Smalltalk - Past, Present, and Future

Georg Heeg

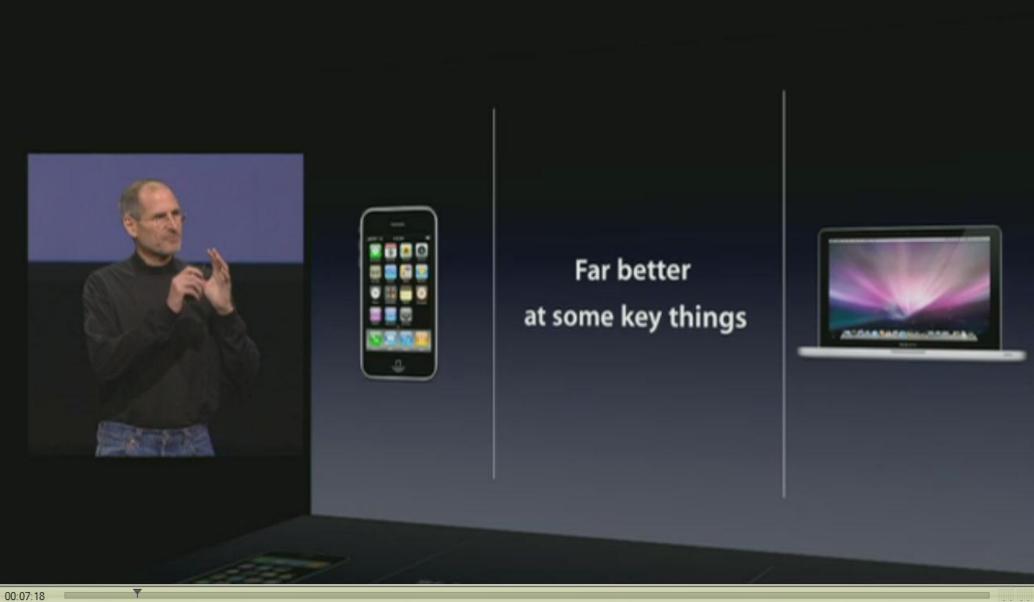
Founder and Owner of Georg Heeg eK

Executive Director of STIC – Smalltalk Industry Council

Cincom Partner since 1999















tei Bearbeiten Ansicht Fenster Hilfe

Georg Heeg (Person)

- University of Dortmund
 - Studied Computer Science and Maths
 - Worked as Teaching Assistent
- Learned Simula 67 in 1973
- Tought Simula 67 up to 1983
- Did not understand what Objects are
- Learned Smalltalk in 1983
- Understood what Objects are

Georg Heeg eK

- Founded 7/7/1987 in Dortmund
 - Original Mission
 - Spread Smalltalk in Central Europe
- Georg Heeg AG Zurich
 - To service the Swiss market
- Subsidiary in Köthen (Anhalt)
 - To keep family Heeg together
- Premiere Cincom Smalltalk Partner
 - Throughout Europe and Worldwide



Our Team

- 14 Smalltalkers
 - with 4 to 25 years of Smalltalk experience
 - 6 certified Scrum Masters
 - Project managers of agile projects
 - 9 Smalltalkers in Dortmund
 - 5 Smalltalkers in Köthen
- 2 Web Designers
 - in Köthen

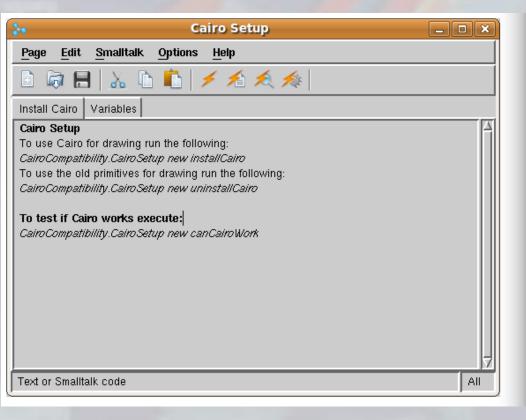
Cairo Feasibility Study

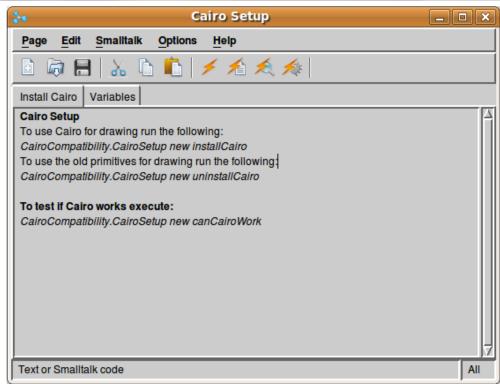
- On behalf of Cincom
- Replacement of all VisualWorks graphic primitives by Cairo
- Result
 - Prototype with complete implementation
 - Windows, Mac OS X, Linux
- 2009

Cairo on Linux

Standard VisualWorks

VisualWorks with Cairo





STIC Purposes (from the Bylaws)

- A. To create and increase awareness of Smalltalk.
- B. To promote Smalltalk as the superior technology for the construction of information systems.
- C. To help attract skilled, productive human resources to the Smalltalk industry.
- D. To support the creation of industry standards.





STIC Industry Members







- Board Members
 - Cincom Systems
 - Instantiations
 - GemStone
- Executive Director
 - Georg Heeg

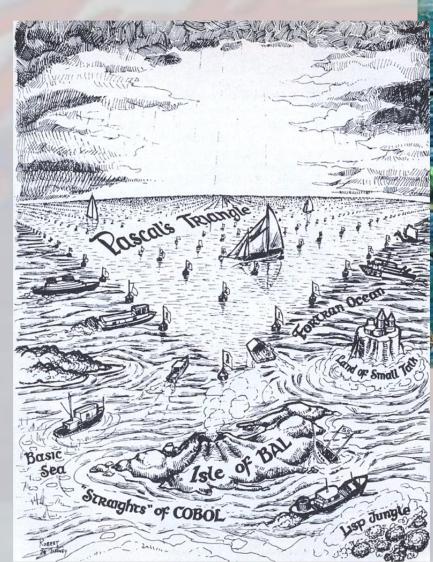


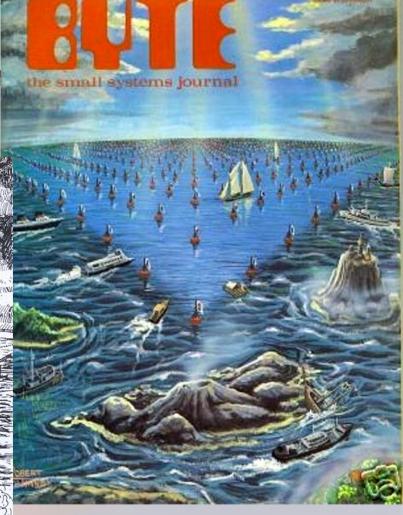
Smalltalk

- Past
- Present
- Future

Byte Magazine

August
1978:
First time
Smalltalk
is
mentioned

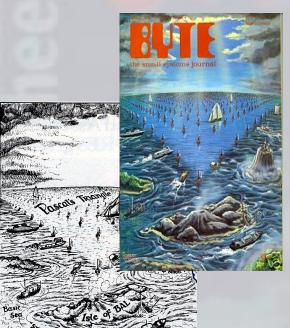






Carl Helmers

Traveling upward (in the picture) through heavy seas we come to the pinnacle, a snow white island rising like an ivory tower out of the surrounding shark infested waters. Here we find the fantastic kingdom of Smalltalk, where great and magical things happen.
 (Byte Magazine Aug 1978, p. 18)



