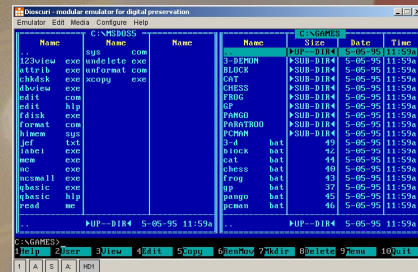
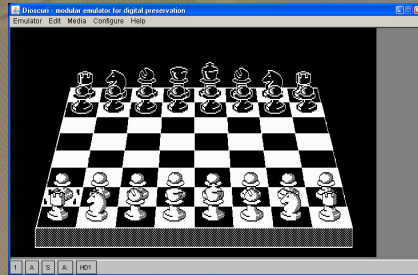
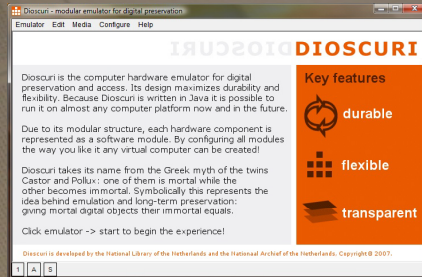




Koninklijke Bibliotheek
National library of the Netherlands



DioscURI

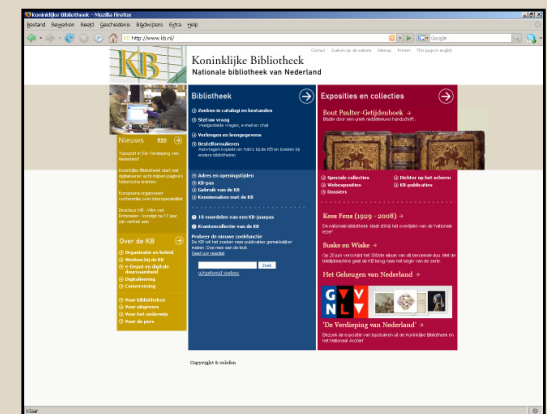
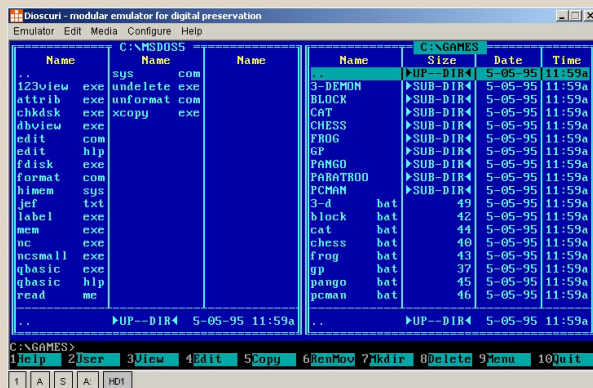
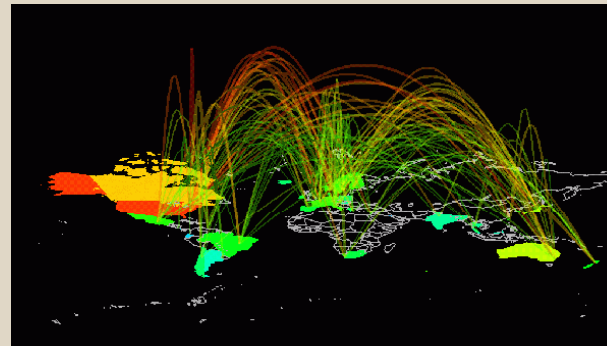
The emulator for digital preservation

Jeffrey van der Hoeven
Koninklijke Bibliotheek (KB)
National Library of the Netherlands

2 April 2009 – Chapel Hill, NC, USA



Our digital life...



Software Exception

A fatal exception 0E has occurred at 0167:BFF9DFFF. The current application will be terminated.

