

What we'll cover

- ▶ **Definition of automated usability tools**
- ▶ **Review existing tools and services**
- ▶ **Discuss how and when these tools should be used**
- ▶ **Is automated usability a reachable goal?**

What are Automated Usability Tools?

- ▶ **Software that automates one or more processes in a usability test**
 - **Find technical/code defects**
 - **Determine if a task can be accomplished**
 - **Gather user opinions (qualitative data)**
 - **Suggest improvements**
- ▶ **Focus on Web tools**

What do Automated Usability Tools do?

- ▶ Different tools cover different processes
 - Examine HTML code, site structure
 - QA testing
 - Retrieve qualitative data about a site
 - Simulate user behavior

HTML and Site Analysis Tools

- ▶ **Examine source code**
- ▶ **Find and measure linked documents, images, etc.**
- ▶ **Truly automated, fairly inexpensive (why?)**
- ▶ **Examples include:**
 - **Watchfire's WebXM and Linkbot**
 - **UsableNet's Lift**
 - **NIST WebMetrics' SAT**
 - **Maxamine Knowledge Platform**

Watchfire's WebXM and Linkbot

- ▶ **Generates a site inventory**
- ▶ **Accessibility check (alt tags)**
- ▶ **Finds broken links**
- ▶ **Checks for browser compatibility**
- ▶ **Discovers last modified date**
- ▶ **Discovers orphaned pages**
- ▶ **Checks metadata**
- ▶ **Absolute URL's**
- ▶ **Counts number of clicks from home page**
- ▶ **Determines page download times**

Watchfire's WebXM and Linkbot

▶ How?

- Works like a Web crawler
- Parses code and compares it to rule set

▶ Why use it?

- Quickly inventories a site
- Can bring up inconsistencies and mistakes
- Could act as a pointer

Watchfire's WebXM and Linkbot

- ▶ **Limitations**
 - **No content analysis (color, labels, aesthetic considerations)**
 - **Only discovers problems at the code level**
- ▶ **These limitations apply to all code analyzers**

NIST WebMetrics' SAT

- ▶ Like Watchfire, examines code and site structure
- ▶ Compares code to its own usability standard or IEEE Std 2001-1999
- ▶ Checks for:
 - Accessibility
 - Checks for the presence of form Submit and Reset buttons
 - Page download speeds
 - Determines how pages are linked together (one link per page)
 - Evaluates density of links versus content
- ▶ It's FREE!!
- ▶ Doesn't deal with content or design issues

UsableNet's Lift

- ▶ **Very similar to SAT**
- ▶ **In addition to finding problems, recommends code fixes**
- ▶ **Subscription or \$1 per page (\$50 max)**
- ▶ **Plug-in for Dreamweaver and UltraDev**

Maximize Knowledge Platform

- ▶ Generates site usability ratings reports
- ▶ Suggests code fixes
- ▶ Analyzes navigation and traffic
- ▶ Maps out user paths
- ▶ Indexes site content

Maxamine Knowledge Platform

- ▶ Scans site > produces a structural map > indexes the site
- ▶ Example query:
"find all web pages in the site that have more than 5 links linking into them, and have more than 3 foreign links, and have a file size of greater than 3k, that have a meta "Keyword" attribute containing the pattern "Government*Finances" and that satisfies the following content search expression (revenue or income or receivables or payable) and finance and mon* and "Government Payroll" and not "Government Federal Treasury""

Maximize Knowledge Platform

- ▶ **Web Maps**
 - **Visual representations of site structure**
 - **Follow paths to content**
 - **Count number of links, foreign links, broken links, etc.**

HTML and Site Analysis Tools

- ▶ Truly automated, fairly inexpensive, but...
 - They're limited
 - Offer no insight into user experience, visual design or content quality

Qualitative Feedback Tools

- ▶ Gather end user reactions to your site
- ▶ Surveys, voting applets, JavaScript forms, etc.
- ▶ Question: do they analyze your responses? Suggest fixes?

