



the web as it should be

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Microsoft

paving the way to the end user

- ▶ Hotbed of innovation
- ▶ World of standards
- ▶ Ever-closer user experiences

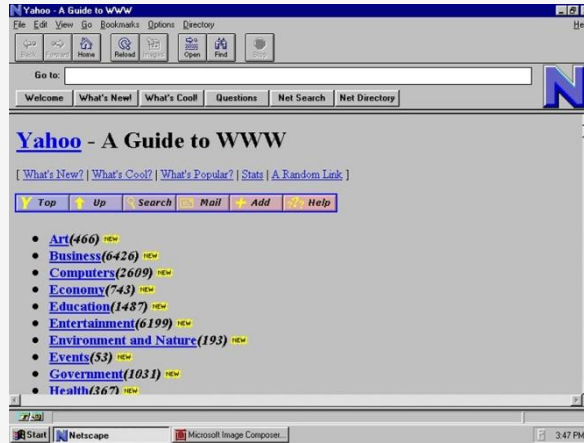


in the beginning...

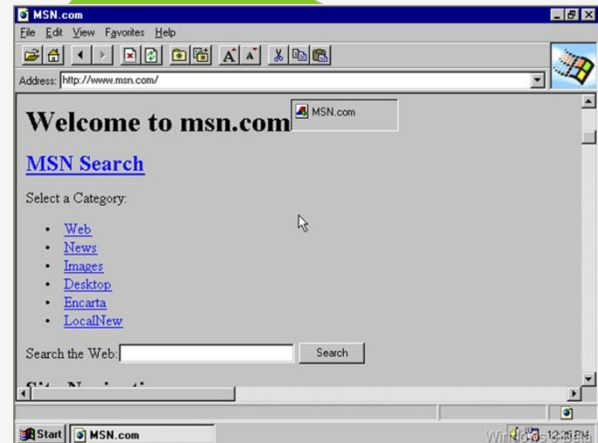


mosaic

1993



netscape navigator



internet explorer v1

August 1995

2001 a space odyssey

Internet Explorer 6 - Microsoft won the Web (or so they thought)