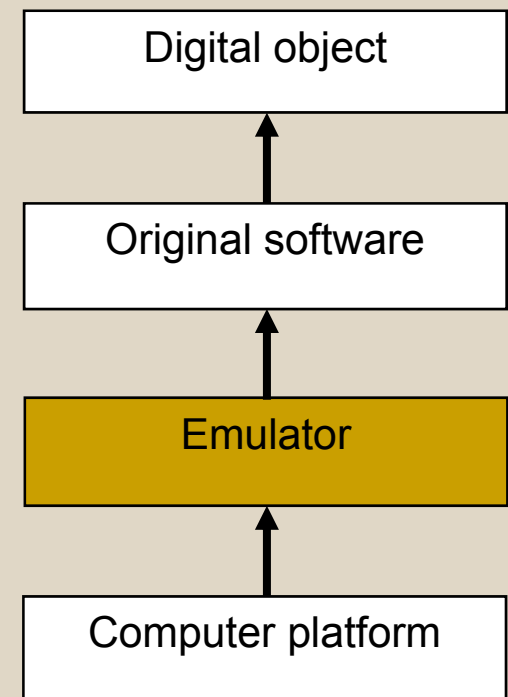
- * Press any key to terminate the current application.
- * Press CTRL+ALT+DEL again to restart your computer. You will lose any unsaved information in all applications.

Press any key to continue

Emulation

= adapt the computer environment to render the digital object authentically.

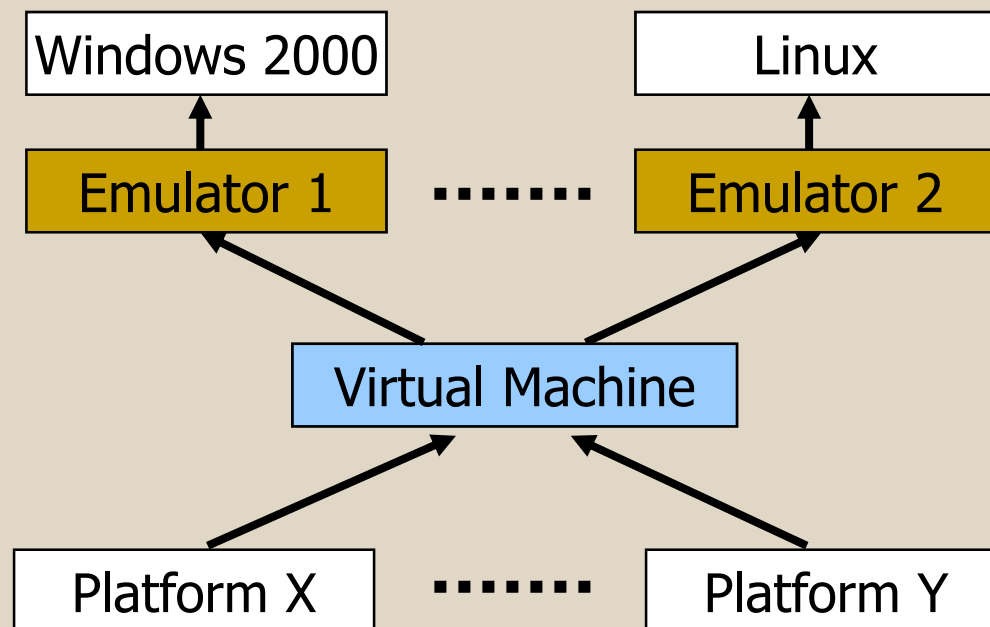
- Substitute for old hardware
- No changes to digital object
- Renders static and dynamic objects
- Create once, apply for all
- No periodic conversions
- Proven technology
(gaming industry, corporate solutions, cross-platform)



