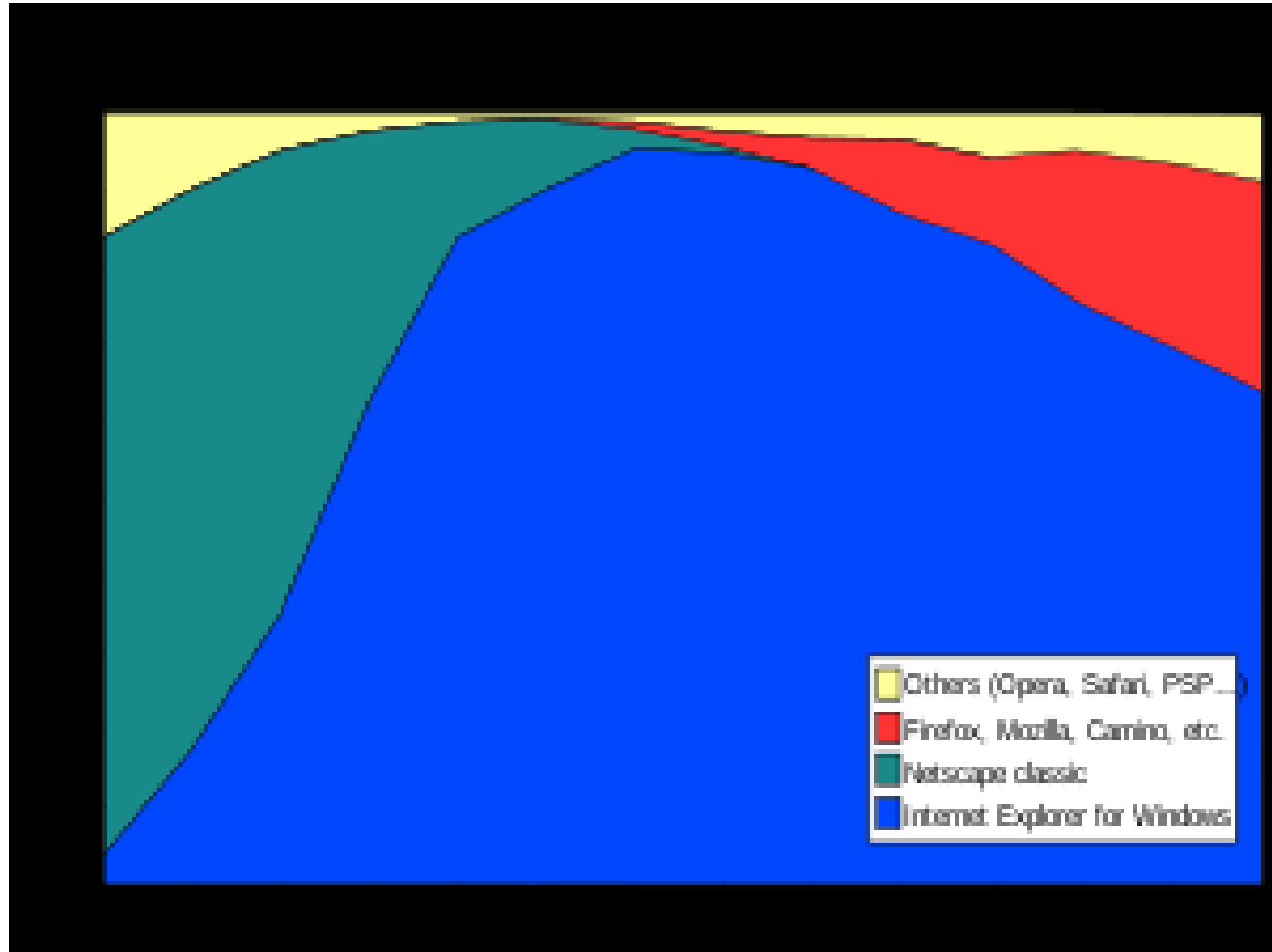# Web Browsers

What is a web browser?