http://www.youtube.com/watch?v=Gp-FQN_v3AM



we all
make
mistakes



the rise of the competition

- ▶ Amazing browsers came on-line
- ▶ Microsoft had a long journey to catch up



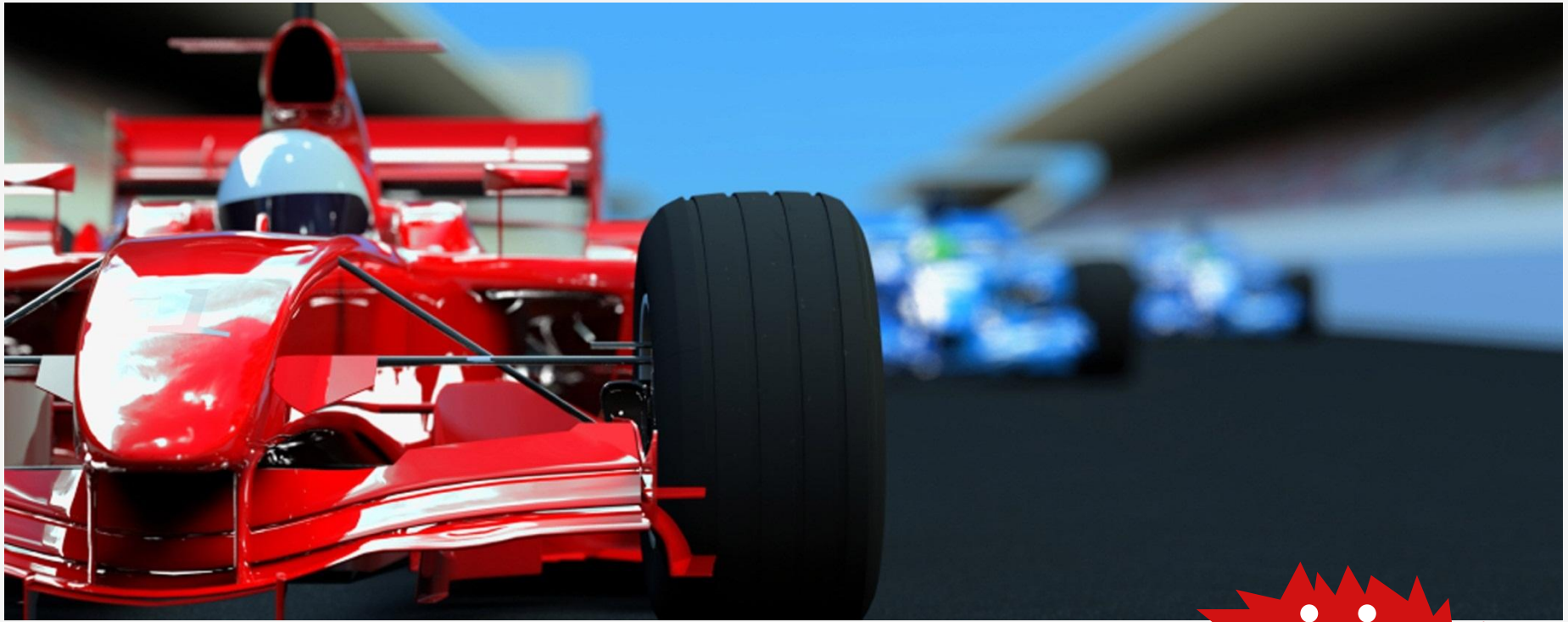
the journey so far

March 2011

Internet Explorer 9

- ▶ Great browser
- ▶ Constant development momentum
- ▶ Eight-week beta-launch cycles
- ▶ Faster launch cadence





innovate or die

standards-based browsing

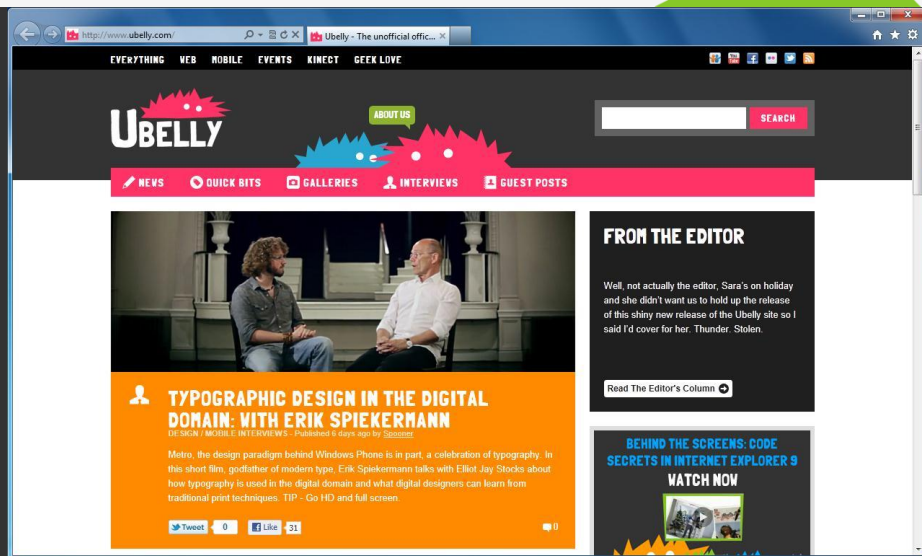
▶ HTML5

▶ W3C:

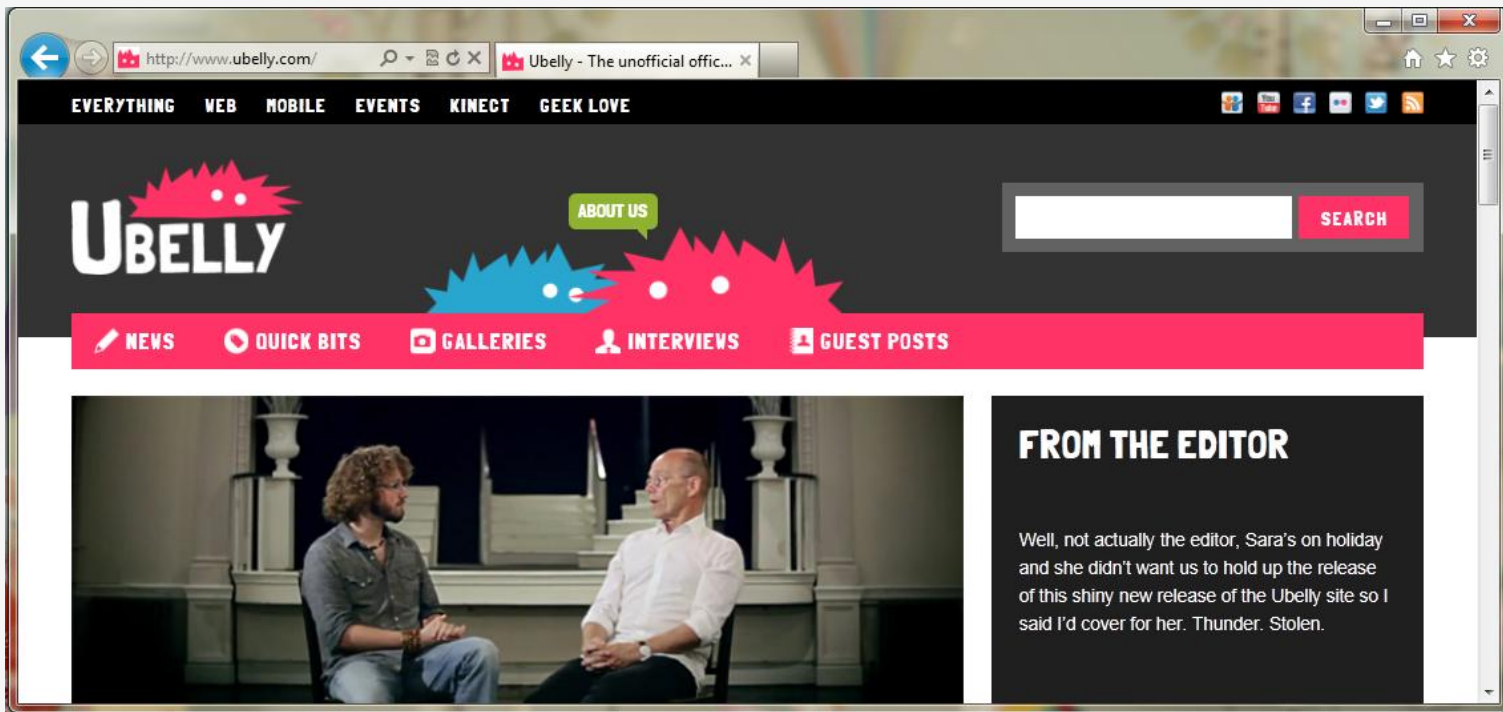
Sixteen full-time employees

Most test cases submitted
around 1,700

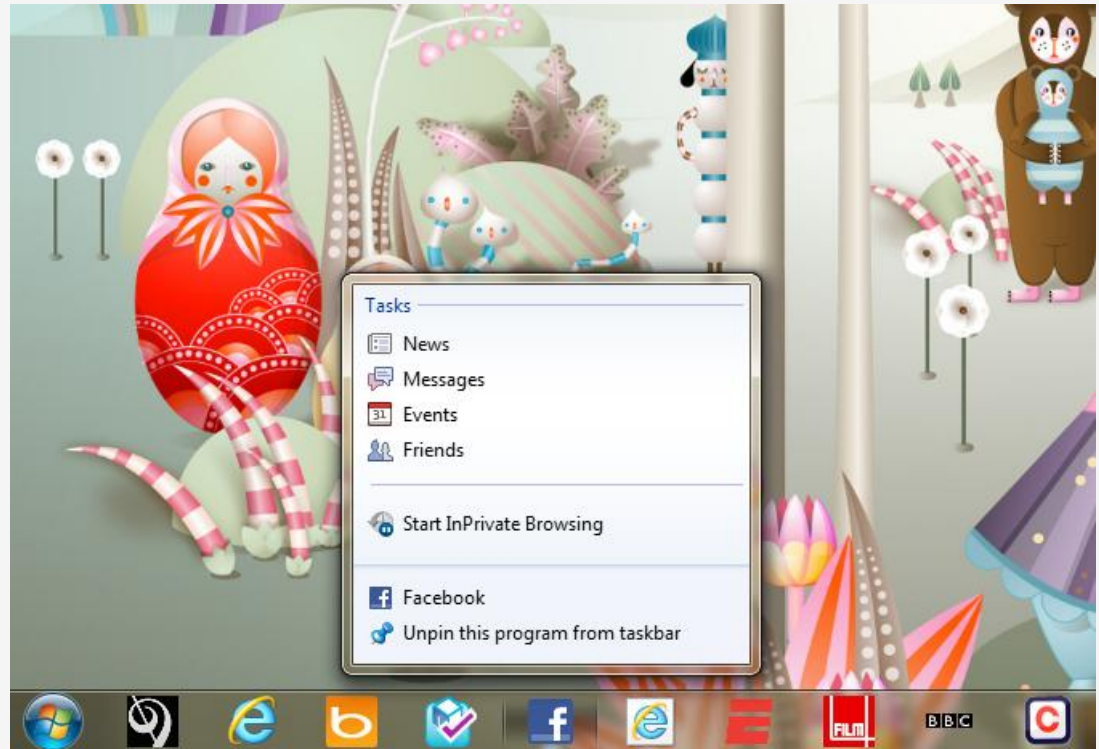
▶ But we still innovate



smallest chrome



bringing users closer



web sites as applications



▶ Fully-fledged Applications

HTML5

CSS3

Standards-based Web technologies

IE10 is a
distinct application
delivery platform

just some of the new html5 features...