OpinionLab

- ▶ <http://www.opinionlab.com/>
- ▶ A data collection tool
- ▶ Voting device, survey cards
- ▶ Can graph responses and track changes over time

OpinionLab

- ▶ **However....**
 - **Is response data representative of most users?**
 - **Who really takes the time to evaluate a site (no matter how easy it is)?**

Vividence

- ▶ **How it works:**
 - **Company maintains a huge number of potential test subjects (categorized by age, income, education, etc.)**
 - **Subjects contacted by email, use a custom browser to perform a task on a target site**
 - **Records user behavior on the target site and user comments about the site**
 - **Subjects paid \$10-\$20**

Vividence

▶ Advantages:

- Can show your site to hundreds of people (typical pool is 200 users) and deliver results quickly
- Records user responses and click paths (qualitative and behavioral data)
- Resembles a traditional usability test

▶ But it's not cheap

▶ Automated or just efficient?

▶ Where do you reach the point of diminishing returns?

Traffic Analyzers

- ▶ Gather communications between clients and servers
- ▶ Can reconstruct the users actions on the site



Tealeaf & RepeatWeb

- ▶ **Record user behavior**
- ▶ **Software captures communications between the server and the browser**
- ▶ **Reconstructs interactions (“video-like” reproduction)**
- ▶ **<http://www.repeatweb.com/info/professionals.asp#>**

Tealeaf & RepeatWeb

- ▶ **Allows you to**
 - **Pinpoint errors**
 - **Review interactions**
 - **Determine drop-off points**
- ▶ **Who analyzes all of this data? Who draws the conclusions?**

User Behavior Simulation

- ▶ **Program navigates a site as a user would and reports problems**
- ▶ **Uses the site as a human would**
- ▶ **Usability testing without the users**

WebCriteria & Max

- ▶ An “intelligent browsing agent”
- ▶ Simulates user behavior on a site
- ▶ He’s unbiased, methodical and doesn’t get tired or take breaks
- ▶ Can measure “depth” of contact info, checkout procedures or other content
- ▶ Benchmarking – will behave the same on competitors’ sites
- ▶ A truly automated usability tool

WebCriteria & Max

- ▶ **However...**
 - **Scan time based on location of link – not relation to design elements, color, placement, etc.**
 - **Can't determine quality of link labels**
 - **Can't say how it feels about the site**
 - **Is Max valid?**

http://www.internettg.org/newsletter/mar00/critique_max.html

- Max does not give up
- Max can only remember the structure of the previous page view
- Max does not backtrack in pursuing target information
- Max only uses point and click
- Max does not "bail out" because of long page load times
- Max looks for information without using search engines
- Max does not bookmark
- Max compares individual links and groups of links in a pairwise manner
- Max makes decisions based on structural information not semantics

▶ If any of these claims are true of real users, there is no evidence presented to support them. Max is not a psychologically real model of users.

Automatic Usability too good to be true?

“You have software companies selling ‘automated usability testing solutions’ ...traditional graphic designers passing themselves off as ‘interaction’ this and ‘user experience’ that...most of the ‘buyers’ don’t know what is what -- they’re just buying instant ‘usability’ ...there are clearly some folks in the ‘usability game’ who are just jumping on a bandwagon...”

http://crocolyle.blogspot.com/?/2002_02_03_crocolyle_archive.html

Who uses this stuff?

- ▶ **Who uses this stuff and why?**
- ▶ **Are these tools for:**
 - **IT managers?**
 - **Business managers?**
 - **Usability professionals and designers?**
 - **Consumers?**

Artificially Intelligent Browsing??

- ▶ **Can we develop a program that accurately mimics user behavior?**
 - **Rule-based**
 - **Are there reliable rules for user behavior on the web?**
 - **Do we really want to remove the users from the user test?**

Is automation impossible?

- ▶ **What aspects of a usability study can never be automated?**



That's it, thanks!!!

