



# Einstein Platform 2006.6

## Introducing Relativity

*Newton never dies. It just gets new hardware.*

Paul Guyot  
Einstein Night at AppleStore Ginza



**What is Einstein?**



# **2004-2005**

# **The Emulator Era**



# WWNC 2004 (09.2004)

-  **Nicolas Zinovieff and I were the local organizers of the first Worldwide Newton Conference in Paris in September 2004.**
-  **We wanted something big.**
-  **We introduced Einstein Emulator for MacOS X: the (first) NewtonOS emulator.**



Einstein

Welcome

Please take a few minutes to go through this tour.

You'll have an opportunity to personalize your device.

**ⓘ Newton**  
 This unit requires immediate repair. Factory calibration has been lost. It will not charge batteries until this problem is corrected.

Continue

```

paul @ droopy
R0 = 00000000 | pc <- 000395C8
R1 = 0C400000 | Break at 000395C4
R2 = 0C100FC8 | Breakpoint set at 000D33A0
R3 = 00000001 | Break at 000395C4
R4 = 0F103400 | Write byte access to unknown bank #3 at P0:0F1F3000 = 00
R5 = 0C400060 | Write byte access to unknown bank #3 at P0:0F1F2000 = 22
R6 = 0C1084B4 | Write word access to unknown bank #3 at P0:0F096000 (00000000)
R7 = 00000000 | Write word access to unknown bank #3 at P0:0F098400 (00000040)
R8 = 0C100FF8 | Read word access to unknown bank #3 at P0:0F080000
R9 = 00000000 | Read word access to unknown bank #3 at P0:0F08C400
R10= FFFFD8E3 | Read word access to unknown bank #3 at P0:0F098800
R11= 0C0003B8 | Write byte access to unknown bank #3 at P0:0F1F2000 = 42
R12= 008003FC | Write byte access to unknown bank #3 at P0:0F1F3C00 = 40
R13= 0C0003A8 | Write byte access to unknown bank #3 at P0:0F1F3000 = 61
LR = 0000010D | Write byte access to unknown bank #3 at P0:0F1F3000 = 00
PC = 0080050C | TMainPlatformDriver::PowerOffSubsystem( 00000003 )
nZcv Ift svc | TMainPlatformDriver::PowerOffSubsystem( 00000029 )
nZcv Ift usr | TMainPlatformDriver::PowerOffSubsystem( 00000028 )
=====
TMainDisplayDriver::Blit( PM=0C107D8C, R=0CD9AD10, R=0CD9AD10, long )
Tmr= 18CC8CF0 | src: (t=0;l=0;b=480;r=320), dst: (t=0;l=0;b=480;r=320)
TM0= 00000000 | PMainSoundDriver::OutputIsRunning
TM1= 00000000 | PMainSoundDriver::PowerOutputOn( 0 )
TM2= 18CDAEEE | PMainSoundDriver::PowerOutputOn
TM3= 18CC8BF4 | PMainSoundDriver::ScheduleOutputBuffer( 00000001, 00000EA0 )
RTC= AE070BAE | PMainSoundDriver::OutputIsEnabled
Alm= AE07E2AE | PMainSoundDriver::StartOutput
IR = 00000040 | TMainDisplayDriver::Blit( PM=0C107D8C, R=0CD9A6E4, R=0CD9A6E4, long )
ICR= 0E5FE3A4 | src: (t=192;l=126;b=242;r=194), dst: (t=192;l=126;b=242;r=194)
FM = 0C7F6388 | TMainPlatformDriver::PauseSystem
IC1= 0E5FE3A4 | System is paused
IC2= 0C000000 | Waiting for next interrupt
IC3= 00408004 | No next interrupt (nt=E0005E54, t=E0CFB7FC, T3=18CC8BF4, d=D003D1A4)
-----
gSymb00Symbols+E5C24
00800508 ldmia r13!, {pc}
0080050C andeq r0, r0, r13, lsl #2 (2)
00800510 stmdb r13!, {r}
00800514 ldr lr, 0x00800520
00800518 mcr 10, 0, lr, cr0, {0}
> run
Break 000D33A0
run
    
```



# Einstein in 2004

-  **In 2004, Einstein was a proof of concept, developed in four weeks by a couple of Mac developers.**
-  **NewtonOS was living outside a Newton for the first time ever.**
-  **But it was horribly slow and not really usable. Many features were missing.**

