

JYOTHISHMATHI INSTITUTE OF TECHNOLOGY AND SCIENCE



RIA-RICH INTERNET APPLICATIONS

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What are Rich Internet Applications?

- The RIA-concept: more easily described than defined
- RIA is a multimedia **web** application, combining:
 - *Richness of **information***
 - without overload
 - *Richness of **views***
 - flexibility
 - *Richness of **interactivity***
 - UI of desktop applications
 - *Rich user **experience***:
 - Easy to use, a pleasure for both newbie's and experienced users
 - Direct response (preloading, client-side processing)
 - *Emphasis on **visualization** and direct **manipulation***
 - precedence of visuals over text
 - *Shallow page **hierarchy***
 - preferably single page design

A few RIA examples...

Google maps Nederland
kloveniersburgwal 29 amsterdam
Zoek naar bedrijven, adressen en bezienswaardigheden.

Routebeschrijving Mijn kaarten

Kloveniersburgwal 29
1011 Amsterdam

Routebeschrijving In de buurt zoeken Opslaan naar... meer

Geselecteerde bedrijven op dit adres:
[All European Academies \(ALLEA\)](#)
[Dr. J.L. Dobberke S](#)
[Psychologie](#)
[Stg. van den Hout](#)
[Sticht. tot steun N](#)
[Innovation](#)
[Stichting Akademi](#)

ICON FINDER
multimedia Search

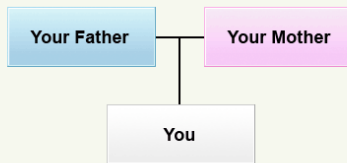
Icons 1 - 12 of about 31 for "multimedia". Related searches: package, applications, player, emblem

Designer: Alessandro Rei
License: GPL v1 (Read me)
Size (px): 128 x 128
Icon set: Dark Glass

Show all icons in this icon set
Tags (Edit public tags)
multimedia package



Geni is the world's largest free family tree.



Start Here **FREE!**

male female

First Name

Last Name

Email

never shared, never spammed

Start My Family Tree!

Connect with Facebook

Over 70 Million Profiles!

Use Geni to:

- Build your family tree
- Invite relatives to collaborate
- Preserve your family history
- Discover new relatives
- Merge your tree with others
- Share family photos and videos
- Remember birthdays and anniversaries

Geni is private and secure. Only the people in your family can see your tree.

KAYAK Hotels Flights Cars Deals Vacations Cruises Trips Private Sale

Amsterdam, Netherlands to Vienna, Austria Wed Mar 3 2010 - Wed Mar 10 2010
 Cheap flights Vienna
 Flight offers until 28 Feb Find, compare prices and book now!
[www.edreams.com](#)

Modify or start search over
 Get a fare alert
 Show fare charts
 Share results - LIVE

| Stops | Best Fare |
|---|-----------|
| <input checked="" type="checkbox"/> nonstop | \$345 |
| <input type="checkbox"/> 1 stop | \$314 |
| <input type="checkbox"/> 2+ stops | |

Flight Times
 Take-off Landing

Take-off (Depart Flight) show all
 Wed 7:00a - 8:30p

Take-off (Return Flight) show all
 Wed 6:30a - 8:30p

Airlines select all | clear
 Air France only \$459
 Austrian Airlines only \$539
 British Airways only \$544
 Croatia Airlines only \$537
 Finnair only \$4722

| Price* | Airline | Takeoff | Landing | Stops (Duration) |
|-----------|-----------------|-----------|------------|------------------|
| \$345 USD | KLM Royal Dutch | AMS 7:00a | VIE 8:55a | 0 (1h 55m) |
| \$314 USD | KLM Royal Dutch | VIE 5:45p | AMS 7:45p | 0 (2h 00m) |
| \$345 USD | KLM Royal Dutch | AMS 7:00a | VIE 8:55a | 0 (1h 55m) |
| \$314 USD | KLM Royal Dutch | VIE 8:30p | AMS 10:35p | 0 (2h 05m) |

32 of 523 roundtrips shown show all | hide matrix
 Filters Applied: Stops Price Airline Takeoff Landing Stops (Duration)