What Happened

- 1976 objects were created which still exist in today's Smalltalk systems.
- 1981 Byte Magazine published a series of 11 Smalltalk articles
 - With Z80 assembly code manually translated from Basic

00170 DCOUNT

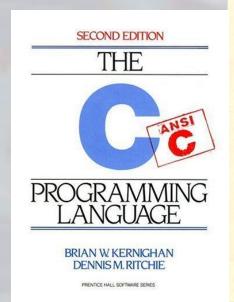
EQU

+01

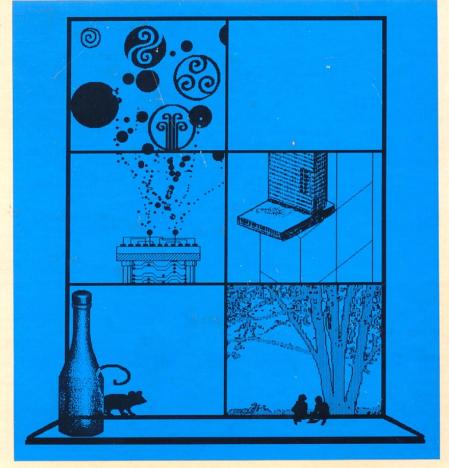
```
800 I=T:B(I)=0:X$=" 0":GOSUB1000:PRINT@179,Y$;
810 T=BM:ST=ST+B(T):B(T)=99:I=T:X$=T$
820 GOSUB1000:PRINT@513,ST;:IFST<100THEN300
910 PRINT@915,"THANK YOU FOR A PLEASANT GAME";
930 PRINT@917,"CONGRATULATIONS, YOU WIN";:GOTO920
1000 R=INT(I/10):C=I-10*R:K=141+(8-R)*64+C*4
1010 PRINT@K,X$;:RETURN
Listing 2: The more time-consuming portions of the game have been coded in Z80 assembly language, improving the program speed
300 times. This section of the game must be loaded into otherwise unused memory before you attempt to run the program in listing 1.
00100
                  ORG
                            6000H
00110 BRD
                            7E05H
00120 MXDPTH
                 EQU
                            7E02H
                  EQU
                            7E03H
00130 TRS80
99140 HUMAN
                            7E04H
00150 FROM
                  EQU
                  EQU
00130 TO
                            +00
```

The Smalltalk Bible

- 1983: The Book
- Version 2 of "The Smalltalk 80 System"
 - Distributed without virtual machine to Universities (\$100)



SMALLTALK-80 THE LANGUAGE AND ITS IMPLEMENTATION



Adele Goldberg and David Robson

Commercialization

- 1968 Tom Nies founded Cincom
- 1982 Servio Logic Corp. (now GemStone Inc.)
- 1983 Digitalk
- 1984 Tektronix 4404
- 1987 Georg Heeg eK
- 1988 ParcPlace Systems
- 1991 Enfin Corporation
- 1994 IBM VisualAge
- •
- Smalltalk/X
- Dolphin

• • • •

1990-1995 "Smalltalk Hype I"

- Many many successful projects are started throughout the industry
 - Banks
 - Insurance
 - Car manufacturing
 - Chip manufactoring
 - Railways
- Mostly (very) complex systems

1996-2002 "Slow down"

- Java pops up
- Java Promise:
 - Smalltalk-like magical things without craggy aloofness
- In the same time frame
 - Smalltalk projects are successfully deployed

1999-... "Migrations failures"

 Smalltalk customers believe the Java hype and try to migrate

And fail

And Consider Smalltalk "strategic again"

Cincom Invests into Smalltalk

- November 5, 1996
 - "Vmark turns ObjectStudio over to CinMark Inc., jointly owned by Vmark and Cincom."
- February 10, 1997
 - "Cincom Systems Inc. today announced they have acquired ObjectStudio's German operations from VMARK"
- August 31, 1999
 - "Cincom Systems, Inc. today announced that it has acquired the VisualWorks(TM) product line along with the transfer of related engineering, sales and support teams from ObjectShare, Inc. "

2002-2009 "Second Spring"

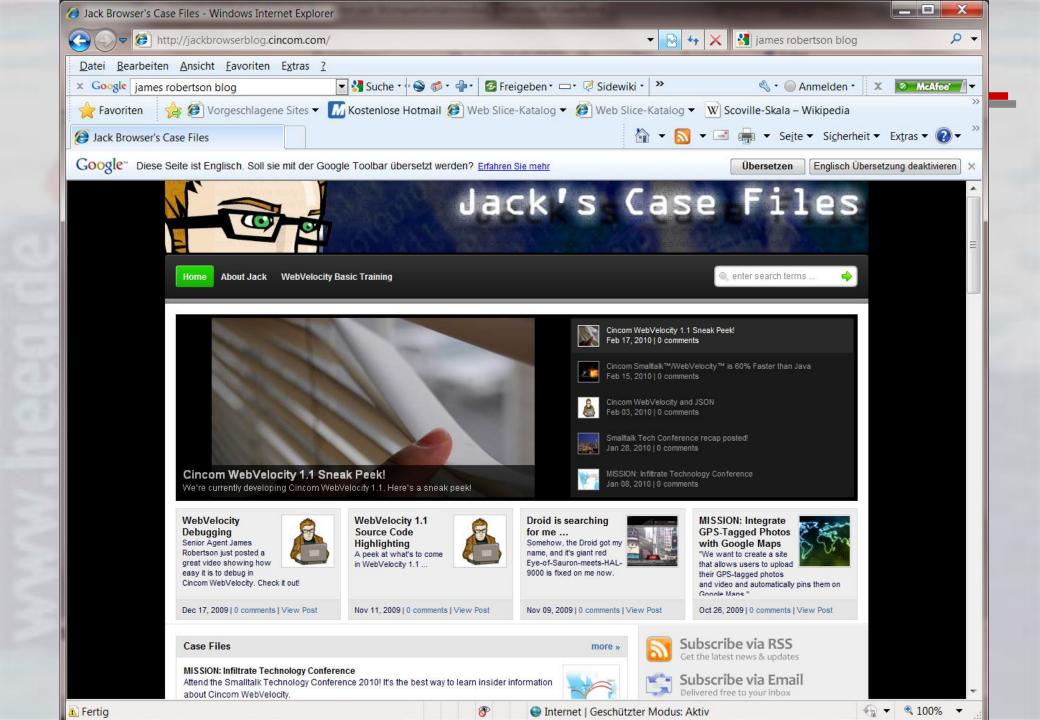
- New customers adopt Smalltalk
 - Small (one person enthusiasts) and
 - Big corporations detect Smalltalk as solution for stagnating projects