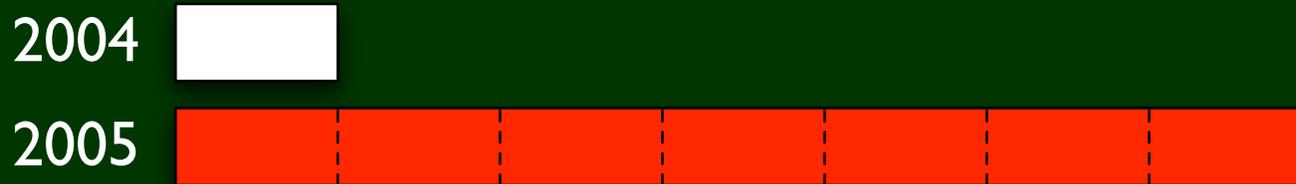


# Einstein in 2005

 **In 2005, I rewrote the emulator entirely.**



# Einstein in 2005



**The 2005 version was 7 times faster.**



# Einstein in 2005

 **Also:**

 **Keyboard support**

 **Drag&Drop package installation**

 **Cocoa interface screen**

 **CoreAudio sound**

 **Setup using AddressBook data**

 **etc.**



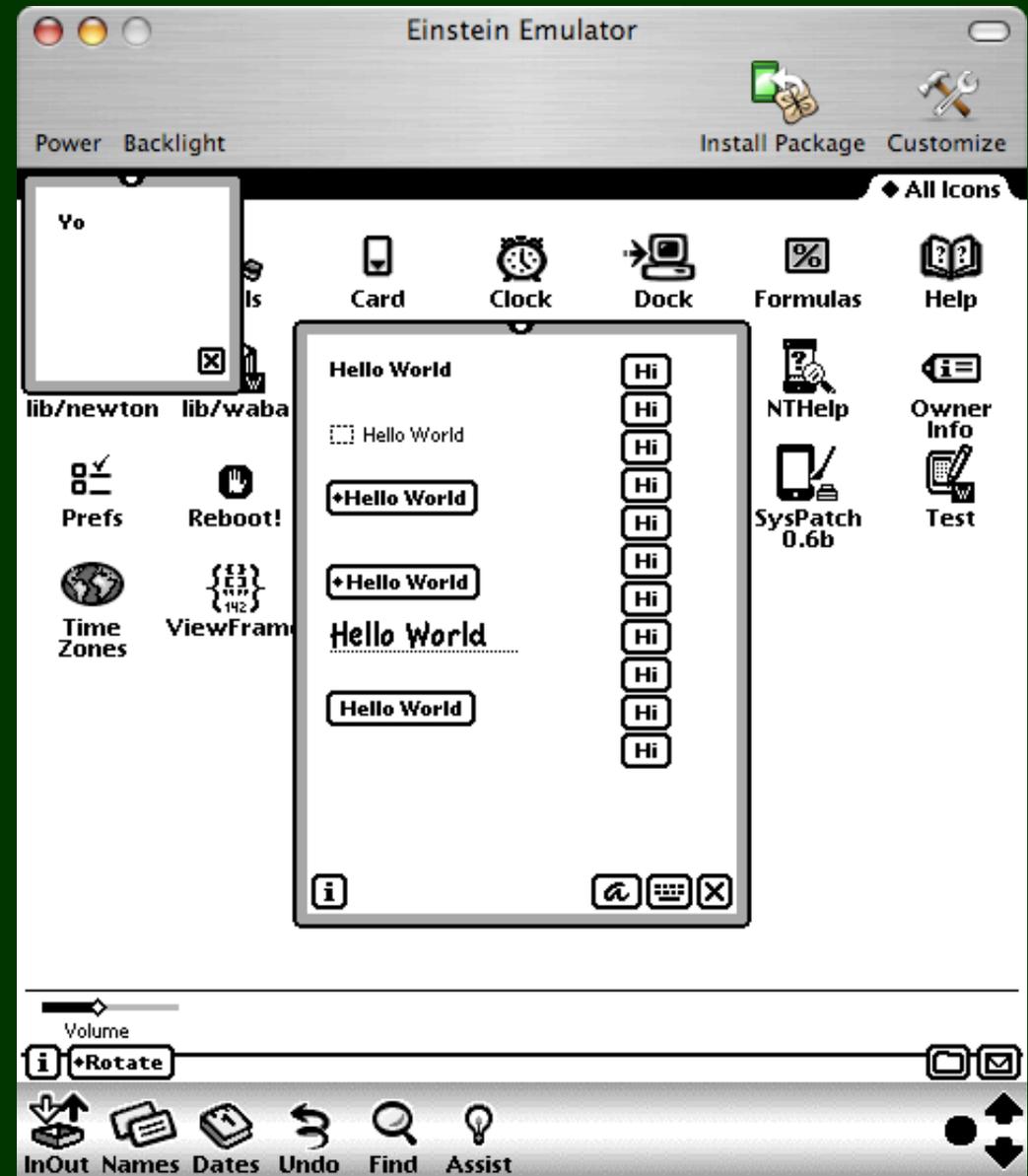
