A quick survey of website size and download speeds for some of the most popular sites on the Internet.

Rob Longhurst (rlonghurst@drasticom.org)
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Introduction

In my MSc dissertation on the viability of Internet businesses in the developing world (See http://www.drasticom.org/dissertationhome.htm), I suggested that as high speed bandwidth has become more affordable in the developed world, so website page sizes have bloated, delivering a graphically rich experience to those who are lucky enough to have access to fast Internet connections.

Various studies in the developed world have shown that users begin to find frustration levels increasing if the have to wait more that 5-6 seconds for a webpage to load. Abandonment rates increase as the load times increase. If we took a page load time of 12 seconds as being the maximum acceptable, we could derive the connection speed which should be available to each user to accomplish this.

Survey method

1. The website Alexa.com (owned by Amazon.com) lists the most popular websites on the basis of traffic, by country. A number of the most common popular sites from the developed world were selected based on the Alexa.com lists for the USA and UK. Some additional sites were added from the lists for Mexico, Indonesia and Sudan.
2. A useful website analysis tool called the Web Page Analyzer was found at http://www.websiteoptimization.com/services/analyze/index.html . By entering a web page URL, the tool produces a report including the size of the page and the anticipated download times at different connection speeds. The URL's for the popular sites selected from Alexa.com were entered into the Web Page Analyzer and the results were tabulated. Times of less than 6 seconds are colored green; 6-12 seconds are colored amber and over 12 seconds are colored red.

All data was collected on December 19th, 2006.

Results

Site URL	Size (Bytes)	Connection Speed (kbps)					
		14.4	28.8	33.6	56	128	1440
		--- Page load times in seconds ---					
www.google.com	15619	12.1	6.1	5.2	3.1	1.0	0.1
www.yahoo.com*	5316	4.1	2.1	1.8	1.1	0.3	<0.1
www.msn.com	154989	120.9	60.9	52.3	31.7	10.3	1.7
www.myspace.com	92513	72.1	36.3	31.1	18.8	6.1	0.9
www.ebay.com	281745	218.8	109.6	94.0	56.6	17.6	1.9
www.amazon.com	219812	170.6	85.4	73.2	44.0	13.6	1.4
www.youtube.com	206385	160.4	80.4	69	41.5	13.0	1.5
www.wikipedia.com	110670	86.6	43.7	37.6	22.9	7.6	1.4
www.live.com	10633	8.4	4.3	3.7	2.3	0.9	0.3
www.friendster.com	90483	70.5	35.5	30.5	18.4	5.9	0.9
www.detik.com	589308	456.9	228.6	196.0	117.7	36.2	3.3
www.megaupload.com	31981	24.8	12.4	10.7	6.4	2.0	0.2
www.aljazeera.net	342153	266.2	133.6	114.7	69.2	21.9	2.81
www.mercadolibre.com.mx	101062	78.3	39.2	33.6	20.1	6.2	0.5

* The content of this page seemed to be much bigger than the recorded size suggests. It is assumed that the analysis tool is not recording the total size of the data which is displayed, for some reason.

Analysis

Most of the pages recorded here have been designed to work well on high speed connections. Given that average access speeds in the developing world are typically in the 12-20kbps range in the average Internet café, browsing such sites is likely to be a frustrating experience. This is not helped when sites such as detik.com (in the Indonesian language) are built with very big pages. (Presumably they are emulating western style but without the attention to optimization which western web producers often give.) One has to question if the web will achieve the widespread use in the developing world that it has achieved in the developed world unless access times can be reduced by either:
- vastly increasing the average available bandwidth, or
- vastly reducing the average page size.

The methods used by the Web Page Analyzer have not been researched, so it is not possible to comment on the accuracy of the numbers shown, but it is thought that they are at least indicative.

Conclusions

- If the major web brands in the developed world want to spread their brands successfully to the developing world, they need to pay attention to available bandwidth and page load times.
- Indigenous web developers would be better advised to produce relevant local content with much less graphical content. This may not be as visually attractive, but it is likely to reach a wider audience.
- We need to do much more with Internet café access to optimize the use of the available bandwidth through caching, graphics compression and other techniques.

- Although more parts of the developing world are getting some Internet connectivity, the Digital Divide is not being narrowed, as the most popular content is not as accessible as it should be.

Contact: rlonghurst@drasticom.org