Smalltalk

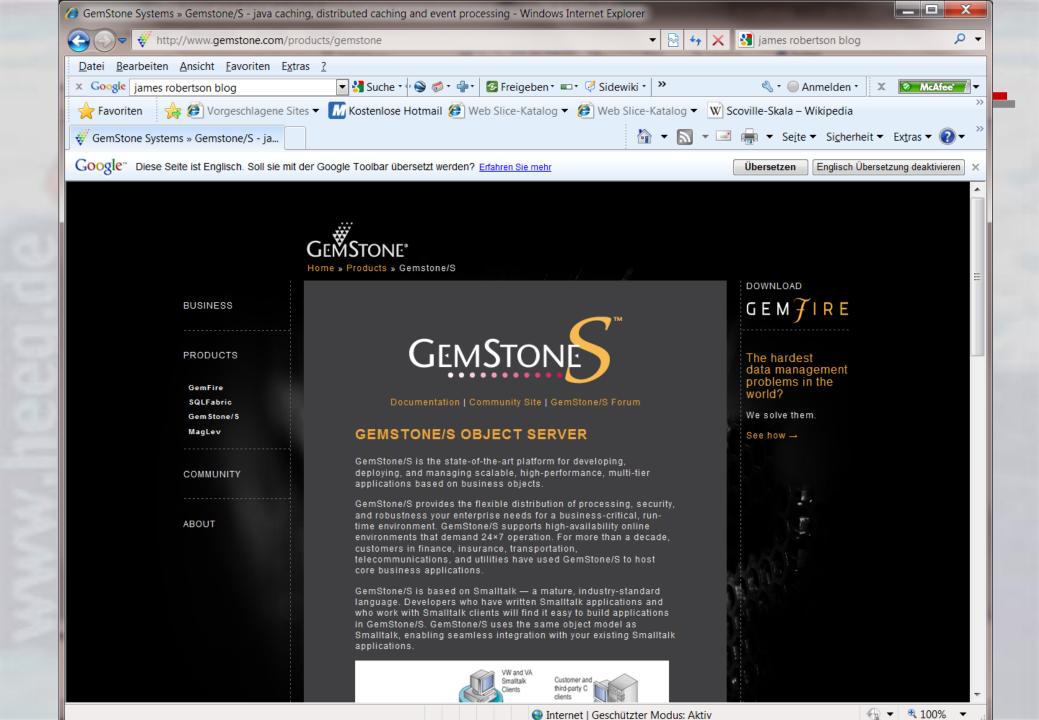
- Past
- Present
- Future

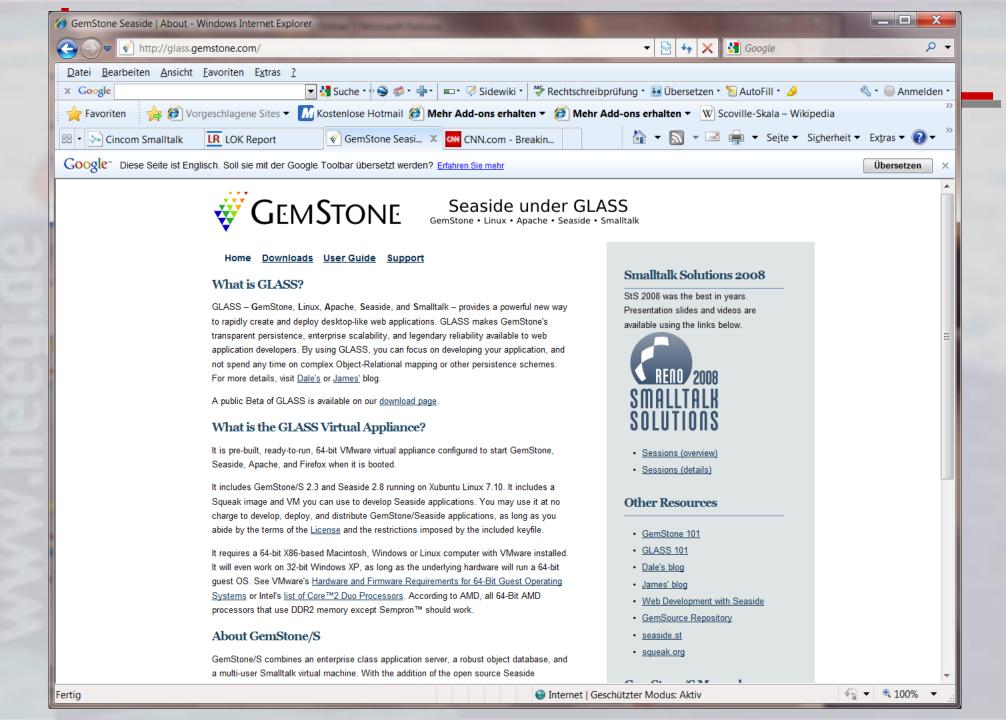


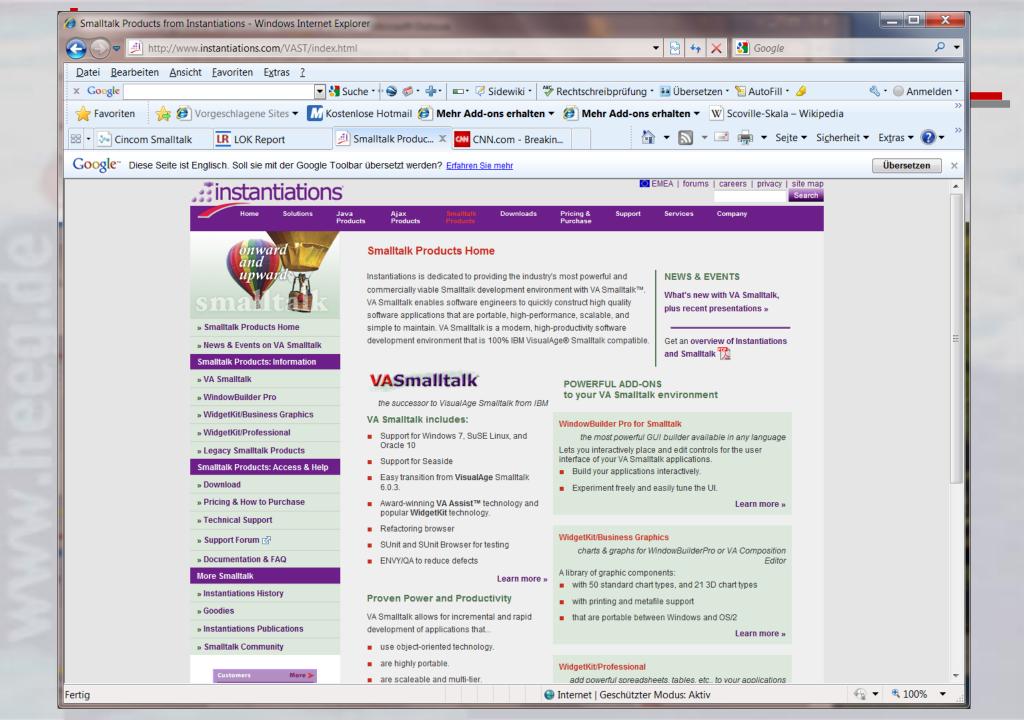


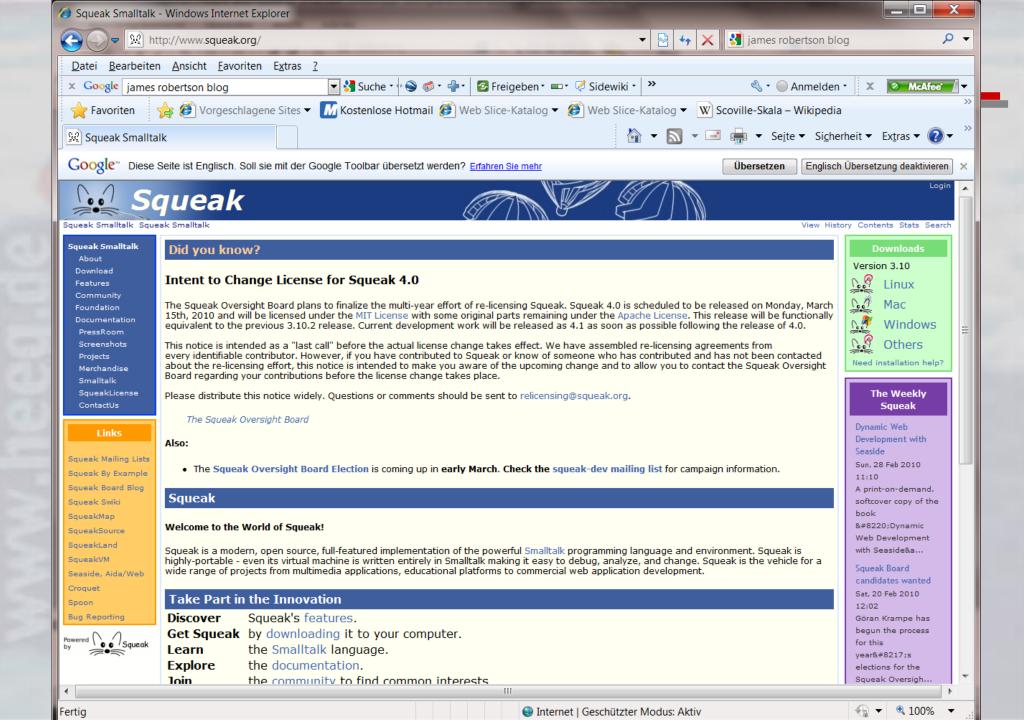


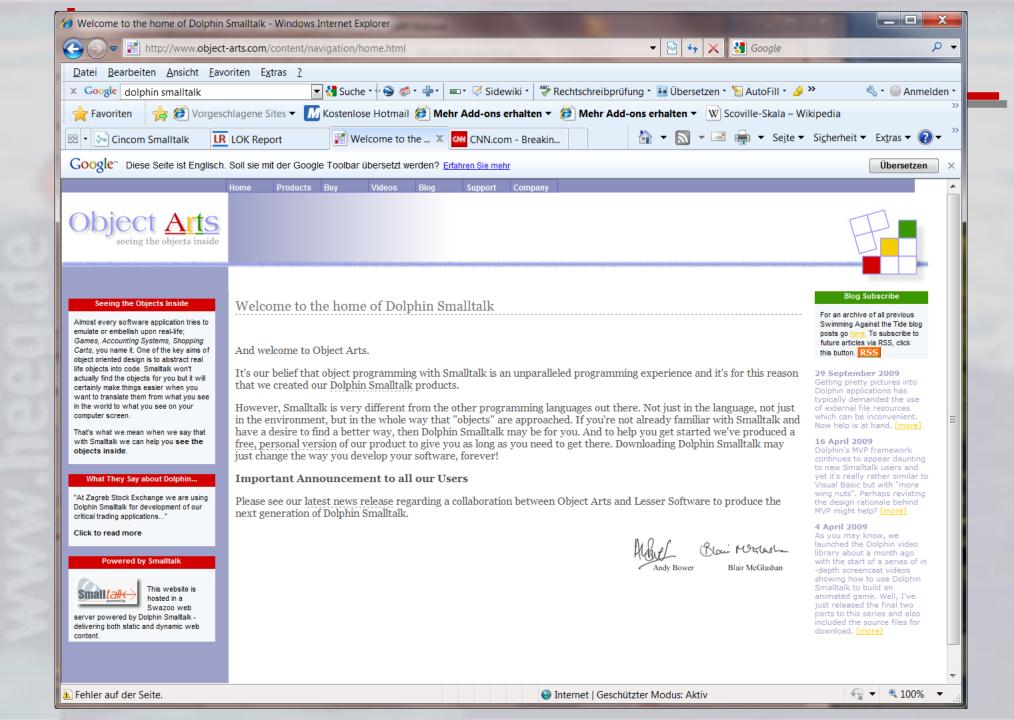


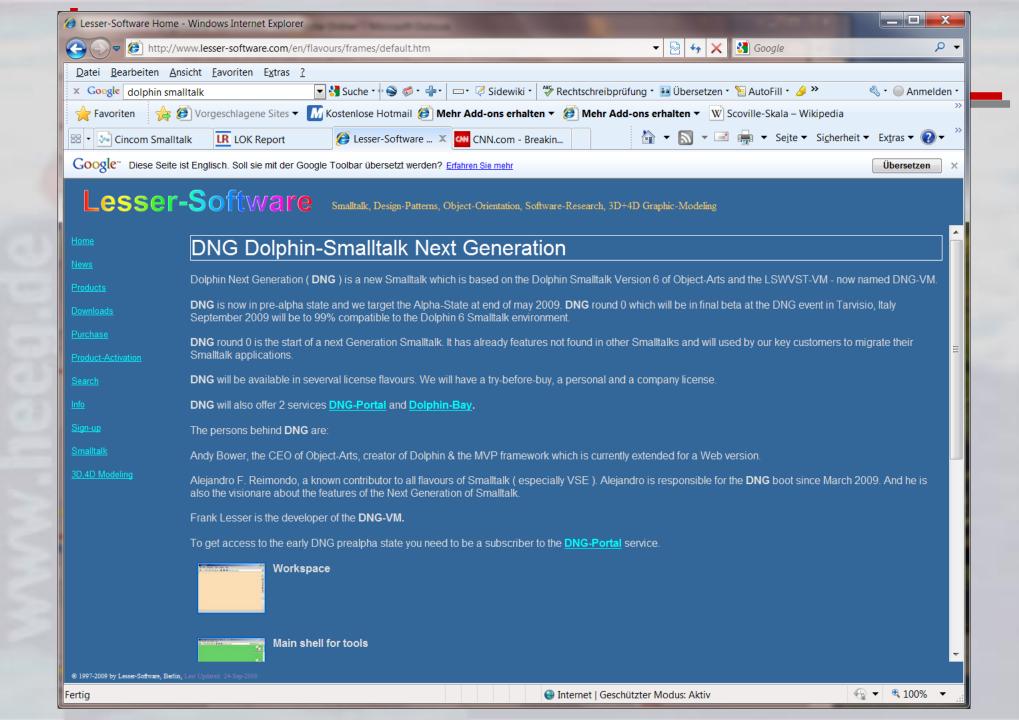


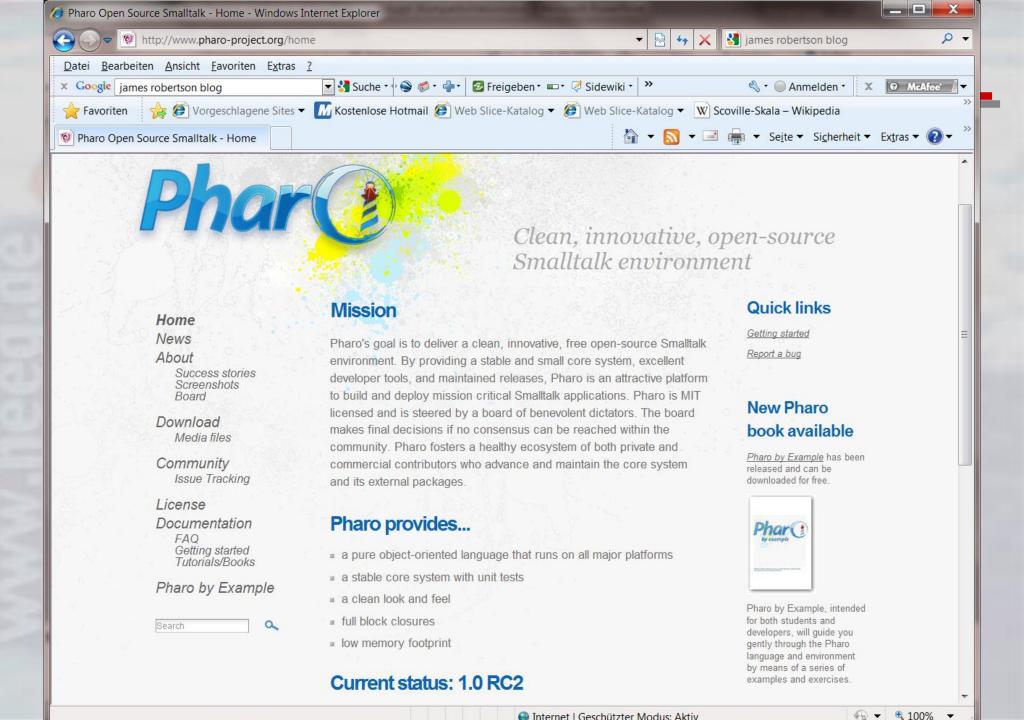


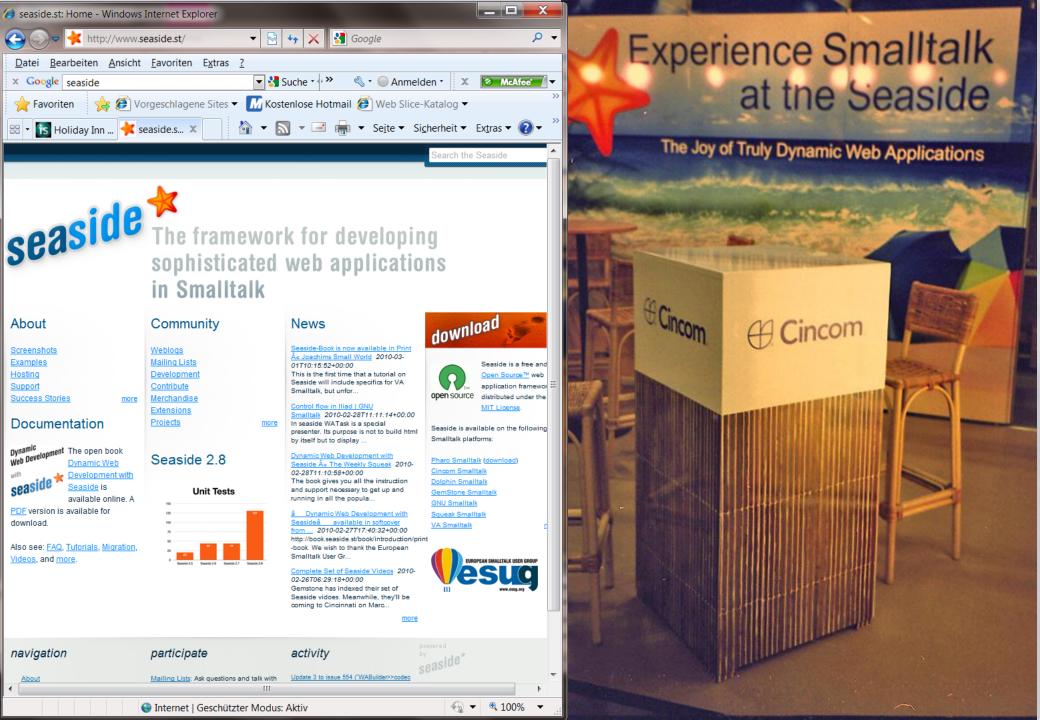


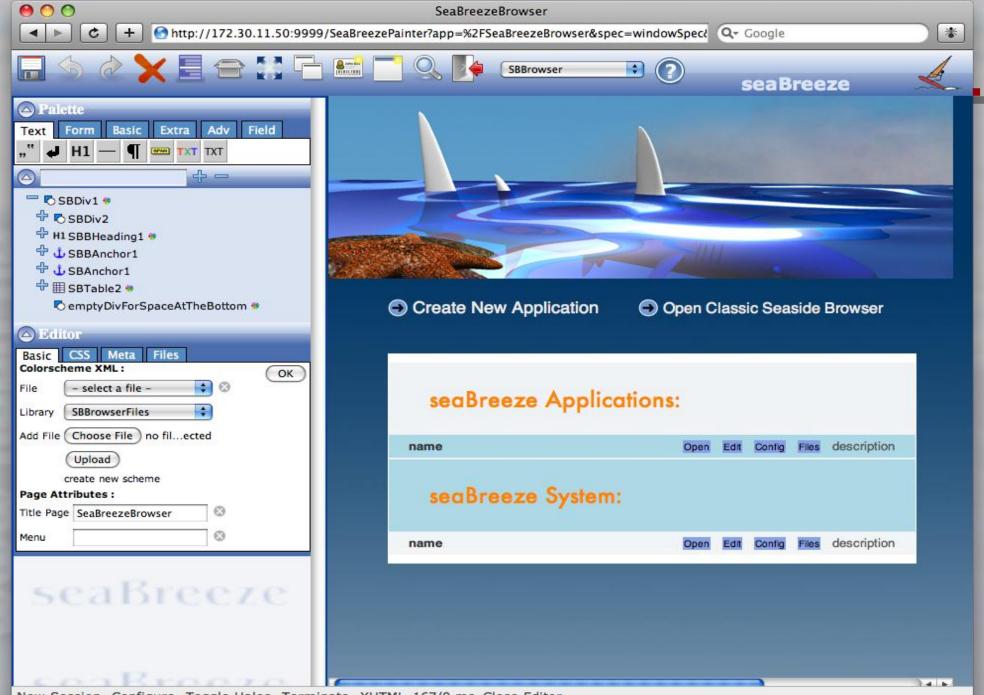