DioscURI: durable & modular emulator

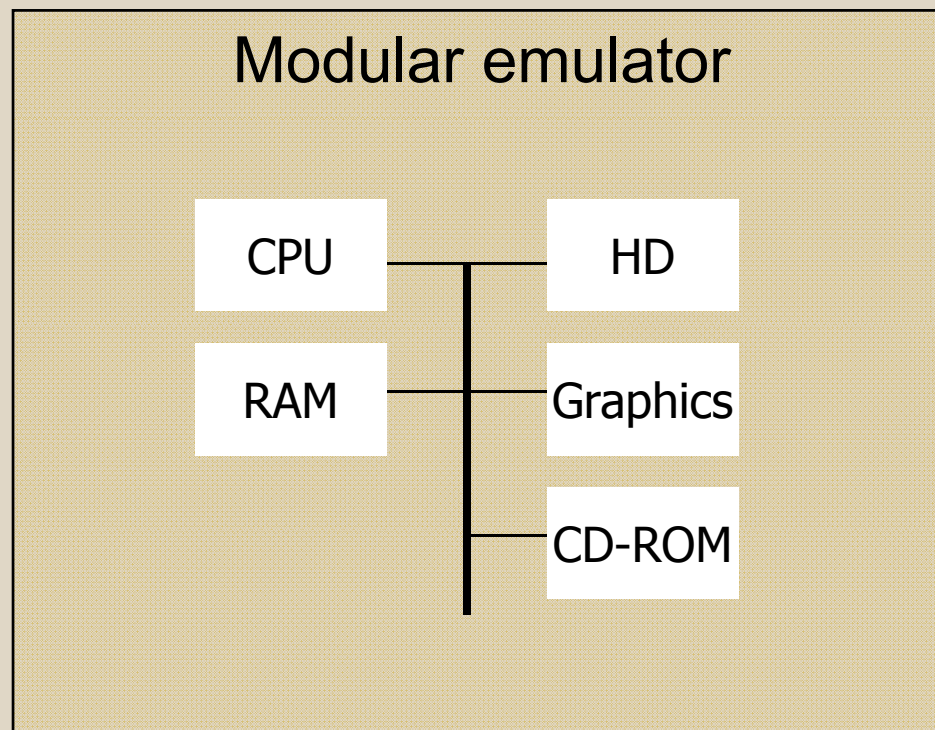
Two key features: durability and modularity

- Durable -> emulator has to endure time. This can be done by making the emulator portable to a wide range of computer platforms using a Virtual Machine (VM).



What is modular emulation?

- Modular -> emulator consists of modules.