- A software application for retrieving, presenting, and traversing information resources on the World Wide Web.
  - Web page
  - Image
  - Video
  - Other piece of content

History of Browsers

- 1991 – WorldWideWeb
- 1993 – NCSA Mosaic – graphical browser
- 1994 – Netscape Navigator
- 1995 – Internet Explorer
- 1996 – Opera
- 2003 – Safari
- 2004 – Firefox
- 2008 – Chrome

Browser Wars

Legend:
- Others (Opera, Safari, PSP...)
- Firefox, Mozilla, Camino, etc.
- Netscape classic
- Internet Explorer for Windows

Browser War #1

- Netscape vs Microsoft
  - 1995 - Netscape - 80% market share
  - 1996 – 1997
    - Development rapid
    - Features over bug fixes
    - IE 4 integrated into Windows
  - Netscape's downfall
    - Resources
    - Windows 90% share of operating system
  - 2002 - Microsoft – 96% market share
    - End of rapid innovation in web browsers
    - 2001 – 2006 one new version of IE
  - 2008 - Netscape discontinued

Browser Wars 1 Behavior

- Adding new features instead of fixing bugs
- Adding proprietary features instead of obeying standards
- Inadvertently creating security loopholes

Browser War #2

- 2006 – 2007
  - Nov 2004 – Firefox 1.0 released
  - Feb 2005 MS announces IE 7 avail for XP SP2
    - Major upgrade
  - Oct 2006 IE 7 released - available for WGA
    - High priority through Windows Update
    - Features
      - Tabbed browsing
      - Search bar
      - Phishing filter
      - Improved support for web standards

Browser War #2

- 2006 – 2007 Cont'd
  - Jun 2007 – Apple released beta version of Safari 3
  - Oct 2007 – MS dropped requirement for WGA
  - Oct 2007 – Firefox 2.0 released
    - Features
      - Ability to reopen recently closed tabs
      - A session restore feature to resume work after crash
      - Phishing filter
      - Spell-checker
  - Dec 2007 – internal build of IE 8 passes CSS test

Browser War #2

- 2008 – today
  - Jun 2008 – Firefox 3 released
  - Dec 2008 – Chrome released
  - Mar 2009 – IE 8 released
  - Jun 2009 – Firefox 3.5 released
  - Jan 2010 StatCounter report – Firefox 3.5 most popular browser when counting individual versions
    - 2 months later – IE 8 on top

Current Browsers

Browser/version	Creator	Engine
Internet Explorer 8	Microsoft/Spyglass	Proprietary
Firefox 3.6	Mozilla Foundation	Gecko
Chrome 5	Google	WebKit
Safari 5	Apple Inc	WebKit
Opera 10.5	Opera Software	Presto

