

Walk like an Egyptian -- or a Roman -- experience what the past really looked like

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What was it like to walk round the Colosseum when the Roman Empire was at its height? How would the experience have differed from that of a tourist today?

Our understanding of what life was like in bygone eras could be boosted, thanks to a new initiative aiming to depict more accurately and realistically how heritage sites may have looked in their heyday.

Computer scientists and cultural heritage researchers are assessing whether today's increasingly sophisticated 3-d computer technology can be combined with the most recent historical evidence to produce significantly improved visual reconstructions of churches, palaces and other ancient sites.

This could help historians, students and museum visitors gain a much better feel of how such sites were perceived by the people who used them in the past and what it was actually like to be there. The project is being funded by the Engineering and Physical Sciences Research Council (EPSRC). The work is being carried out by researchers from Warwick Manufacturing Group and the new Warwick Digital Laboratory, University of Warwick.

In particular, the effects of smoke, dust, fog and interior lighting conditions (all of which would have impacted on the way that buildings were experienced by contemporaries) can now be modelled very accurately, for the first time. New developments in display technology

also mean it is possible to produce images that are many times brighter, more vivid in colour, incorporate better contrast between light and dark – and are therefore much more realistic – than those previously achievable.

Harnessing such capabilities developed by leading-edge organisations in these specialised fields, the Warwick team is the first to examine whether they can be combined with the most up-to-date literary and archaeological evidence (about a site's characteristics, usage etc) and used to create 3-d computer reconstructions that provide new insight into the past.

"We're trying to produce images that show more realistically the actual conditions of the time we're looking back at," says Professor Alan Chalmers, who is leading the project. "Achieving this involves taking up-to-date historical evidence and combining it with the very latest in 3-d computer technology."

"The future might see the combining of extremely accurate, high-fidelity 3-d representations with temperature, smell, sound and other parameters," comments Professor Chalmers. "Our work may lead to a significant new tool that could help put us in closer touch with the past."

The high-fidelity computer graphics techniques being developed within this project are equally applicable to other fields which require highly realistic visualisation, including medical images, product design, architecture and crime scene reconstruction.

Source: Engineering and Physical Sciences Research Council

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