



Expo 2010 Shanghai

Not such a universal expo after all!

Expo 2010 Shanghai – Not such a universal expo after all! **Christophe Depeux**

Two years after the Olympic Games in Beijing, China has once again attracted the world's eye. From May 1st to October 31st, the Universal Exposition ("World's Fair") held in Shanghai will be the largest ever. A hundred million people are expected on the site's 5.28 sq. km which extends over both shores of Huangpu River. The visitors will explore the pavilions built around the theme "Better City, Better Life" by the 192 countries that are taking part in the expo.

The public, which is estimated to consist almost entirely of Chinese visitors, will probably beat all preceding records.

However, even more numerous are those who will not be able to visit the expo in person, mainly for practical or financial reasons.

To enable as many people as possible to take advantage of this exceptional event, the organizers have set up an internet site in several languages. Their aims are several: to supply practical information for those coming to visit, to offer virtual tours of the pavilions, communicate event news in real time, and more.

One might therefore expect this website, designed and implemented specifically for the occasion, to be as ready and successful as the expo itself.

But what is it really like? Is the site able to meet the expectations of web surfers, whether they connect in China, the US or in Europe? Is the site sensitive to variations in traffic, or does the audience level have little consequence on the performances perceived by online visitors? Do visitors have a good online experience which encourages them to come back for more?

For the past few months, ip-label.newtest has been measuring the performance of the Chinese and English versions of the official site of Expo 2010 Shanghai. Measurements were made in an end-user environment—the way an internet surfer would perceive it—from Chinese provinces⁽¹⁾ and from large towns in some twenty countries around the world⁽²⁾.

⁽¹⁾ Measurements made from Beijing, Chengdu, Fuzhou, Guangzhou (Canton), Hangzhou, Jinan, Nanjing, Shanghai, Shenyang, Shenzhen, Xi'an and Zhengzhou.

⁽²⁾ Measurements made from Amsterdam (Netherlands), Brussels (Belgium), Frankfurt (Germany), Geneva (Switzerland), Hong Kong and Shanghai (People's Republic of China), Lisbon (Portugal), London (United Kingdom), Madrid (Spain), Milan (Italy), Montreal (Canada), Moscow (Russia), New York and San Jose (United States), Paris (France), São Paulo (Brazil), Stockholm (Sweden), Sydney (Australia), Taipei (Taiwan), Tokyo (Japan) and Warsaw (Poland)

A site that's hard to access...



The graph above shows trends in the accessibility of the official site, in its English and Chinese versions, as experienced in major cities around the world. Fairly numerous incidents were observed throughout the period. It is apparent that since the beginning of the year, the two versions of the site have registered similar performances.

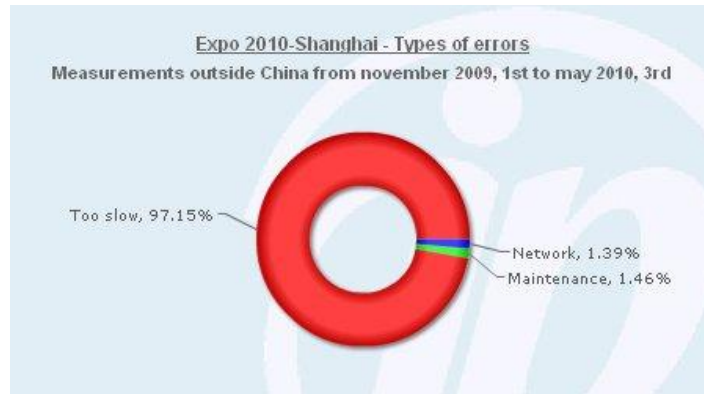
...except in China



The availability experienced in various Chinese cities shows a totally different curve. If nearly one person in 10 was unable to view the homepage of the official site from major international cities, such a failure affected on average only 1 Chinese visitor in 200 between November 2009 and early May 2010. This rate of successful access is nearly 20 times better than the one experienced abroad!

Be patient or give up

These graphs make one wonder why such a difference in site behavior was demonstrated depending on whether the visitor connected from within China or from abroad.



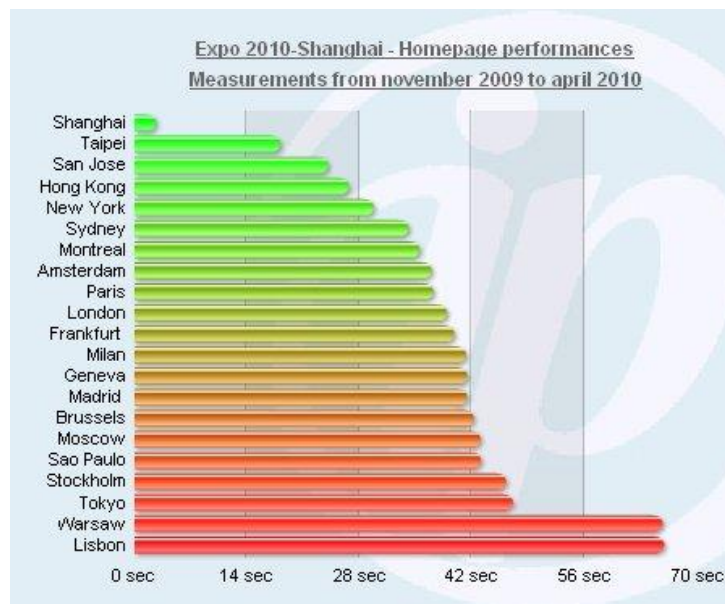
A rapid analysis shows that almost all of the anomalies noted in the major international cities involve the problem of long loading times.