Animation Frames

CSS3 2d Transforms

CSS 3d Transforms

CSS3 Animations

CSS3 Backgrounds and Borders

CSS Color

CSS FlexBox

CSS Fonts

CSS Grid Alignment

CSS Hyphenation

CSS Image Values (gradients)

CSS Media Queries

CSS multi-column layout

CSS Namespaces

CSS OM Views

CSS Positioned Floats (Exclusions)

CSS Selectors

CSS Transitions

CSS Values and Units

Data URI

DOM Element Traversal

DOM HTML

DOM Level 3 Core

Dom Level 3 Events

DOM Style

DOM Traversal and Range

DOMParser and XMLSerializer

ECMAScript 5

File Reader API

File Saving

FormData

HTML5 Application Cache

HTML5 async

HTML5 Canvas

HTML5 Drag and drop

HTML5 Forms and Validation

HTML5 Geolocation

HTML5 History API

HTML5 Parser

HTML5 Sandbox

HTML5 Selectors

HTML5 semantic elements

HTML5 Video and Audio

ICC Colour Profiles

IndexedDB

Page Visibility

Pointer (Mouse, Pen and Touch)

Events

Resource Timing

Selectors API Level 2

SVG Filter Effects

SVG Inline

Timing Callbacks

Web Messaging

Web Sockets

Web Workers

XHTML5/XML

XMLHttpRequest (Level 2)

cookbook demo



Cookbook Demo



Pound Cake (Sour Cream)

Comments

This cake actually tastes better if you let it stand for a day. To make this recipe, you'll need a very large mixer; a hand-mixer won't hack it. Recipe provided by Allison Klein @ fatrooming.com

Keywords

chocolate, cake, pound cake

Ingredients

- + 3 cups sugar
- + 1 cup butter, at room temperature
- + 6 eggs, separated
- + 1 cup sour cream
- + 3 cups flour
- + 1 pinch of salt
- + 1/4 teaspoon (heaping) baking soda
- + 1 teaspoon vanilla
- + 3 tablespoons rum (optional)

Instructions

1. Preheat oven to 325 degrees.
2. Whip egg whites until stiff, set aside.
3. Cream butter and sugar together until fluffy. Add the egg yolks one at a time to creamed mixture, mixing until well combined.
4. Combine the dry ingredients (flour, salt, and baking soda). Add the dry ingredients to the creamed mixture, alternating with the sour cream, but starting and ending with the flour mixture. When the flour mixture and sour cream have been thoroughly mixed in, add the vanilla and mix until just combined.
5. Gently fold in the egg whites, and then pour batter into a large, floured and buttered bundt pan. Bake for 1 hour and 10 minutes, or until cake is golden brown and begins to pull away from the sides of the pan. If in doubt, it is better to slightly underbake this cake.
6. Let cake cool in pan for 10 to 15 minutes, and then invert the cake onto serving plates. Let cake cool for about 10 more minutes, and then sprinkle rum evenly over the cake. Let cool completely before serving.

off-line access



benefits



applications work correctly

at all times

- ▶ User-generated data can be stored off-line
- ▶ Improved overall performance by spreading the load between the cloud and client

appcache creation flow



First run fetches
info from network

cached
resources
locally



Later runs fetch
info from cache




appcache how it works



- ▶ **Behind the scenes** after Web content displayed
- ▶ Manifest file **specifies resource URIs** to cache
- ▶ Cache only created if **all resources** are downloaded
- ▶ **Easy-update** of manifest file to update **target cache** content
- ▶ Applications can **access cached resources** using URLs and URIs

appcache VS http caching

- 
- ▶ **Guaranteed availability** of cached resources
 - ▶ **Correct** off-line resolution of URLs