# Einstein 2005



Is a great development tool for MacOS X.



Sean Luke uses it for new Waba developments.





# 2006- The Platform Era



# WWNC 2006 (01.2006)

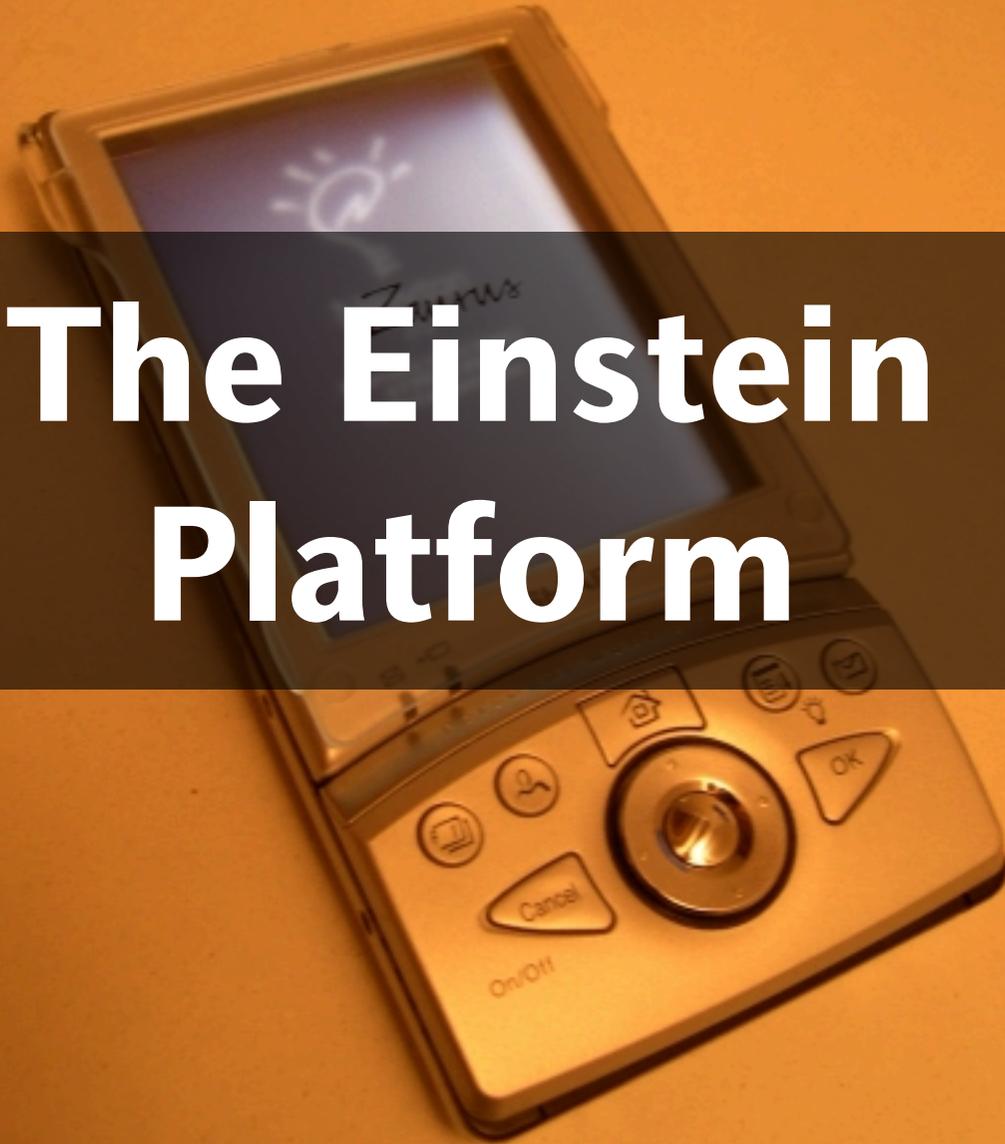
 **For the second Worldwide Newton Conference, Adam Tow was the local organizer: I had much more time in my hands.**

