netcetera

TEKZONEFORUM *082*

MO 25. Aug. 2008, 17:00 UHR

RICH INTERNET APPLICATIONS

MEHR BISS FÜR WEBANWENDUNGEN

Rich Internet Applications - Definition

«Rich Internet Applications (RIAs) are web applications that have the features and functionality of traditional desktop applications. RIAs typically transfer the processing necessary for the user interface to the web client but keep the bulk of the data (i.e. the state of the program, the data, etc.) back on the application server.

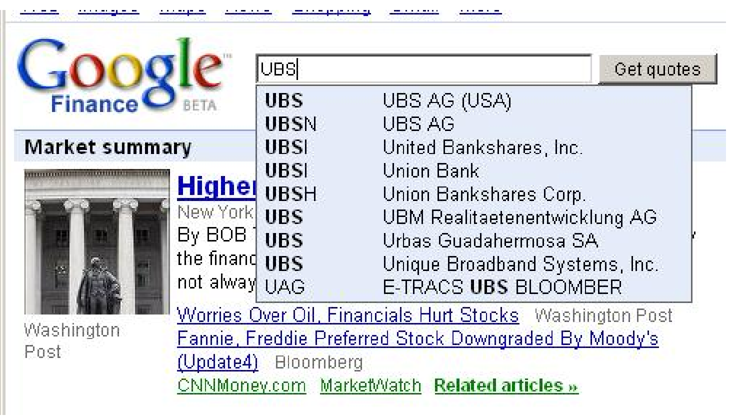
The term "rich Internet application" was introduced in a white paper of March 2002 by Macromedia, though the concept had existed for a number of years earlier under names such as:

- Remote Scripting, by Microsoft, circa 1998
- X Internet, by Forrester Research in October 2000
- Rich (web) clients
- Rich web application»

From http://en.wikipedia.org/wiki/Rich_Internet_application

Samples

- http://finance.google.com/finance
- CityBuilder
- Canvas



UBS|

UBS	UBS AG (USA)
UBSN	UBS AG
UBSI	United Bankshares, Inc.
UBSI	Union Bank
UBSH	Union Bankshares Corp.
UBS	UBM Realitaetenentwicklung AG
UBS	Urbas Guadahermosa SA
UBS	Unique Broadband Systems, Inc.
UAG	E-TRACS **UBS** BLOOMBER

Market summary

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New York

By BOB T

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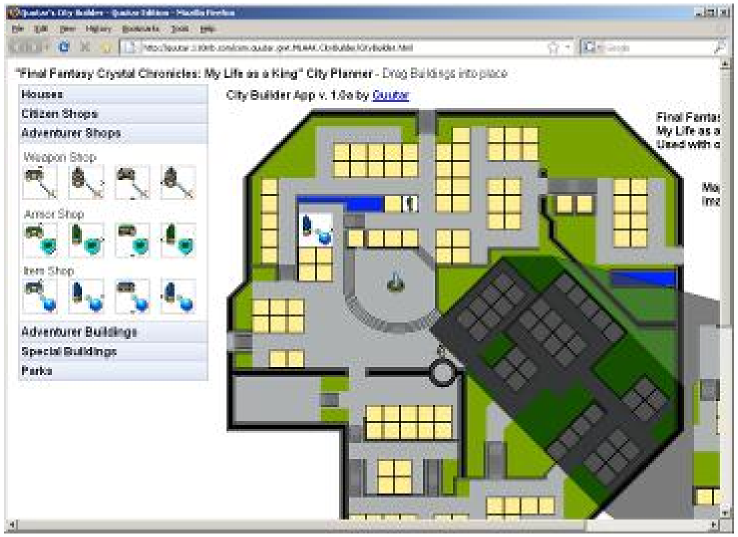
Washington Post

