

# HCI / UX Evaluative Framework

## Sectoral Review

### catalogue

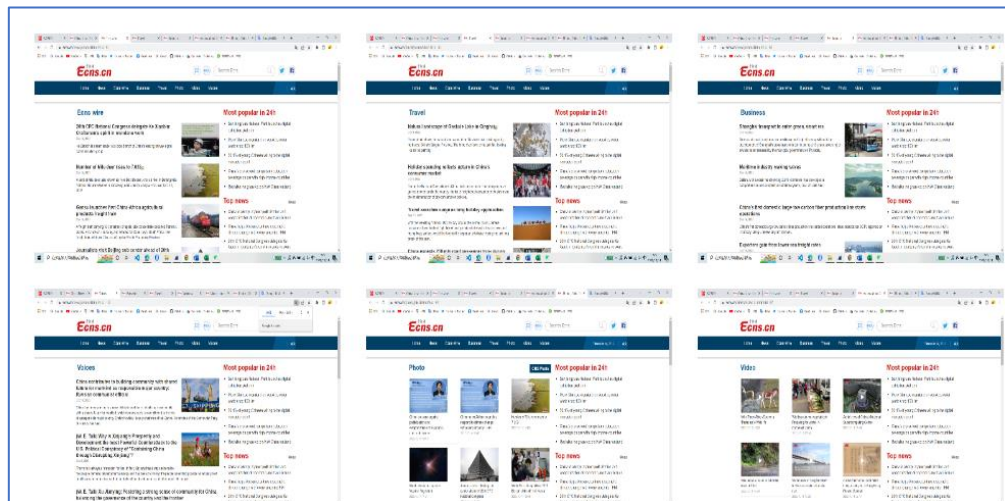
HCI / UX Evaluative Framework Sectoral Review .....	1
Framework criteria evaluation results.....	2
How ENCS ( <a href="http://www.ecns.cn/">http://www.ecns.cn/</a> ): addresses the criteria .....	11
How Global Times( <a href="https://www.globaltimes.cn/">https://www.globaltimes.cn/</a> ) addresses the criteria .....	13
Reasoned recommendations for improvements for ECNS .....	14
Reasoned recommendations for improvements for Global Times.....	15
Reference .....	17

## Framework criteria evaluation results

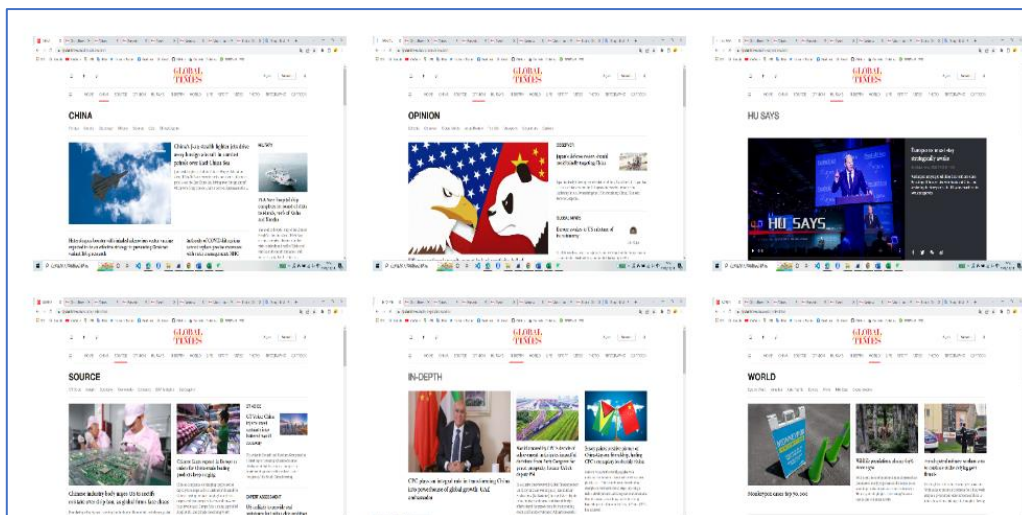
Assessment item \ Web site	<a href="#">ECNS</a>	<a href="#">GlobalTimes</a>
Fit for Business Purpose	4	5
User Appropriate	4	4
Offer Informative Feedback	3	5
Strive for Consistency	4	3
Use of Colour	3	4
Accessibility	4	3
Error Handling	2	4
Layout of Content	3	4
Usability and Navigation	4	5
Use of Links	3	3
Fitness for Mobile Technology	5	5
Load Times	5	3

