

# Rebuilding ancient Rome for all to surf it one day

Military software helps rebuild monuments in 3-D

BY JILL SERJEANT

LOS ANGELES • Take a heap of Roman ruins, add a dash of Hollywood razzle-dazzle, some Pentagon technology and a wily professor. Stir gently and, with a click of a mouse, you are virtually transported back 2,000 years to ancient Rome.

The soaring pillars and cobbled streets of the fabled Forum — not to mention the full glory of the Eternal City — will soon be coming to a computer near you, courtesy of a virtual reality technology project.

Ancient Rome is being painstakingly reborn in a basement at the University of California Los Angeles (UCLA) by a team of classical historians, architects and computer specialists. To build their three-dimen-

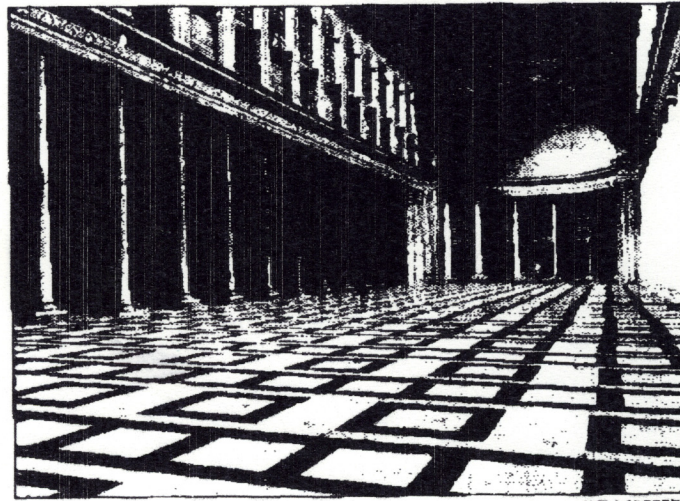
sional models, the team is combining technology used in many computer video games with software developed by the U.S. military to simulate enemy targets for practice bombing runs.

"We're making it easy for people to visualize Rome. Since they are 3-D, real-time reconstructions, people can have the illusion that they are really there inside the space," said Bernard Frischer, the project director.

Frischer, a classics professor at UCLA, who fell in love with Italy as a student, says it will be almost as good as being there.

"Heat should not be a major problem because we are normally showing this in a theatre-like setting so you can control the heat and the humidity. We have 3-D sound already so we can create the illusion of ambient sound. We really are going for total sensory experience," he said.

Some may find it odd that ancient monuments are being so lovingly reconstructed in Los Angeles, a city where the old is routinely bulldozed to make way for the



A 3-D view of the Basilica of Santa Maria Maggiore in AD 400.

new. But, said Dean Abernathy, an architecture student working on the project: "That's part of the fascination, because we have so few historical monuments in this city."

Working with Italian cultural authorities to transform "marble fragments to silicon chips," the project, called Rome Reborn, is aimed at everyone from classical scholars and archaeologists to schoolchildren and tourists. Ancient Athens and the Temple Mount of biblical Jerusalem are also in development.

What sets the projects apart is the ability of the models to evolve, showing the way the buildings have changed through the ages,

and the wealth of detail contributed by scholars, mostly from Italy, the United States and Britain.

"We want to be the Encyclopaedia Britannica of virtual reality," Frischer said.

But Rome was not built in a day, and it is taking some time to recreate it. The target date is 2020 for completing the multi-layer VR picture of the city spanning the centuries from 850 BC to AD 450. Much of the Imperial Forum is already done, as is the early Christian Basilica of Santa Maria Maggiore.

The models will get their first big showcase in January, when UCLA will open the first "visual-

ization portal" at a U.S. university — a small room with a screen that wraps around students, putting them in the centre of the VR model and providing an ideal tool for teaching.

Twenty-five years ago, it was all a Utopian dream for Frischer who was inspired by a huge plaster model of ancient Rome in the Italian capital's relatively obscure Museum of Roman Civilization. "I thought if we could package this and get it out of classrooms, it would have a very good impact on classical studies," he said.

It was only in the 1990s that the cost of 3-D modelling computers came down, making the ambitious Rome project possible. Entertainment companies have provided much of the financing as well as some of the technology behind the models, which can be accessed on personal computers off the Internet or on DVD.

"I always thought it was kind of a mad dream and would remain a mad dream," Frischer said.

"It's actually difficult for us to realize a dream because we don't know very much how to undertake big projects like this, to organize the and resources needed to get them out. But we're learning a race between my brain and my retirement date."

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