Worries Over Oil, Financials Hurt Stocks Washington Post

Fannie, Freddie Preferred Stock Downgraded By Moody's (Update4) Bloomberg

CNNMoney.com MarketWatch **Related articles »**


Quatar's City Builder - Quatar Edition - Mozilla Firefox
File Edit View History Bookmarks Tools Help
"Final Fantasy Crystal Chronicles: My Life as a King" City Planner - Drag Buildings into place
City Builder App v. 1.0a by Quatar
Houses
Citizen Shops
Adventurer Shops
Weapon Shop
Armor Shop
Item Shop
Adventurer Buildings
Special Buildings
Parks
Final Fanta
My Life as a
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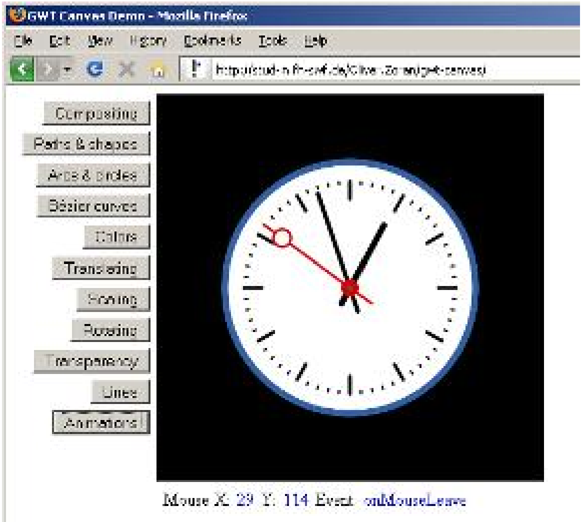
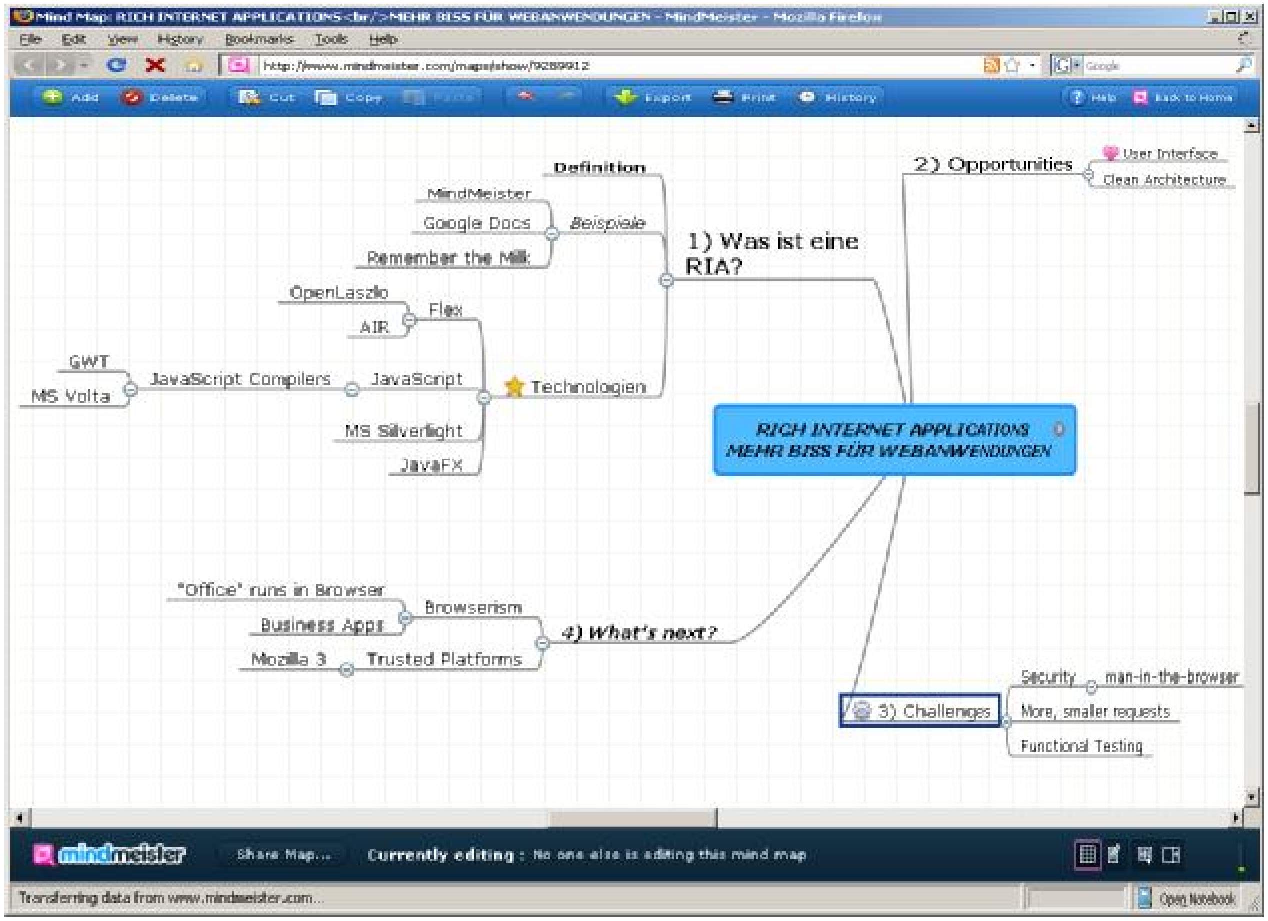