- **Fit for Business Purpose**

Every website has its own logo. ECNS no longer shows its logo when the webpage is pulled down. The Global Times logo and navigation bar float on the web page.<sup>[3]</sup>



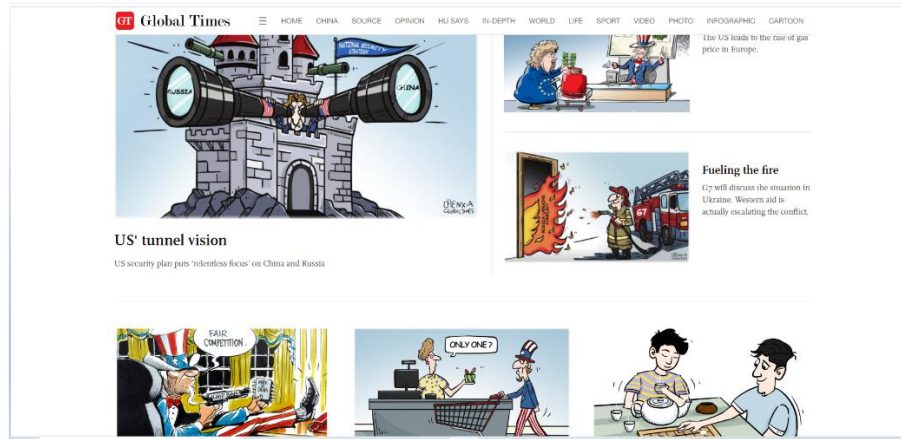
1 ECNS web style



2 Global Times web style

## ● User Appropriate

The main audience is people who follow Chinese news. The Global Times has a news category dedicated to the people of the world, but ECNS does not have a dedicated category. The Global Times has a feature about satirical images, which I think may lead to a drop in interest in the site.

