

Web Clipping



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Outline

- Motivation
- What is Web Clipping
- Writing a PQA
- Advantages and Disadvantages
- Examples
- Alternatives
- Conclusion

Motivation

- Why would mobile users use a PDA to access the web?
 - Larger screen than mobile phones
 - Stylus enables familiar point and click interface
- Reality of the World Wide Web today:
 - Extensive use of graphics and even video
 - Pages often bloated with navigational elements
 - Assumes that the user has the high bandwidth and large display that is available to personal computer users

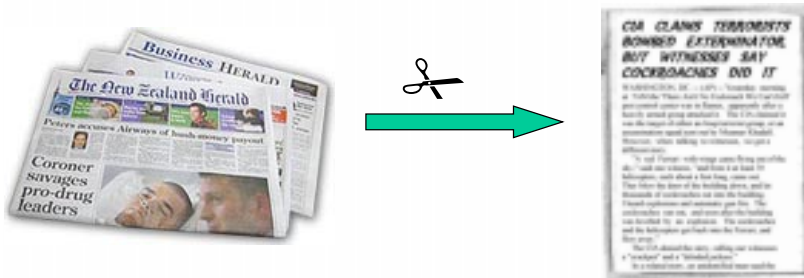
Motivation

- Limitations of using a wireless PDA to access the web
 - Screen is limited:
 - Average 11 lines of text (160x160 resolution), 2 bit grayscale
 - Bandwidth is limited:
 - Effectively 2 kbps
- So is there a solution?
 - By golly, yes there is!



Web Clipping and PQA: Introduction

- What is PQA and Web clipping?
 - Metaphor: The web clipping concept is like clipping an article out of a newspaper



- It allows users to “clip” the most relevant parts of a website

Web Clipping and PQA: Introduction

- Palm query application (PQA)
 - a.k.a Web Clipping Application (WCA)
 - Special web application that can be stored on the PDA, made up of static pages and images
 - Usually used to take user queries
- Web clipping
 - The page that is sent back from the web server containing the result of the PQA query, usually generated by a CGI script

Web Clipping and PQA: The Details

- Web clippings and Palm Query Applications are specially compiled HTML pages using a subset of HTML 3.2
- The Palm Query Application is compiled using the Query Application Builder provided by Palm
- The returned web clipping is compiled by a Palm.net proxy server before being returned to the handheld device

Demonstration

- See it in action!
 - Using the Palm OS Emulator
 - Driving directions
 - Mapquest
 - Stock quotes
 - Fidelity



Palm.net system

Web clipping proxy server translates the compressed packet to a standard HTTP request



Web server either finds or generates a Web Clipping page and sends it back

Web clipping proxy server

TCP/IP
HTTP

UDP



Wireless enabled Palm devices

PQA requests a page that is not stored on the device, packets containing query are compressed into CML and sent over the lightweight UDP protocol



Internet web servers

Palm.net system

Proxy server converts Web Clipping back to the compressed CML format



Web server either finds or generates a Web Clipping page and sends it back

Web clipping proxy server

TCP/IP
HTTP

UDP



Wireless enabled Palm devices

The web clipping viewer receives and renders the web clipping



Internet web servers

Palm.net system : Security



Web clipping proxy server

SSL

elliptic-curve
cryptographic system



Wireless enabled Palm devices



Internet web servers

Writing Web Clippings and PQAs

- Uses a subset of HTML 3.2
- PQAs and Clippings do not support:
 - Named typefaces
 - Style sheets
 - Image maps
 - Frames
 - Nested tables
 - Scripts and applets
 - Cookies
- For the sake of Simplicity and Efficiency
- Query Application Builder (QAB)

Writing Web Clippings and PQAs

- **Special META Tags**
 - `<meta name="palmcomputingplatform" content="true">`
 - Tells Palm proxy server that the page is Palm friendly
 - `<meta name="palmlauncherrevision" content="1.01">`
 - Specifies the version number of your PQA
 - `<meta name="localicon" content="icon.gif">`
 - Allows your graphics and HTML files to be included with your PQA at compile time
 - `<meta name="historylisttext" content="yourstr &date &time" >`
 - The title that will represent the web clipping on the Palm's history list

Other Design Notes



2 bit display (4 colors):

- Black
- Gray
- Silver
- White

Access images and pages local to the PQA by using the "file:" URL

e.g. ``
`Help`

Design Goals

- **Optimize page for Palm display**
 - Try to keep response to one page to reduce scrolling
- **Minimize amount of data transferred**
 - Only send content that is necessary and relevant
 - Minimize source code (short variable names)
 - Guide user to formulate small, efficient queries
 - Store graphics locally instead of transferring them

Advantages

- Simple to implement
- Retrieves required information remotely
- Get only desired content
- Takes into account limited bandwidth and screen space (doesn't waste bandwidth)
- Faster than browsing
- Allows you to separate information
 - Local: Palm Query Application
 - Remote: Web Server
- Secure Elliptic Curve Technology and SSL
- Free - Well Sorta

Disadvantages

- PQA must exist for the site you want
- Extra work for content providers
- Limited Support (~600 web sites)
- Only works with Palm devices
- Proprietary service (Palm.net) with limited coverage
- Subset of HTML 3.2 is limited

Alternatives

- Web Browsing
- Avant Go (Download and go)



Conclusion

- **For developer:**
 - Web clipping is simple and painless to set up and is a good way to expand your user base.
- **For user:**
 - Get only the information you need as quickly as possible.
- Not a complete solution, there is still a wealth of content out there that is not available in web clipping format
- One solution to the two main problems facing portable internet access: limited bandwidth and limited display capabilities

Web Clipping Resources

- <http://www.palm.com/wireless/apps/>
 - List of PQA's
- http://www.tow.com/publishing/Developing_Web_Clipping_S
 - Web clipping tutorial
- <http://www.palm.com/pr/palmvii/7whitepaper.pdf>
 - Wireless PDA Basics