http caching can optimise
appcache behaviour

indexed db



indexed db vs relational db



Concept	Relational DB	IndexedDB
Database	Database	Database
Tables	Tables contain columns and rows	objectStore contains Javascript objects and keys
Query Mechanism, Join, and Filters	SQL	Cursor APIs, Key Range APIs, and Application Code
Transaction Types and Locks	Lock can happen on databases, tables, or rows on READ_WRITE Transactions	Lock can happen on database on VERSION_CHANGE transaction, on an objectStores on READ_ONLY and READ_WRITE transactions. There is no object level locking.
Transaction Commits	Transaction creation is explicit. Default is to rollback unless I call commit.	Transaction creation is explicit. Default is to commit unless I call abort or there is an exception that is not caught.
Property Lookups	SQL	Indexes are required to query object properties directly
Records/Data	Normal form and single valued properties	De-normal form and can have multi-valued properties

indexed db how it works



```
var oRequestDB = window.indexedDB.open("Library");
oRequestDB.onsuccess = function (event) {
  db1 = oRequestDB.result;
  if (db1.version == 1) {
    txn = db1.transaction(["Books"], IDBTransaction.READ_ONLY);
    var objStoreReq = txn.objectStore("Books");
    var request = objStoreReq.get("Book0");
    request.onsuccess = processGet;
  }
};
```

indexed db benefits




- ▶ Optimised way of querying data objects
- ▶ Website access to large amounts of related data
- ▶ Data filtering using KeyRange objects
- ▶ “Master” cloud and local IndexedDB database architecture
 - Faster searches
 - Off-line data access

websockets and xhr



benefits

- 
- ▶ Better off-line application performance
 - ▶ Improved user stickiness to the application

greater opportunity
for your business

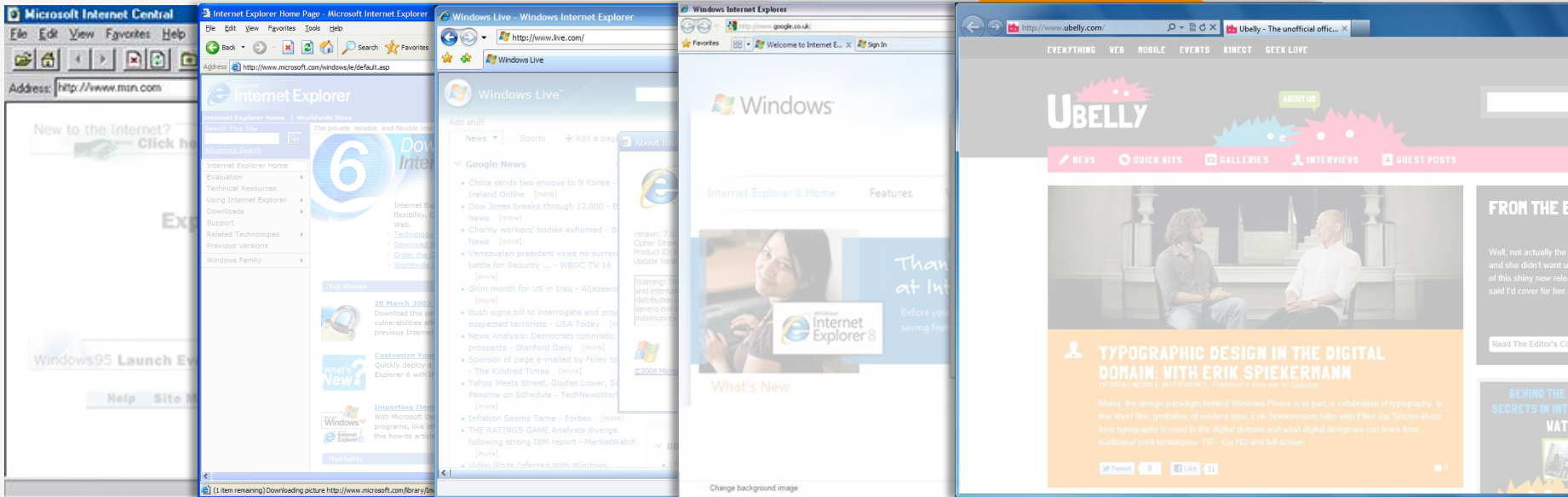
web
application
user
experience



the
beauty
of html5



achieving browser invisibility



real world

www.beautyoftheweb.co.uk



- ▶ Showcase of sites using HTML5

test drive

<http://ie.microsoft.com/testdrive/>



download

- ▶ Internet Explorer 10 preview
- ▶ Example applications
- ▶ <http://dev.windows.com>

the web

as it should be



- ▶ W3C standards-based: [HTML5](#), [CSS3](#), [Web-browsers](#)
- ▶ Application delivery platform
- ▶ Compelling end-user experiences
- ▶ Driven by innovation

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