

Title:

Making Historical Globes Accessible with Augmented Reality

Headline paragraph:

Using 3D photography the British Library's rare and fragile collection of historical globes have been digitised and made available for the public to discover via augmented reality.

Quote:

For the first time, this innovative project makes a number of our most important globes available beyond the British Library's reading rooms and exhibition galleries, to a wider audience and in a more imaginative way than ever before.

Key facts:

- 30 rare and fragile globes dating back to 1600 will be digitised in total
- The process has revealed previously unseen details that couldn't be detected by the human eye
- The original globes can now be protected from handling, while the digital versions are explored by anyone around the world, via the British Library website
- Making the globes more accessible allows them to inspire many new audiences, using innovative augmented reality technology.

Body copy:

Historical globes are a little-known and fascinating element of the British Library's prestigious map collection which totals approximately 4 million items and includes one of the world's largest atlases, the Klencke Atlas, which was digitised in 2017.

Dating from between around 1600 and 1950, these terrestrial and celestial globes represent three centuries of western scholarly knowledge concerning the world and cosmos.

As part of our [Heritage Made Digital](#) project, we have photographed the surfaces of a third of these globes to produce virtual 3D models for anyone to access online for free.

The problem

These invaluable historic globes are some of our most fragile collection items. Access has, until now, been restricted due to their condition and special handling requirements. Storage of the globes and the management of their use is complex. None of the globes had previously been photographed in their entirety which meant that, prior to digitisation, very few researchers could access them.

The solution

The entire surfaces of 32 of our most significant historic globes were photographed using our in-house 3D imaging system. These images were then assembled into virtual 3D models, with the assistance of the digitisation company [Cyreal](#).

With recent advances in 3D scanning technology the models were constructed to sub millimetre accuracy and benefitted from multi-camera focus-stacking.



The outcome

This was an opportunity to create digital surrogates of the globes to open up access whilst restricting the handling of these fragile collection items.

High-quality interactive content is now freely available for researchers to view online via a Sketchfab platform which includes an augmented reality setting (available on phone or tablet via the Sketchfab app). This allows unprecedented up-close interaction with the globes from anywhere in the world. For the first time, a variety of previously illegible surface features on the globes can be read.

The project has opened up access to rare international material such as the earliest known Chinese-produced globe dating back to 1623. What's more, multi-spectral components may have unlocked lost or poorly visible details of the globes. Plus an annotation tool allows for the creation of additional metadata.

The globe images and 3D models also have commercial potential to generate income for the British Library.

“The British Library’s map collection is one of our most well-loved, by researchers and enthusiasts alike. The globes are particularly enigmatic objects with fascinating insights into the history of science and society. Yet for all their ‘show’ they can be remarkably elusive objects which are difficult to properly look at, study and understand. For the first time, this innovative project makes a number of our most important globes available beyond the British Library’s reading rooms and exhibition galleries, to a wider audience and in a more imaginative way than ever before. We are particularly excited about the digitisation technique we have developed with Cyreal for this project, and the exciting possibilities it opens up for the rest of the British Library’s collection.”

Tom Harper, Lead Curator of Antiquarian Maps at the British Library

Explore the digitised globes at bl.uk/maps/collection-items

Speak to one of our experts to discuss your 3D photography requirements.

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