Browser Usage
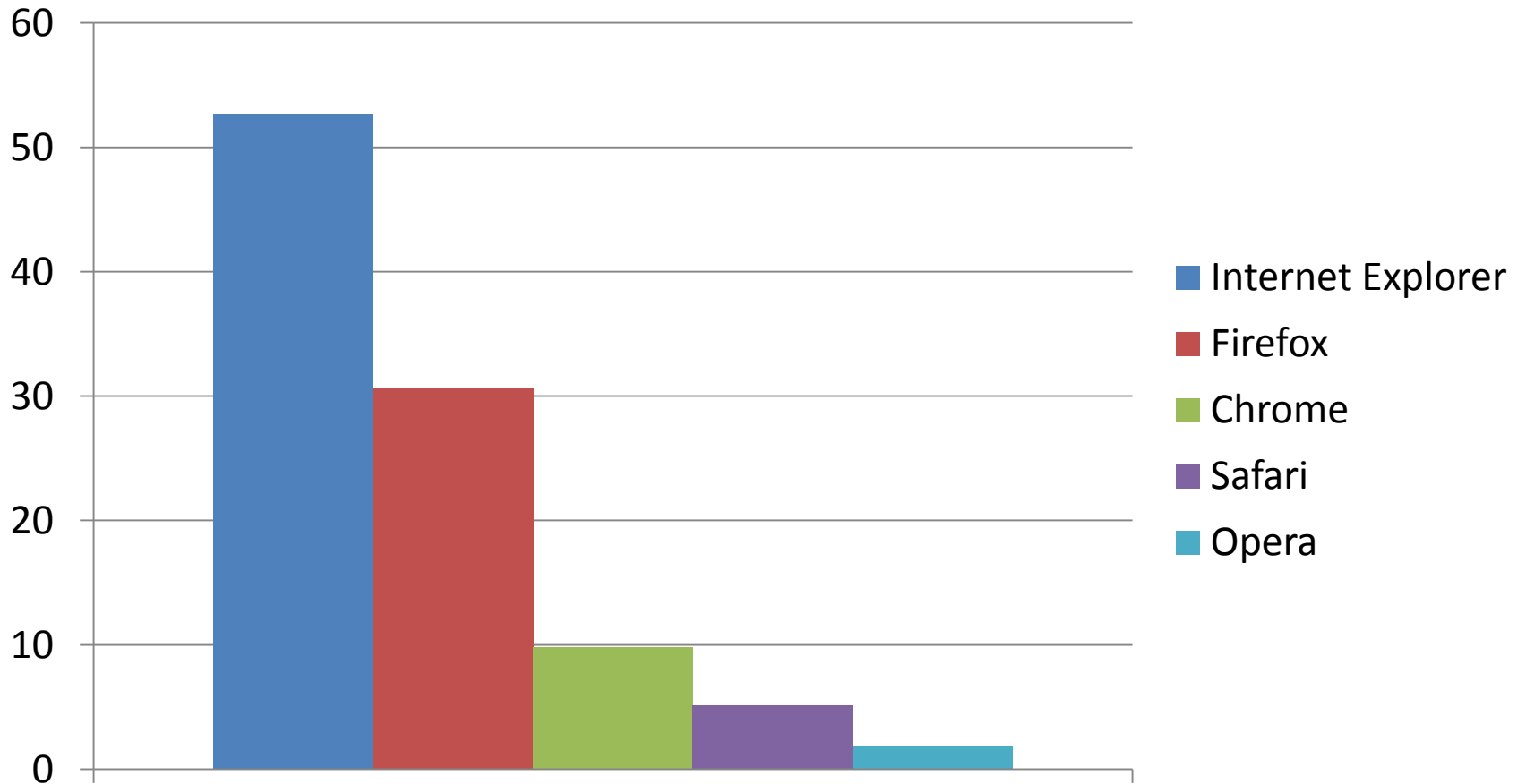
Common User Interface Elements

- A **_home_** button to return to the user's home page

- An **_address bar_** to input the Uniform Resource Identifier (URI) of the desired resource and display it.

- A **_search bar_** to input terms into a search engine

- A **status bar** to display progress in loading the resource and also the URI of links when the cursor hovers over them, and page zooming capability.

Common User Interface Elements

•***Back* and *forward*** buttons to go back to the previous resource and forward again.

•A ***refresh* or *reload*** button to reload the current resource.

•A ***stop*** button to cancel loading the resource. In some browsers, the stop button is merged with the reload button.

Browser Features

	IE	Firefox	Chrome	Safari	Opera
Bookmark management	Y	Y	Y	Y	Y
Download management	Y	Y	Y	Y	Y
Password management	Y	Y	Y	Y	Y
Form managing	Y	Y	Y	Y	Y
Spell checking	N	Y	Y	Y	Y
Search engine toolbar	Y	Y	Y	Y	Y
Per-site security config	Y	Y	Y	Y	Y
Privacy mode	Y	Y	Y	Y	Y
Auto-updater	Y	Y	Y	Y	Y

Private Browsing in Firefox

- Private Browsing

- Firefox won't remember any history for this session.

- In a Private Browsing session, Firefox won't keep any browser history, search history, download history, web form history, cookies, or temporary internet files. However, files you download and bookmarks you make will be kept.

- To stop Private Browsing, select Tools > Stop Private Browsing, or close Firefox.