CPU

Memory

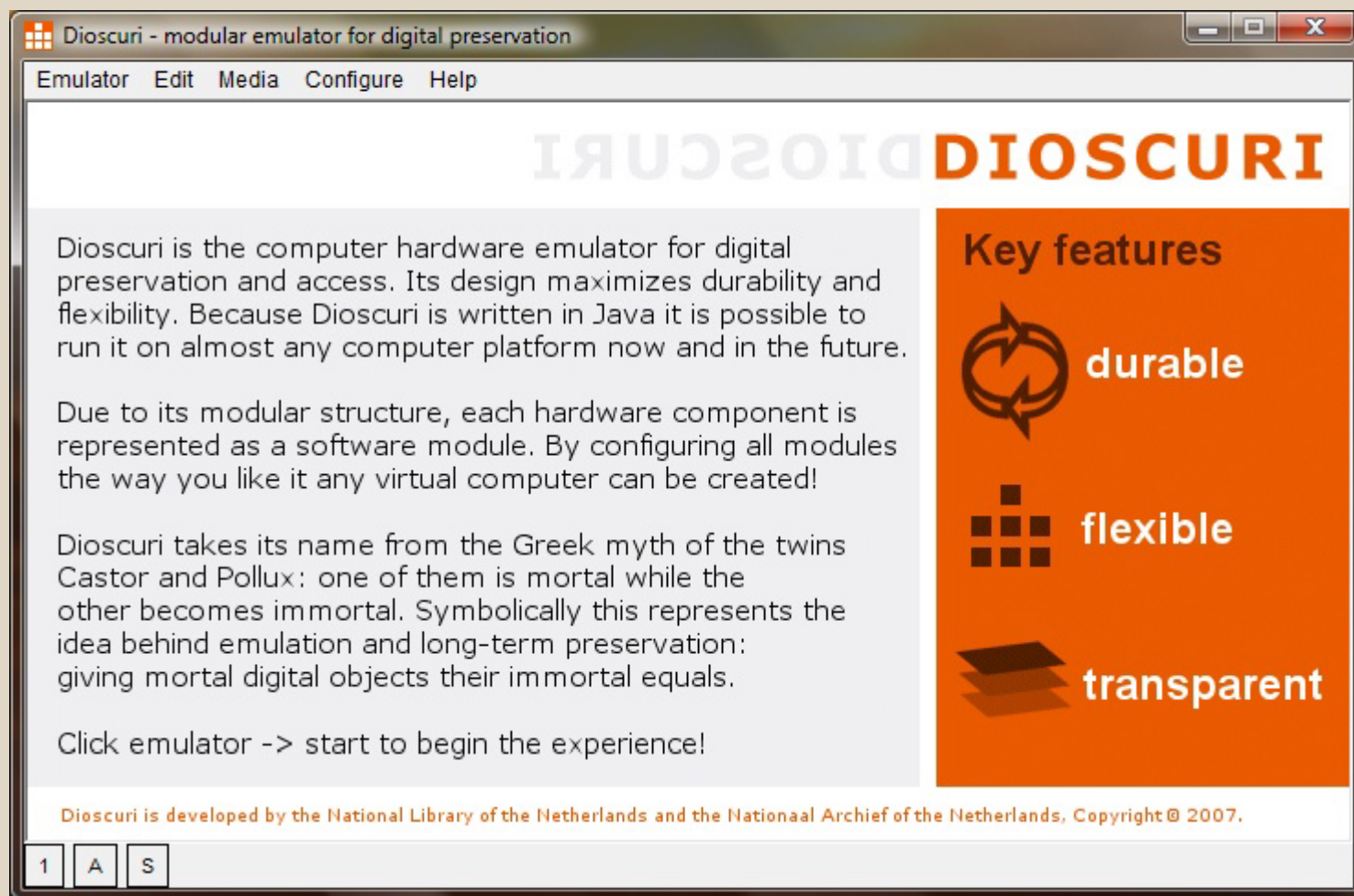
Graphics card

**PIC
RTC**

BIOS

Results

- **Dioscuri** – modular emulator for digital preservation
- Current version: 0.4.0 (Beta)
- Programmed in Java using JVM
- Capable of:
 - Running MS-DOS, FreeDOS, Linux 16-bit (ELKS), MS Windows 3.0
 - Norton Commander 3.0, WordPerfect 5.1, DrawPerfect 1.1, many games like PC-versions of PacMan, Tetris, Chess and many more. Also DOS-based webbrowser Arachne.
 - XML-based module configuration
 - Text extraction from emulated environment into the clipboard of host computer.
 - Running on many platforms like Intel/Windows, PowerPC/Mac, Sun/Sparc Solaris.



Open issues around emulation:

- Is it legal?
- Using emulators is difficult, why?
- How do I get my software right?
- How will emulation fit in my organisation?
- How to get the data from the original carrier?
- Will it be sustainable?

Next step: new project KEEP



Keeping Emulation Environments Portable

Objectives:

- Media transfer framework
- Build user friendly emulation services
- Define metadata model to support emulation
- Guarantee sustainability (portability)
- Legal study

www.keep-project.eu

KEEP - Broadcast Yourself, - Mozilla Firefox

Bestand Bewerken Beeld Geschiedenis Bladwijzers Extra Help

http://www.keep-project.eu

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Home Emu's Channels Community

Emulations being runned right now...

Mario Brothers...

Promoted emulators

Dioscuri 21,717 views

QEMU 290,647 views

MAME 16,434 views

MSX 849,441 views

What's New

HD KEEP in High Definition

Watch KEEP on your TV

Read more in our Blog

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Golf: Hole in one
Play golf with this game of 1985 running on MAME.
★★★★★ 106,970 views

Microsoft Windows 3.0
Experience the first widely used version of Windows.
★★★★★ 362,217 views

Chess: check-mate
Imagine a 3D-view of the game chess on the PC. In 1991 it became reality.
★★★★★ 282,729 views

Norton Commander 3.0
Sort your documents with the most popular filebrowser ever made.



<http://dioscURI.sourceforge.net>



Any questions?

Dioscuri website:

<http://dioscuri.sourceforge.net>

Emulation project KB / Nationaal Archief:

http://www.kb.nl/hrd/dd/dd_projecten/projecten_emulatie-en.html

Planets project:

<http://www.planets-project.eu>

KEEP project:

<http://www.keep-project.eu>

Contact: jeffrey.vanderhoeven@kb.nl