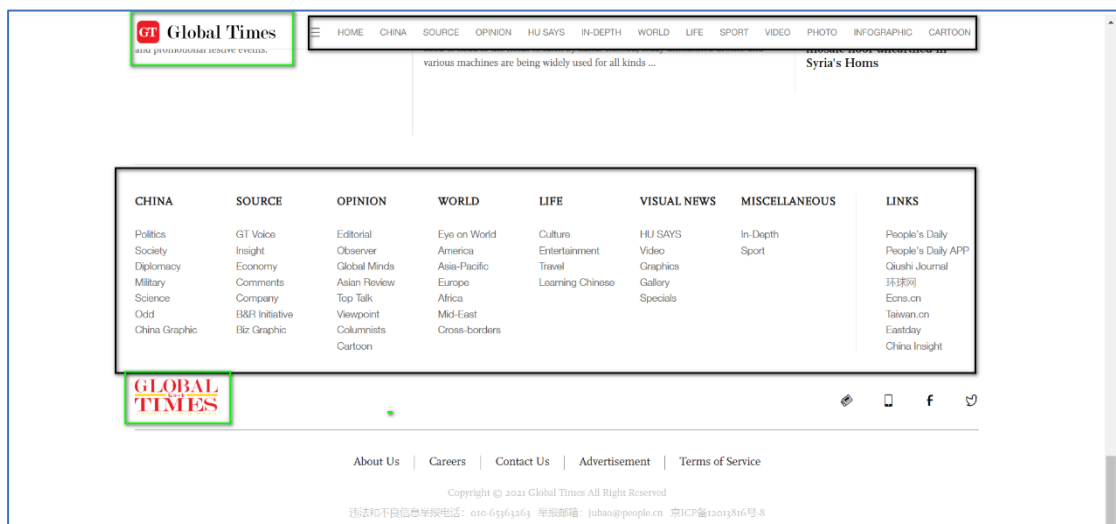


2 Global Times satire channel

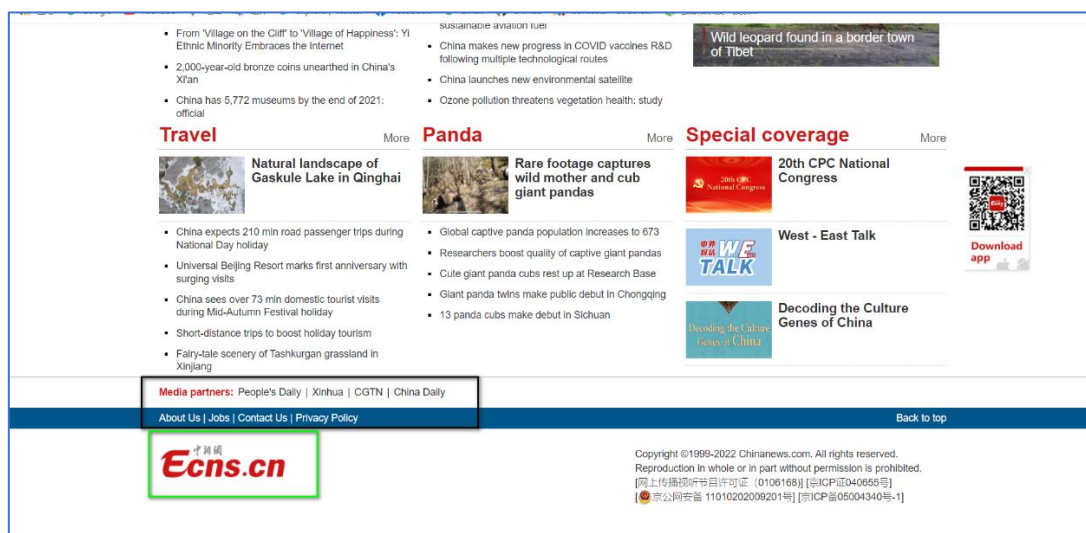
## ● Offer Informative Feedback

Global Times is more timely than ECNS's information feedback. Because the Global Times can see the navigation bar at any time.

The **green box** indicates the information feedback of the website logo, and the **black box** indicates other content or website information provided by the website.



3 Feedback provided by Global Times



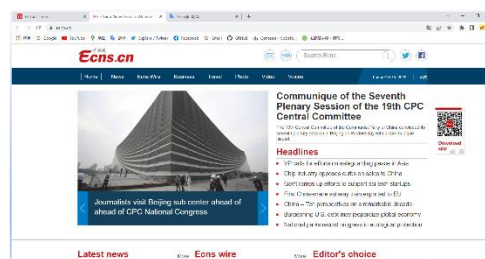
4 Feedback provided by ECNS

## ● Strive for Consistency

The content layout frame of the ECNS website is less varied, and users can easily click on the links without being disturbed by the information. The Global Times website has a relatively large number of layouts, which may be troublesome for users to find. Links opened by ECNS will open in a new tab, while Global Times will open in the current webpage.

## ● Use of Colour

The colors on the ECNS website are more formal and understated, with saturated tones paired with cool grays. Most of the Global Times websites are brightly colored to match the logo.



Color comparison of two websites

## ● Accessibility<sup>[1]</sup>

access test	ECNS	Global Times	score	
Hearing impairment	Video with subtitles	Video with subtitles	5	5
Learning Disability	Text size can be adjusted and the format of the characters is single, with few pictures	The format of the words is single, and the pictures are less	4	4



Physical disability	The "Tab" ,PgUp", "PgDn", "End", "Home" keys work fine, but there are no other shortcuts specifically for people with physical disabilities		4	4
visual impairment	Less red and green colors	More red, less green	5	3
cognitive deficit	Simple layout, links are opened in a new tab	The layout is complex, and most of the links are opened at the current link	5	3
sumScore	4	3		

## ● Error Handling

There is a button error on the ECNS website. When you click on it, it is a page of garbled characters. Press F12 to detect and find that the alt of the picture of this button has no value. This is a big error for the web page. Global Times has the wrong garbled behavior in the subscription, but is correct when checking the website.



