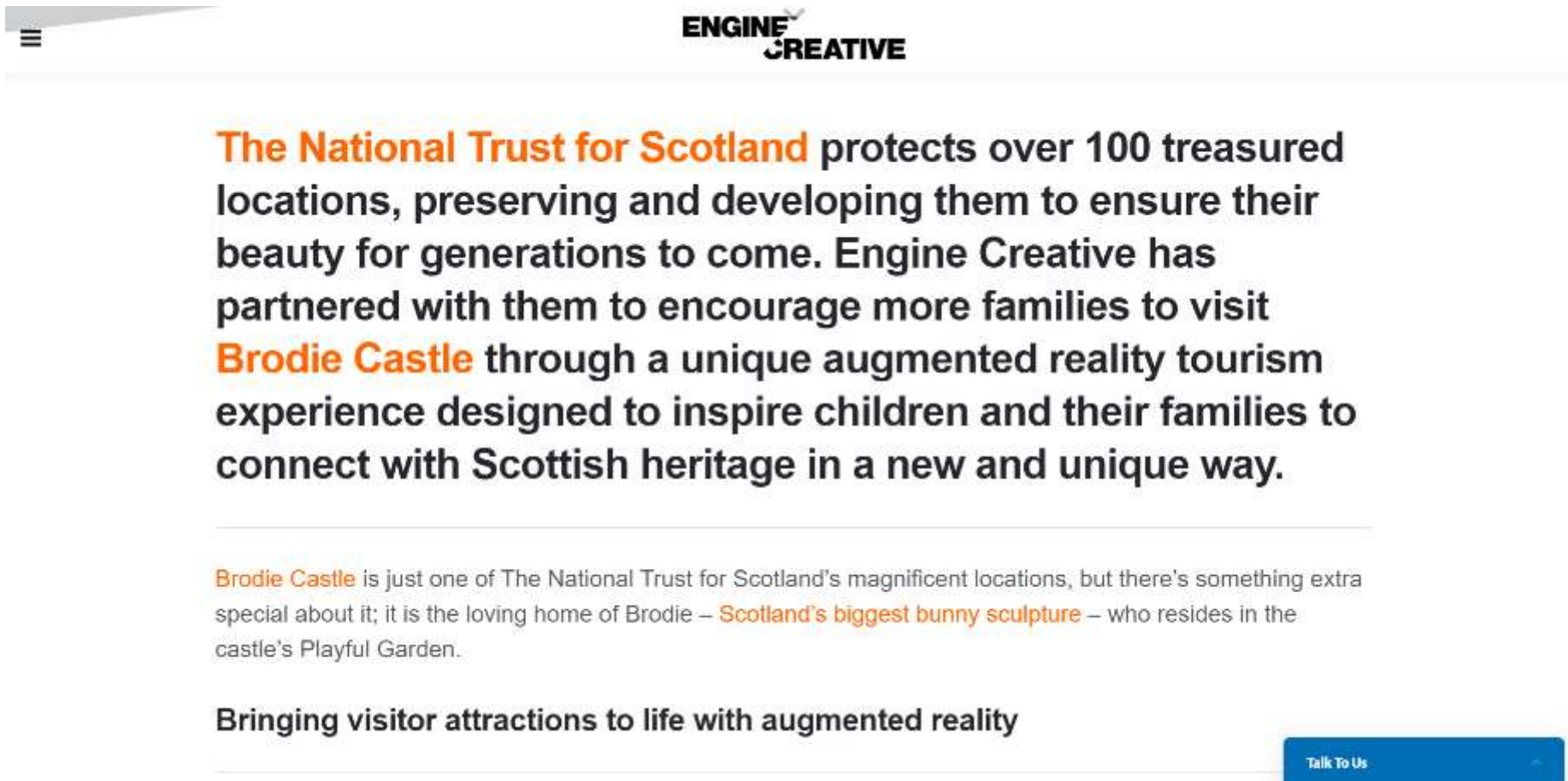


Smart | History

Augmented Reality

- Includes the real world where the virtual is added to it

Brodie Castle Reydar



The screenshot shows a website header with a hamburger menu icon on the left and the 'ENGINE CREATIVE' logo on the right. The main content area features a large text block with 'The National Trust for Scotland' in orange and black, followed by a paragraph about a partnership for augmented reality tourism at Brodie Castle. Below this is a smaller paragraph about Brodie Castle's location and a 'bunny sculpture'. At the bottom, there is a blue button labeled 'Talk To Us'.

ENGINE CREATIVE

The National Trust for Scotland protects over 100 treasured locations, preserving and developing them to ensure their beauty for generations to come. Engine Creative has partnered with them to encourage more families to visit **Brodie Castle** through a unique augmented reality tourism experience designed to inspire children and their families to connect with Scottish heritage in a new and unique way.

Brodie Castle is just one of The National Trust for Scotland's magnificent locations, but there's something extra special about it; it is the loving home of Brodie – **Scotland's biggest bunny sculpture** – who resides in the castle's Playful Garden.

Bringing visitor attractions to life with augmented reality

Talk To Us



PLAY WHERE YOU ARE
Press F11 to exit full screen

LEADERBOARD

EVENTS

UPDATES

SUPPORT

OFFER REDEMPTION



UPDATES

October 27, 2020

Electabuzz and Magmar will be featured during November's Community Day events!

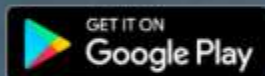
October 26, 2020

Celebrate Pokémon Journeys: The Series with the Animation Week 2020 event!

October 26, 2020

Special Weekend events, presented by selected partners, are coming in November!

[Read more](#)



[WATCH THE TRAILER](#)



The Pokémon Company

Nintendo

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Pokémon and Pokémon character names are trademarks of Nintendo. During gameplay, please be aware of your surroundings and play safely.

English



Virtual Time Travel



Type of Immersion



The future of time travel



The virtual and the real



Connecting people



Connecting places



A view from the hill



Resources

Connecting people

- In a shared space
- Remote participation
- Distributed shared space





Virtual Time Travel



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Connecting places



A view from the hill



Resources

Connecting places

- Real world connection
 - North Coast 500
 - Wild Atlantic Way
- Connecting with environment
 - North Uist 360
- Connecting through exhibits
 - North Isles Landscape Partnership
 - 56 degrees North
- Connecting with maps and immersion



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Connecting places



A view from the hill



Resources



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A view from the hill



Resources

Virtual Tourism

- [The Louvre](#)
- [Guggenheim Museum](#)
- [The Kennedy Center](#)
- [Smithsonian National Museum of Natural History](#)
- [Monterey Bay Aquarium](#)
- [Grand Canyon National Park](#)
- [Walt Disney World](#)
- [Great Wall of China](#)
- [Great Barrier Reef](#)
- <https://www.trvltrend.com/technology/virtual-tourism/>

Cour Napoléon
Hall Napoléon

Hall Napoléon →

The Pyramid by I. M. Pei is a remarkable feat of technical prowess: 22 meters high, with 30 meter sides, it is made up of almost 800 glass lozenges and triangles, assembled with extraordinary precision on an aluminum framework supported by a 95-ton



Resources – hardware & software

- Personal Headseat Devices
- Gesture Devices
 - Xbox Kinect (not produced)
 - Depth aware cameras, stereo cameras
- Software
 - Unreal
 - Chimera
 - Open Sim