MOCKINGBIRD™ THE GAME MAKING GAME

SEARCH GO

You can now move on to building your game if you want.

gamestuff
 player target thrown object bad guy target launcher bad guy's bomb
 sound effects scene
 shuffle artwork use kit artwork

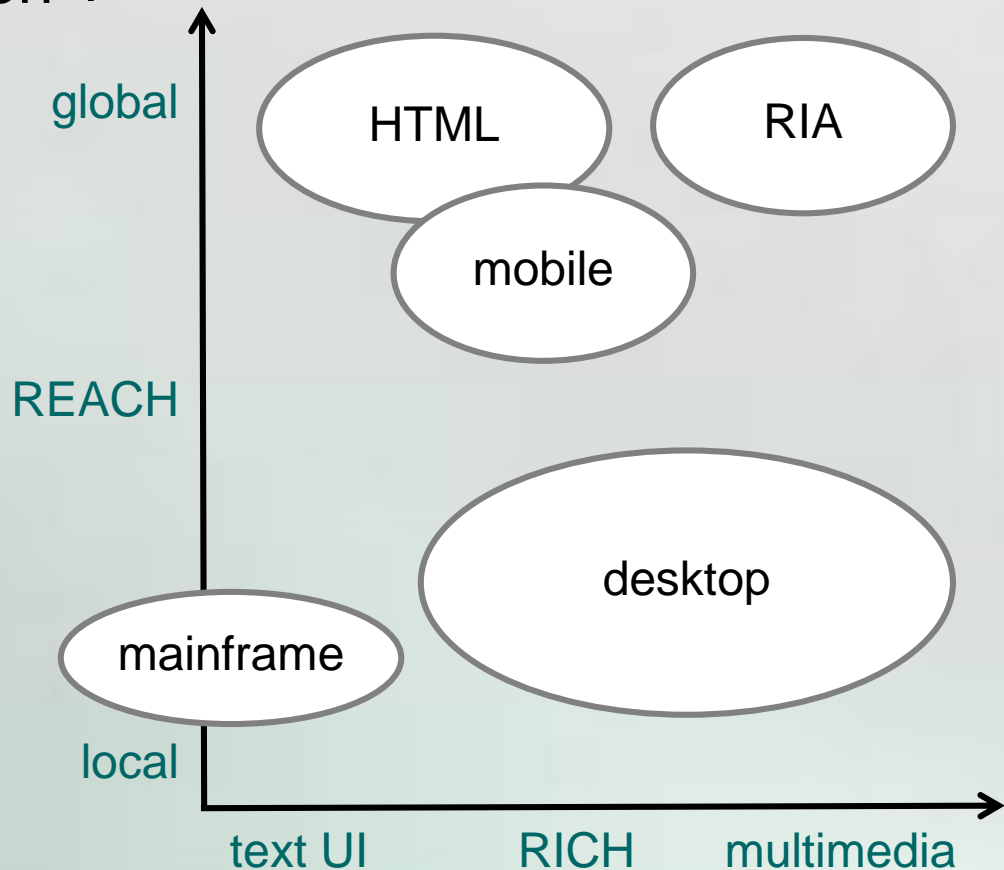
target
 Score points when the thrown object hits these.

create a character
 upload a picture

1 personalize 2 build 3 test 4 save

A common definition of a RIA

- Full **content rich experience** of a desktop application + the **broad reach** of a website.