New Session Configure Toggle Halos Terminate XHTML 167/0 ms Close Editor

Smalltalk

- Past
- Present
- Future

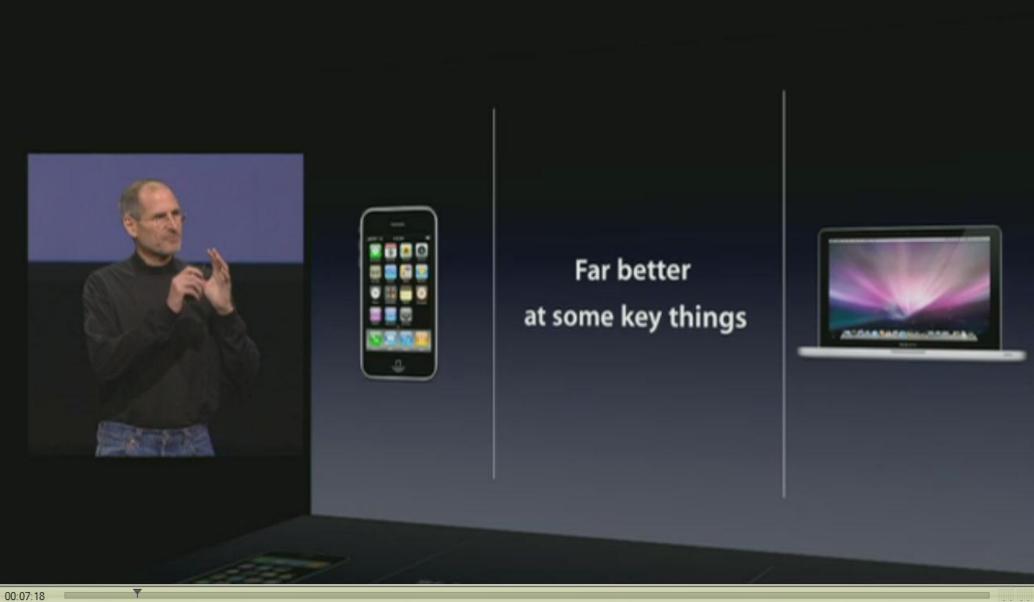
Tom Nies

- "We have always defined our success by the success of our clients."
- "I do believe in the power of Smalltalk!"
 - personal letter to me (June 16, 2009)

















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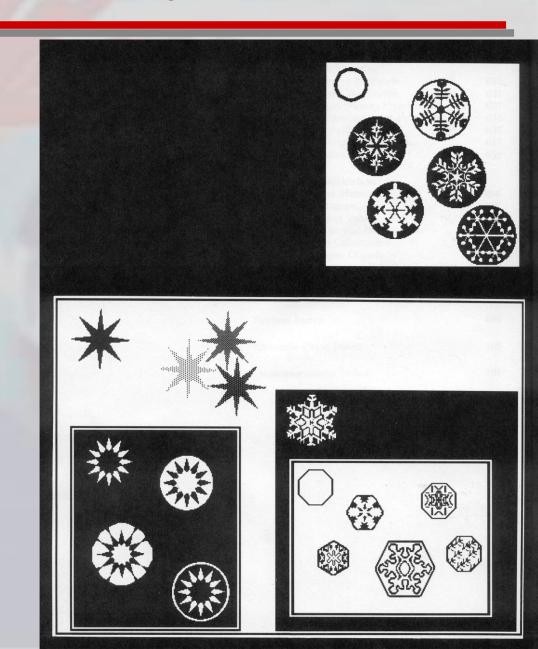
Far better at some key things