- While this computer won't have a record of your browsing history, your internet service provider or employer can still track the pages you visit.
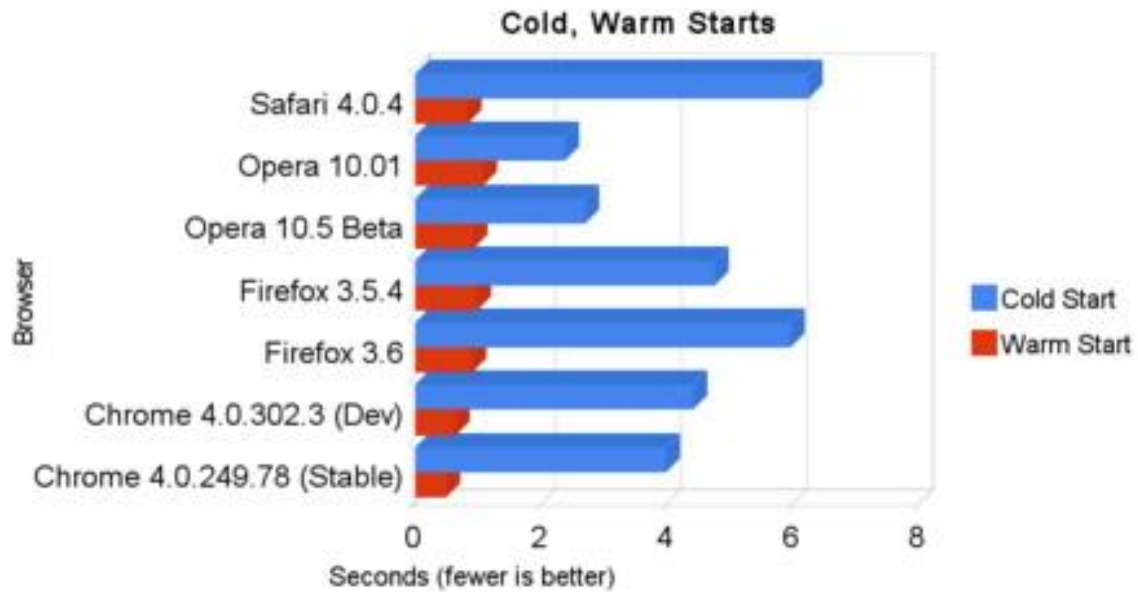
Accessibility Features

	IE	Firefox	Chrome	Safari	Opera
Tabbed browsing	Y	Y	Y	Y	Y
Pop-up blocking	Y	Y	Y	Y	Y
Incremental finding	Y	Y	Y	Y	Y
Ad filtering	Y	N	N	N	Y
Page Zooming	Y	Y	Y	Y	Y
Access keys	Y	Y	Y	Y	Y

Accessibility Features

	IE	Firefox	Chrome	Safari	Opera
Tabbing navigation	Y	Y	Y	Y	Y
Spatial navigation	N	N	Y	Y	Y
Caret navigation	Y	Y	Y	N	N