Definition from a user's perspective

Smaller and Simpler
Efficient and Highly Adapted
Does One Thing Really Well

Context Sensitivity
Acceleration and Automation
Transparent Adaptation



Immediate Feedback
Responsive Interaction

Automatic Location Detection
Transparency

- 'Flow'
- Integration
- Client-side processing

- Immersive, deep and complete experience

- Web wide
- Direct response

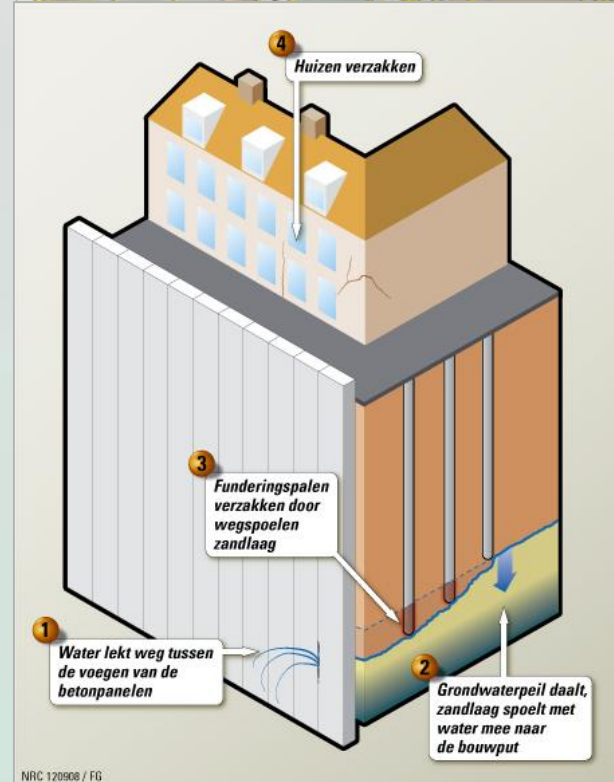
- Great user control
- In page help and aux. tools
- Personalization

Related: Information visualization

Infographics:

- Visual representations of
 - *information*
 - *data or*
 - *knowledge*
- Priority of visuals over text: also in RIAs
- Static or interactive

Example ([NRC](#)):
The subsiding of houses
due to flaws in the construction of
Amsterdam's new North-South
underground line.



Map of Minard: Napoleon's campaign to Russia 1812

Carte Figurative des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.
Dessiné par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite. Paris, le 20 Novembre 1869.

Les nombres d'hommes présents sont représentés par les largeurs des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en lettres des zones. Le rouge désigne les hommes qui entrent en Russie, le noir ceux qui en sortent. Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M. M. Chiers, de Légar, de Fezensac, de Chambrey et le journal inédit de Jacob, pharmacien de l'Armée depuis le 28 Octobre.

Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davout qui avaient été détachés sur Minsk et Mohilew en ont rejoint vers Orscha et Witebsk, ainsi qu'on voyait marcher avec l'armée.

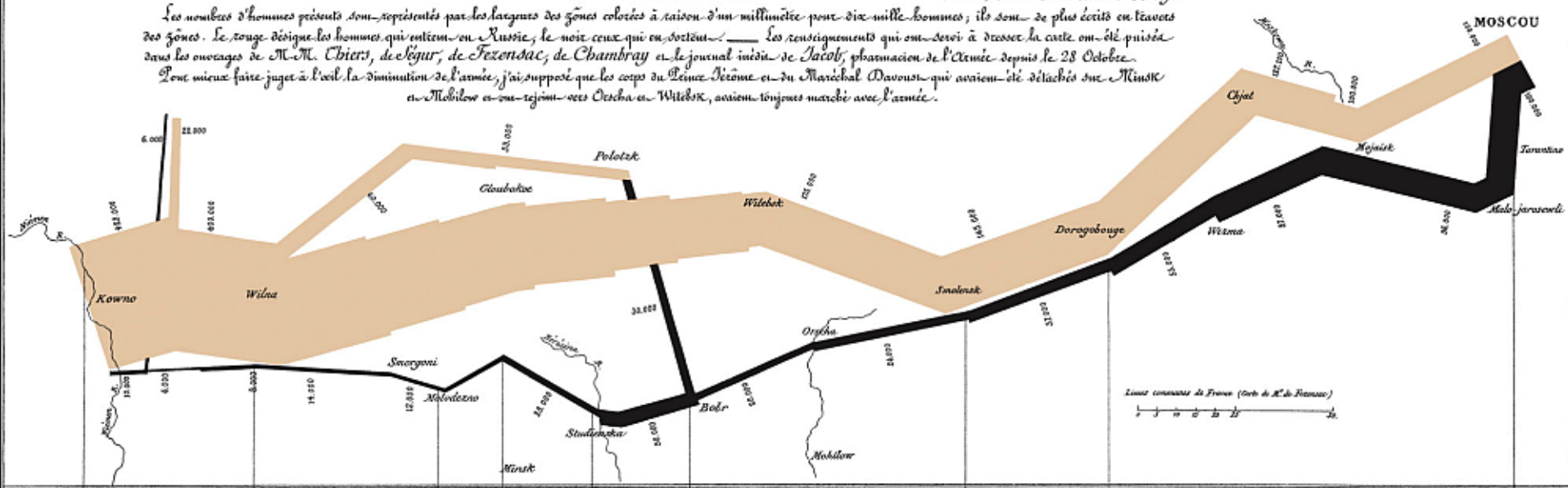
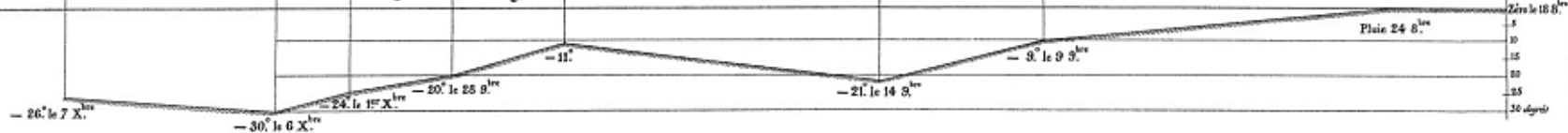


TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.



Dessiné par Minard, 1. Part. 5^e Mars 1812. Paris.

Imp. Lib. Bachelier et Co. Paris.

Related: Mashups

- Mashups

- *also:*

- Single page concept
 - One window shopping
 - Ease of use

- *but:*

- More aggregation of external information sources
 - Less integration than a RIA
 - Less visualization

RIA categories

1. Data application

- *Product catalogs*
- *Product configurators*

2. Productivity applications

- *Online image editing*
- *Online text editors*
- *Modeling tools*
- *... and more*

3. Edutainment applications

- *Entertainment*
- *Education*

How to produce RIAs?

- Much depends on the RIA category and context of use:
 - Data / Productivity / Edutainment
 - Audience: popular / scientific
 - Essential: content + expertise → work with expert
- Proven methodology: in general poor
 - Benefit from model-driven web engineering (e.g. WebML)
 - Requirements gathering may be complex
 - Consider the developing style of the team or web studio (e.g. Agile)
- Implementation
 - Consider the software platform (JavaScript, Java, Flash, etc.)
 - Production:
 - Manual: special class libraries
 - CASE-tools (e.g. WebRatio)
 - Don't forget content production (high quality multimedia)

RIA technologies

- Flash (and Flex)
- OpenLaszlo
- Silverlight
- JavaFX
- HTML + CSS + JavaScript

- Adobe
- Flex: XML-based declarative UI
- Frame-based animations
- Installed base: almost 100%
- O-O: ActionScript 3
- Open source tools
- Adobe participates in Open Screen