- Smalltalk is based on a small number of concepts, but defined by unusual terminology.
- These concepts are presented by defining the five words
 - Object
 - Message
 - Class
 - Instance
 - Method
- These five words are defined in terms of each other, so it is almost as though the reader must know everything before knowing anything.

(Goldberg, Robson 1983)

Examples of Objects

- Collections
- Numbers
- Classes
- Methods
- Messages
- Processes
- Contexts



Objects

- You can create them
- You can manipulate them
- You can change them
- You can control them
- You can forget them

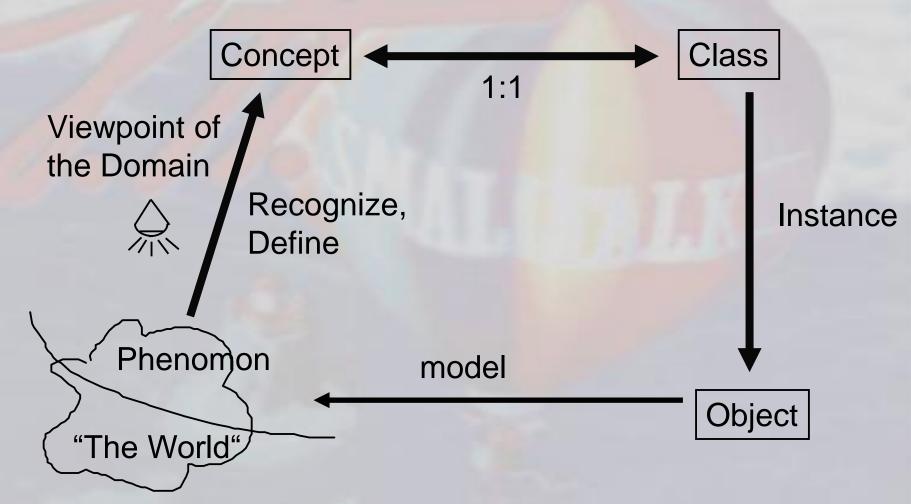
You are in control of your system

Effective and joyful

 Smalltalk is "a vision of the ways different people might effectively and joyfully use computing power" (Goldberg Robson p. vii)

Thus Smalltalk is an addiction

Object Oriented Modeling

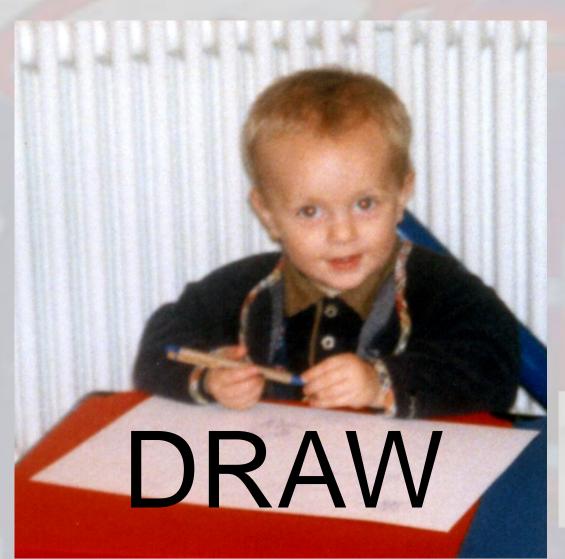


What is this?