For the web surfer, this is perceived as an extreme slow-down in the loading of the site's homepage, to the point where the visitor decides to "throw in the towel", believing it will be impossible to view the page displayed in full.

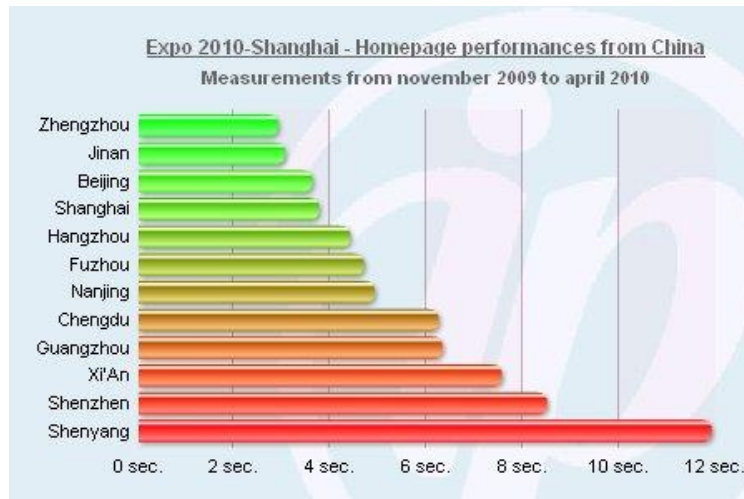
The graph below shows that in fact there are great disparities depending on the geographical origin of the connection. Quite logically, the towns the nearest to the site of the world's fair logged the best performances.

Three seconds or less are all that's needed for the full loading of the homepage of the English version of the site for a visitor in Shanghai.

In Taipei or Hong Kong, the time required is much longer, on the order of 18 to 26 seconds. North American or Australian web visitors experience relatively similar performances, with a wait of between 30 and 35 seconds before the page displays entirely.



Visitors in western Europe, however, have to wait a long time: it takes nearly 36 seconds for someone in the Netherlands or France to load the homepage, and over 42 seconds for a Belgian visitor. But this is nothing compared to the disastrous performance observed in Warsaw or Lisbon, where no less than a minute is needed for the page to load fully in the browser, 20 times longer than in Shanghai.



The inhabitants of the city hosting the universal exposition 2010 are not the only ones able to speedily access the event's official internet site. Even if performance disparities exist, and are sometimes considerable, the time it takes to fully load the homepage is much faster in whatever Chinese city the visitor is connecting from than for cities located outside the main territory of the People's Republic of China. Even visitors in Hong Kong or Taipei, not so far from mainland China, have to marshall much more patience than inhabitants of Beijing, Shanghai, or even Shenyang, the most northerly city from which we ran our tests.

Get close up to bring them in

These analyses all demonstrate that it is much easier to access the official website of the world's fair from China than from any other country. But what is the reason for this?

The designers of the official website of the Beijing Olympic Games understood that proximity to the web user facilitated speedy and successful access. To bring this about, they hosted their site not on one server in a single place, but cloned and farmed their hosting out to a considerable number of cities spread across the globe.

In this way, a user in New York connected to a version of the site hosted in New York, a British visitor connected to a twin site hosted in London, and so forth.

The designers resorted to CDN (Content Delivery Network) operators which lease web servers placed in most of the major countries of the world and connected directly to the networks of leading operators.

It so happens that the designers of the official site of the universal exposition in Shanghai made the same choice, but only for Chinese web users.

A connection from Beijing or Shenyang leads to a host in the province of Shandong. Access sought in Guangzhou, Shanghai or Shenzhen ends up at a host located in the province of Guangdong, and so on.

In contrast, the designers did not feel it was necessary to opt for the same strategy as regards international visitors, who therefore have to share a single host situated in the region of Shanghai.

Visitors connecting from Europe, America, Oceania, or even Asia outside of continental China, have to cross thousands, even tens of thousands of kilometers to access the server.

Naturally, the delays in page loading are amplified by the remoteness of the country and by network interconnection agreements, peering, which may not always be optimized.

One more thing deteriorates the performances even more. This is the size of the pages, which are generally quite weighty. The homepage is, in effect, built around Flash technology, which makes it particularly dynamic but slow to load.

In conclusion

The expo is often considered, above all by Chinese experts, as a gigantic communications operation internal to China, designed to make Chinese people proud of their country's ability to organize and hold events of international dimension and to broaden their outlook on the rest of the world, to which they have been increasingly exposed.

From this point of view, the Expo 2010 Shanghai website, sure enough, is a success.

Nevertheless, everyone who was hoping, because of the distance, to be able to take a virtual trip to this world's fair comes out empty handed. The only thing universal about this exposition is its name.