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Tiny disk to record posterity



Current digital technology is seen as unstable

By Helen Sewell of BBC Science

New ways of storing information in a way that can be understood thousands of years from now have been discussed at a conference in the United States.

Scientists, librarians, technologists, anthropologists and others, with the backing of the Long Now Foundation, are considering the best way to ensure that the culture and heritage of the 21st Century are not forgotten.

The foundation is looking at a small metal disk which can store hundreds of thousands of words.

Called the Rosetta disk, experts hope it will provide our descendants with details of how we live today.

Developed by Norsam Technologies and the Los Alamos National Laboratory, Rosetta should be capable of lasting over millennia with minimal environmental controls.

Rosetta is said to be unaffected by magnetic fields and is not dependent on a particular platform or operating software.

Unstable technology

Throughout history people have left their mark for future generations. Cave paintings,

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Kevin Warwick
"Are we leaving much for posterity?"
 real **28k**

Alexander Rose
"It's a micro-etched nickel disk"
 real **28k**

Egyptian pyramids and stone etchings were followed by books and manuscripts.

These technologies have now been overtaken by the digital revolution. But digital information storage is notoriously unstable.

Just as a book can crumble away, magnetic data can also break down. And as technology races on, it becomes increasingly difficult to retrieve older material.

Documents stored on a floppy disk only 15 years ago, for example, could be impossible to read on a modern-day computer.

“
The lifespan of things has really speeded up and you have to ask the question are we leaving much for posterity?

”

Professor Kevin Warwick

Professor Kevin Warwick, from Reading University, UK, said information storage had become so transient that today's society could easily be forgotten.

"It is funny that whilst thousands of years ago they appear to have had a much longer-term plan about buildings and structures and information, now we seem to be going for a much shorter timescale," he said.

"The lifespan of things has really speeded up and you have to ask the question are we leaving much for posterity?"

Nickel archive

To counter these concerns, the Long Now Foundation is working with technologists to develop better methods of storing and translating words.

The Rosetta disk is a long-term linguistic archive and translation engine that allows for the recovery of "lost" languages in the deep future.

“
It's the first time we've really had media that can last this long since etching into marble

”

The storage technology used is a small nickel disk that records analogue text and images at densities up to 350,000 pages per disk, with a life expectancy

Alexander Rose

of 2,000-10,000 years.

"It's a small nickel disk that's been micro-etched, where you can fit between ten thousand and three hundred and fifty thousand pages, depending on how small they etch it, of optical data on to this disk," said the foundation's executive director Alexander Rose.

"It's the first time we've really had media that can last this long since etching into marble."

It is now 10,000 years since the end of the last Ice Age. The writing on the disk is expected to last for up to 10,000 years more, during which time human society will no doubt have changed dramatically.

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