- Wooden body in the form of a cylinder with approx. 20 cm (8 inch) height and 6 mm
 (1/4 inch) in diameter.
- In the center of the cylinder are a drilling of 1 mm and this are filled with pressed graphite.
- At end end the cylinder is conically tapered.

 The graphite can be transferred to other bodies by rubbing.

What Does Little John Care About?



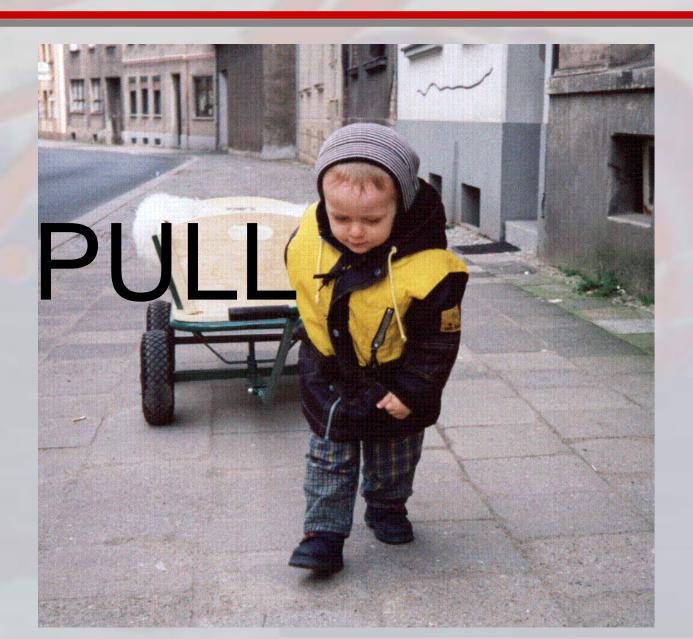


About Pencils and Ball Pens



- The object oriented (and Jonny's) viewpoint:
 - Pencil = something, you can write and draw with
 - ball pen = something, you can write and draw with

What Does Little John Care About?



Jonny (Java)



Boy private object hand; (Inst

(Instance Variable)

Somewhere in class Boy you want to write:

```
hand = Daddy.giveWagon();
...
((Wagon)hand).pull()
```

Then you have to change the pen example (check all occurences of hand):

Smalltalk Example I

- Simple dynamic binding (small and large integer multiplication)
 - 10000 factorial

Just type it in a workspace and print it

Smalltalk Example II

- A model for Lambda Calculus
 - f := [:n | n < 1 ifTrue: [1] ifFalse: [(f value: (n-1)) * n]].
 - f value: 10000

- Just linarite the well known formula
- Just the same as of the slide before

Smalltalk Example III

- How the home of Bach in Köthen was looked for
- Open Question since 1880
- Solved in 2008
- Using Modeling in Smalltalk



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GH-Bachnetz

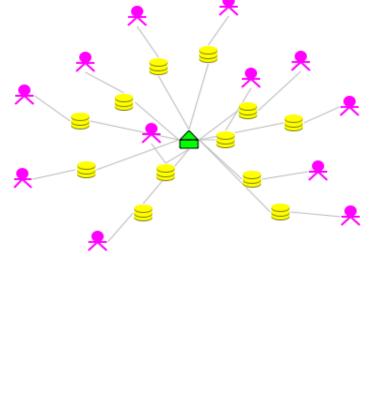
Suchen: Wallstraße 17

Suchen

Literaturverzeichnis

Zurück zur Suche

Haus



Haus

Adresse Wallstraße 17 (Hall. 10,301, 1819: 233) (→Google Maps) Viertel Hallisches Viertel

Viertel Hallisches Viertel											
Jahr	Name	Bezahlt	Summe	Solleink.	Eink.	Brunnen	Flurh.	Kehr	Opfer	Orgel	Orgrel
1741	August Gottlieb Weyders Ehefrau	Nein	1 T 3 Gr 7.5 Pf	-	-	-	7.5 Pf	4 Gr	4 Gr	3 Gr	-
1742	August Gottlieb Weyders Ehefrau ist noch in frei Jahre	Ja	1 T 3 Gr	-	-	-	-	4 Gr	4 Gr	3 Gr	-
1744	August Gottlieb Weyders Ehefrau	Nein	1 T 7 Gr 6.5 Pf	-	-	-	1 Gr 10.5 Pf	2 Gr	4 Gr 8 Pf	3 Gr	-
1745	August Gottlieb Weyders Ehefrau	Ja	1 T 7 Gr 6.5 Pf	-	-	-	1 Gr 10.5 Pf	2 Gr	4 Gr 8 Pf	3 Gr	-
1746	August Gottlieb Weyders	Nein	1 T 9 Gr 6.5 Pf	-	-	-	1 Gr 10.5 Pf	4 Gr	4 Gr 8 Pf	3 Gr	-
1747	August Gottlieb Weyder	Ja	1 T 7 Gr 6.5 Pf	-	-	-	1 Gr 10.5 Pf	2 Gr	4 Gr 8 Pf	3 Gr	-
1748	August Gottlieb Weyder	Ja	1 T 7 Gr 6.5 Pf	-	-	-	1 Gr 10.5 Pf	2 Gr	4 Gr 8 Pf	-	3 Gr
1749	August Gottlieb Weyder	Ja	1 T 7 Gr 6.5 Pf	-	-	-	1 Gr 10.5 Pf	2 Gr	4 Gr 8 Pf	3 Gr	-
1750	August Gottlieb	Nein	1 T 7 Gr 6.5	-	-	-	1 Gr 10.5 Pf	2 Gr	4 Gr 8 Pf	-	3 Gr

New Session Configure Toggle Halos Terminate XHTML 4871/12 ms

Die Wohnhäuser Johann-Sebastian Bachs

- Johann Sebastian Bach wohnte zunächst in der Schalaunischen Straße 44 bei Krämer Johann Andreas Lautsch
- 1719 errichtete Lautsch in der Wallstraße 25/26 einen Neubau, in den Johann Sebastian Bach umzog.