GWT Canvas Demo - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Compositing
Paths & shapes
Arcs & circles
Bézier curves
Colors
Translating
Scaling
Rotating
Transparency
Lines
Animations
Mouse X: 29 Y: 114 Event: onMouseLeave

Sample – MindMeister.com

http://www.mindmeister.com/maps/show/9289912



Currently editing : No one else is editing this mind map

Transferring data from www.mindmeister.com...

Technologies

Product Programming Language	Short Description	Requirements / Availability	Related
Adobe Flash ActionScript	Adobe Flash (Shockwave, Flash) has become a popular method for adding animation and interactivity to web pages; it is commonly used to create animation, advertisements, to integrate video, and more recently, to develop rich Internet applications.	Flash Player (Browser Plugin) or Flash Lite (on phones)	OpenLaszlo (Flash compiler)
Microsoft Silverlight Any .NET language (C#, Ruby, Python, VB)	.NET based browser plugin for rich features (animation, vector graphics and audio-video playback. It is a direct competitor of Flash and comes tightly integrated into Microsoft APIs and authoring tools (WPF, XAML, Expression).	Silverlight Browser Plugin IE, Firefox, Opera on Windows, Mac and Linux Versions for Windows Mobile 6 and Symbian are planned.	
JavaFX JavaFX Script	JavaFX is a “simplified Java Swing” implementation aimed at RIA. Currently JavaFX consists of JavaFX Script and JavaFX Mobile.	Java Plugin	
JavaScript	JavaScript allows the direct manipulation of the Browser DOM and thus the influencing of the contents appearance. It is a flully featured programming language supported by all browsers (with increasingly standardized APIs)	Browser Support Common desktop browsers Increasingly supported by mobile browsers.	Large array of JS libraries like extJS, YUI, SproutCore
JavaScript Compilers	JavaScript programming can be exhausting because of the lack of development tools and the variety of interpreters and APIs. This difficulties can be outsourced to a compiler, however, leaving the programmer with the challenge of thje application coding itself.	See above.	Google Web Toolkit (GWT) or Microsoft Volta

Opportunities

- Web applications become responsive and comfortable
  - It is now possible to port desktop applications to the web
- Yet the application deployment remains central and thus well controllable
- Broad reach (no installation is necessary for a demo)
- Integrates well with SOA and agile development

Challenges

- No standard yet
- Master asynchronous server calls
- Server load (more, smaller requests)
- Since client code is “installed” locally, different client versions may be in use simultaneously
- New UI features require an adapted UI design

Challenges - Security

- Browser executes JavaScript
- ... and can thus be programmed by the good and by the bad
- «man-in-the-browser» is a critical attack which cannot be prevented by common security measures
    - Change the intended action
    - Leak data, e.g. the session ID
        - ➔ This information can then be used for Cross-Site Request Forging
- The goal thus is to avoid evil code to reach the browser
    - Same Origin Policy
    - Careful programming (as known from code injection attacks in classical web applications)
    - Careful JSON handling (“parsing” with eval might have unintended side effects)
    - Request signing

Outlook

- The cross between desktop and web application is very attractive – we will see more and more applications move to the web (Photoshop is just one example)
- As the browser provides built-in functionality, the need for plugins (Flash, Java, Silverlight) declines. The same user experience can be provided with a bare browser
- One major hindrance of web applications is the offline usage. Products like Google Gears or Adobe AIR make clear that RIA will soon be usable in off-line mode, too
- The percentage of standardized browser APIs grows
- The security issues will be addressed by future browsers (Mozilla 3 is a good example)