 **Einstein became...**



01/12/2006

# The Einstein Platform





# The Einstein Platform

-  **The Einstein Platform is Einstein taking over the host system.**
-  **The Einstein Platform runs on Linux PDAs.**
-  **Newton is living on new handhelds!**



**Released Today**  
**Einstein 2006.6**



# Einstein 2006.6

- 💡 **Runs more smoothly.**
- 💡 **Full screen.**
- 💡 **Several aesthetic improvements (icons, keyboard mappings)**
- 💡 **And...**



# Einstein 2006.6

 **Now runs natively on Intel Macs!**



Mac



Universal



**Released Today**  
**Einstein 2006.6**

**with Relativity**  
**Inside**

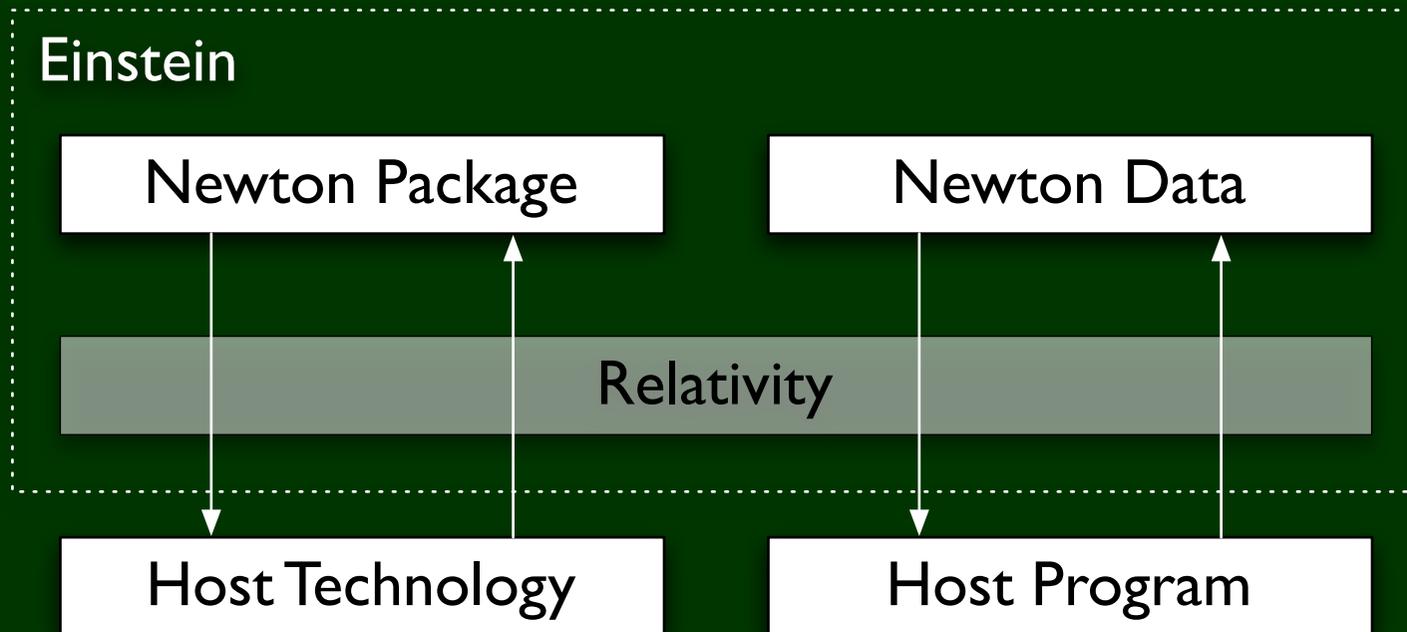


# What is Relativity?

-  **Relativity is the merge of host and Newton applications, technologies and data.**
-  **All host technologies are now available in a Newton environment.**
-  **This means new Newton packages can be developed to provide the best of both worlds.**



# What is Relativity?





# Example



# Develop Einstein Packages today!

-  **Using relativity is easy!**
-  **Import the technology you want in Einstein.**
-  **Call the host functions directly from your Newton packages.**



# Questions?

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