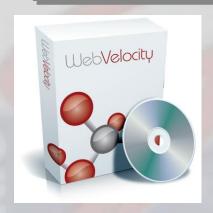
Smalltalk Example IV

The business man's problem

I've got confusing Excel spreadsheets

I need expressive spreadsheets

Modeling





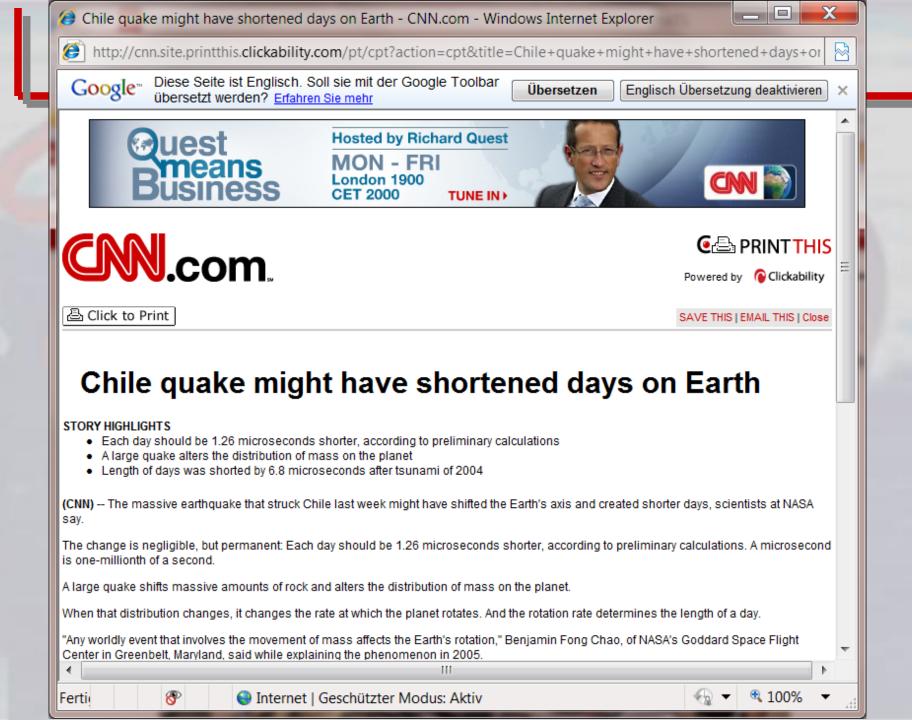


- WebVelocity
 - Smalltalk models the web interaction and the relational database in objects
- seaBreeze
 - Smalltalk models HTML in objects
- ObjectStudio 8
 - VisualWorks Smalltalk models
 ObjectStudio Smalltalk in objects



Design for change





Example: Financial Change



The Financial Crisis

A Timeline of Events and Policy Actions

Home

Timeline

Articles & Papers

FAQs

Data

Gov't Links & Reports

Glossary





















"The Federal Reserve and other agencies have taken many steps to contain the ongoing financial crisis and limit its impact on the broader economy. It is critically important that we clearly communicate our actions to better ensure their success. This web site was created to provide the public with useful information about major financial events and policy actions, both over the past months and going forward."

St. Louis Fed President, James Bullard

James Bullard's Web Site

Example: Financial Change

J.P.Morgan

ASSET MANAGEMENT

COMMERCIAL BANKING

INVESTMENT BANK

PRIVATE BANKING

SECURITIES SERVICES

TR

▶ News & Announcements





JPMorgan Chase reports first-quarter 2009 net income of \$2.1 billion, or \$0.40 per share

Apr 16, 2009

Press Release

New York, April 16, 2009 – JPMorgan Chase & Co. (NYSE: JPM) today reported first-quarter 2009 net income of \$2.1 billion, compared with net income of \$2.4 billion in the first quarter of 2008. Earnings per share were \$0.40, compared with \$0.67 in the first quarter of 2008.

View 1Q09 Earnings.

Where innovation and commitment exceed client expectations.

JPMorgan is proud to receive the Risk Derivatives House of the Year Award.

As global markets evolve, we seek to meet clients' needs wherever they do business. We thank our clients for their enduring support and trust in our ability to provide the best in advice, expertise and service.







Where innovation and commitment exceed client expectations.

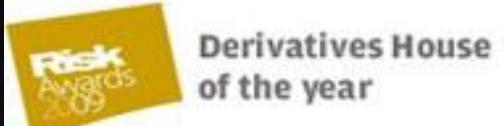
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J.P. Morgans Software

KAPITAL

- Computerworld Honors Program Award 2004
- Derivate risk management calculation system of world class
- Highly sophisticated object oriented design
 - fast modeling of each thinkable
 - Finance derivate model
 - increasingly competitive
 - Market reaction.



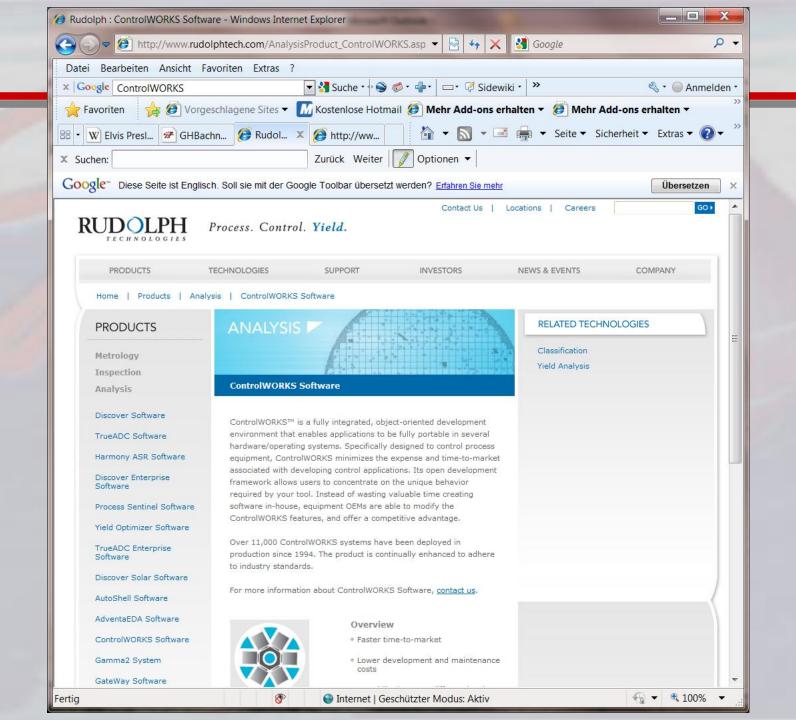


Profile in Success: JPMorgan

JPMorgan Derives Clear Benefits From Cincom Smalltalk™







Smalltalk is Far Better at some Key Things

- Smalltalk lets you model your virtual world
- Smalltalk frees you from technical burden
- Smalltalk technology is supported by strong vendors
- Smalltalk lets you work your way

- Smalltalk gets you in the controls of your computer
- Smalltalk lets you master your computer

Smalltalk Mobilizes



My Dream of the Future

- People understand more of the world
- People model their understanding of the world
- People utilize Smalltalk as the most expressive and most flexible way for modeling

 Smalltalk is one of the best technologies to improve the world