5 Error button for ECNS

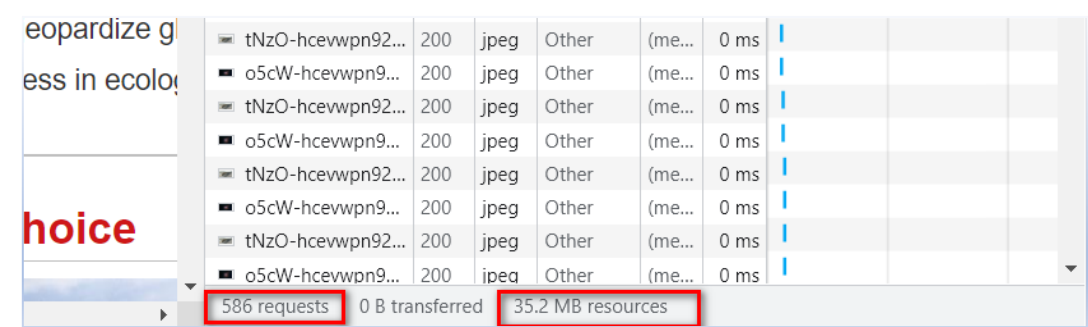
```
<a href="/rss/rss.xml" rel="rss"> == $0
  
</a>
```