- Open Source
- XML-based
- Flash & DHTML / AJAX

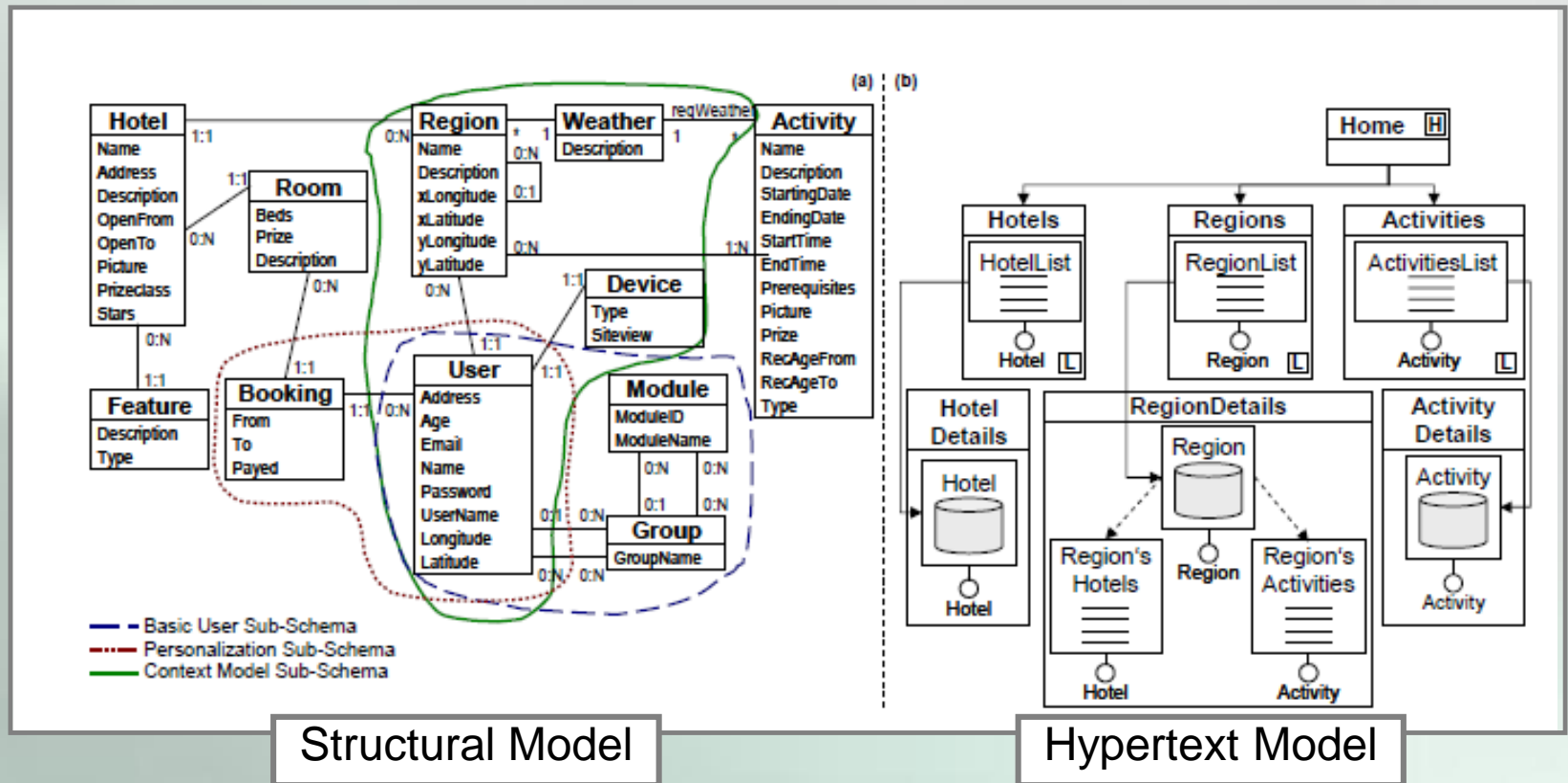
- Microsoft
- .Net languages
- Time-based animations
- Installed base: about 28%
- Not on Linux and Solaris

- Cross browser
- Cross platform (particularly mobile)
- Declarative non-verbose language

- Less precise lay-out
- Browser problems
- Easy to implement

WebML & WebRatio

- WebML (CASE-tool: WebRatio)
 - Structural model, Hypertext model
 - Presentation model, Personalization model



Methodology: model-driven web engineering

- Web design methodologies aim at:
 - *Separation of business logic from implementation*
 - *Separation of concerns:*
 - Data model
 - Navigation model
 - etc.
 - *Model compilers → code and web pages*
- RIA design should be aware of these methodologies and may use them depending on:
 - *type of RIA*
 - *work style*
 - *other constraints*

Disadvantages of RIAs

1. Costs of development
2. User needs more computer skills & information literacy
3. Usability and accessibility issues
(e.g. Back-button problem)
4. Users must have an active, explorative attitude
5. For some people: rich = information overload
6. Sandbox: RIAs have limited access to local resources
7. If compiled: plug-in / run-time environment required
If *not* compiled: JavaScript + HTML + CSS → unreliable rendering