Boot Up Speed

Cold, Warm Starts

Tab Loading

Nine Tab Load
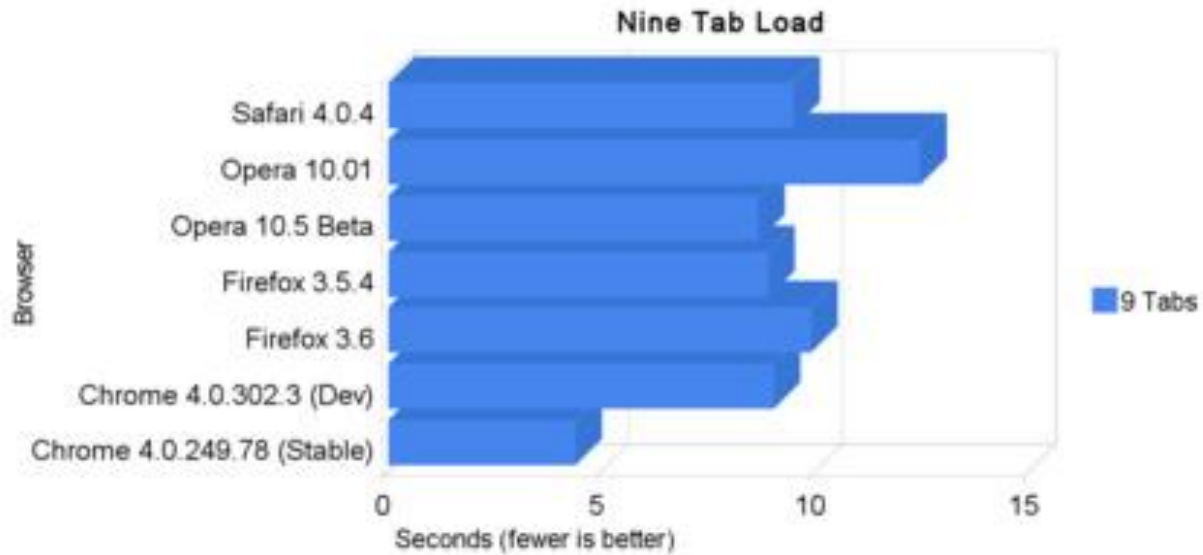
Memory Use

Chrome vs Opera

http://www.webmonkey.com/2010/06/browser-wars-potato-slow-opera-fast/

Links

- Firefox - http://www.mozilla.com/en-US/
- Safari - http://www.apple.com/safari/
- Chrome - http://www.google.com/chrome
- Opera - http://www.opera.com/
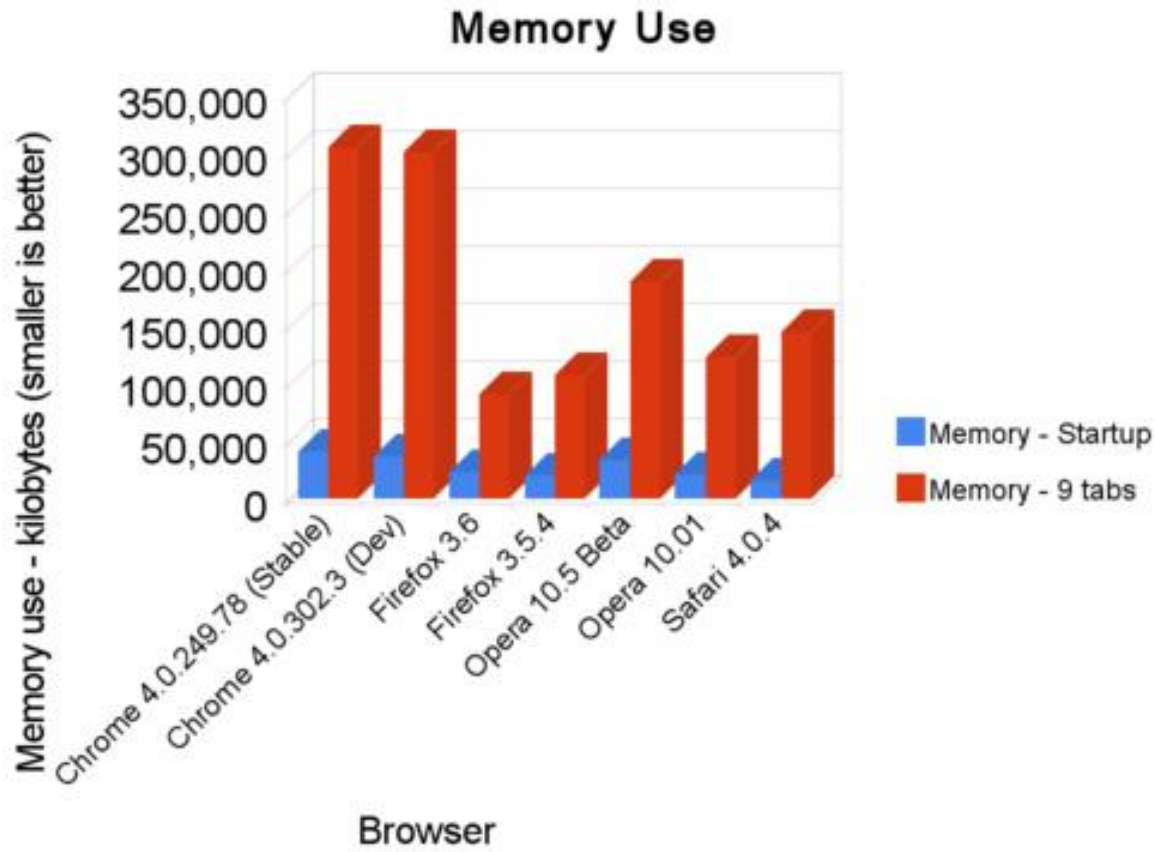
Mobile Browsers

- Safari - IPhone, ITouch, IPad

- Palm - Palm Treo

- xScope - Android

- Polaris Browser - Nokia, Samsung, LG Electronics, KYOCERA and other Smartphone and cellular phones in USA, China, Korea, etc

- Blackberry Browser -

- Internet Explorer Mobile -