6 Image is wrong, but alt has no value

new.ecns.cn/... Donald Trump. 2022-10-14 13:32:08Emerging markets, developing countries being hit by 'triple blow': IMF chiefEconomyhttp://www.ecns.cn/news/2022-10-14/detail-ihcevp9260471.shtmlEmerging markets and developing countries are being hit by a stronger dollar, high borrowing costs, and capital outflows -- a triple blow particularly heavy for countries that are under a high level of debt, the chief of the International Monetary Fund (IMF) said Thursday.2022-10-14 13:26:33Gansu launches first China-Africa agricultural products freight trainEcns wirehttp://www.ecns.cn/cns-wire/2022-10-14/detail-ihcevp9260434.shtmlA freight train carrying 50 containers of apple juice concentrate departed Tianshui, Gansu Province on Thursday, and headed for Cape Town, South Africa. The freight train will leave China via Qingdao Port in Shandong Province.2022-10-14 12:23:31Webb telescope captures 'cosmic' fingerprintPhotohttp://www.ecns.cn/photo/2022-10-14/detail-ihcevp9260361.shtmlImage released on Oct. 12, 2022 shows dust rings formed by two giant stars, resembling a fingerprint captured by NASA's James Webb Space Telescope. 2022-10-14 11:21:20Journalists visit Beijing sub center ahead of 20th CPC National CongressPhotohttp://www.ecns.cn/photo/2022-10-14/detail-ihcevp9260241.shtmlJournalists for the 20th National Congress of the Communist Party of China paid a visit to Beijing sub-center on Thursday.2022-10-14 10:45:29WorldSkills Competition 2022 Edition kicks off in S KoreaPhotohttp://www.ecns.cn/photo/2022-10-14/detail-ihcevp9260230.shtmlThe special edition competition attracted more than 130 participants from 34 countries and regions and the Chinese delegates will compete in six contests.2022-10-14 10:44:05Figures in new Living Planet Report 'shocking,' says WWF director generalSocietyhttp://www.ecns.cn/news/2022-10-14/detail-ihcevp9260181.shtmlWildlife populations in tropical regions are plummeting at a staggering rate and freshwater species populations have globally been reduced by 83 percent, the World Wildlife Fund (WWF) said on Thursday.2022-10-14 10:32:07First China-made subway train exported to EUEcns wirehttp://www.ecns.cn/cns-wire/2022-10-14/detail-ihcevp9260170.shtmlTwo subway trains developed by CRRC Tangshan Co., Ltd., one of China's major high-speed train manufacturers, left Tianjin Port for Portugal's Porto on Thursday. This is China's first metro project to be exported to a European Union country.2022-10-14 10:15:37World Bank chief says global economy 'dangerously close' to a recessionEconomyhttp://www.ecns.cn/news/2022-10-14/detail-ihcevp9260103.shtmlThe global economy is 'dangerously close' to a recession, as inflation remains elevated, interest rates rise, and growing debt burden hits the developing world, World Bank President David Malpass said Thursday.2022-10-14 09:52:44China's CPI up 2.8 pct in SeptemberEconomyhttp://www.ecns.cn/news/2022-10-14/detail-ihcevp9260101.shtmlChina's consumer price index (CPI), a main gauge of inflation, rose 2.8 percent year on year in September, the National Bureau of Statistics said Friday. 2022-10-14 09:52:44China's PPI up 0.9 pct in SeptemberEconomyhttp://www.ecns.cn/news/2022-10-14/detail-ihcevp9260099.shtmlChina's producer price index (PPI), which measures costs for goods at the factory gate, went up 0.9 percent year on year in September, the National Bureau of Statistics said Friday. 2022-10-14 09:52:44Young people more keen on flexible workSocietyhttp://www.ecns.cn/news/2022-10-14/detail-ihcevp9260091.shtmlYoung people have shown increasing preferences for flexible work -- both in locations and schedules -- because of the growing digital economy and emergence of new professions.2022-10-14 09:51:15Development increases incomes in rural TibetEconomyhttp://www.ecns.cn/news/2022-10-14/detail-ihcevp9260095.shtmlThe per capita disposable income of rural residents in the Tibet autonomous region continued to see double-digit growth over the past decade.2022-10-14 09:51:15Shanghai transport to enter green, smart eraBusinesshttp://www.ecns.cn/business/2022-10-14/detail-ihcevp9260093.shtmlGreen and smart transformation, resilience and high efficiency will mark the development of Shanghai's urban transportation in the next 10 years, according to a white paper released by the municipal government on Thursday.2022-10-14 09:51:15Maritime industry making wavesBusinesshttp://www.ecns.cn/business/2022-10-14/detail-ihcevp9260097.shtmlDalian, with a coastline extending 2,211 kilometers, has developed a comprehensive and competitive maritime system, local officials said.2022-10-14 09:51:15China cannot 'lie flat,' top expert says amid WHO's new wave alertSocietyhttp://www.ecns.cn/news/society/2022-10-14/detail-ihcevp9260074.shtmlChina's top medical experts and state media this week repeatedly underscored the significance of sticking with the dynamic zero-COVID policy, saying that China's approach is the lowest-cost epidemic prevention model in the world.2022-10-14 09:41:24China's first domestic large-tow carbon fiber production line starts operationsBusinesshttp://www.ecns.cn/business/2022-10-14/detail-ihcevp9260047.shtmlChina's first domestic large-tow carbon fiber production line started operations, state broadcaster CCTV reported on Thursday, citing Chinese oil giant Sinopec.2022-10-14 09:28:48Rare footage captures wild mother and cub giant pandasPandahttp://www.ecns.cn/news/panda/2022-10-14/detail-ihcevp9260040.shtmlA rare picture of two wild pandas hanging out together in a nature reserve in Northwest China's Shaanxi Province, has been captured by an infrared camera. The two pandas were identified as mother and baby based on their appearance, body size, the color of their fur, and behaviors.2022-10-14 09:25:37Delegates to CPC national congress arriving in BeijingPhotohttp://www.ecns.cn/photo/2022-10-14/detail-ihcevp9260019.shtmlDelegates to the 20th National Congress of the Communist Party of China (CPC) arrive in Beijing, capital of China, Oct. 13, 2022.2022-10-14 09:14:04Italian female astronaut quotes famous ancient Chinese composition, wins praise on social media for excellent Chinese language skillsSci-

7 Error displayed by ECNS button

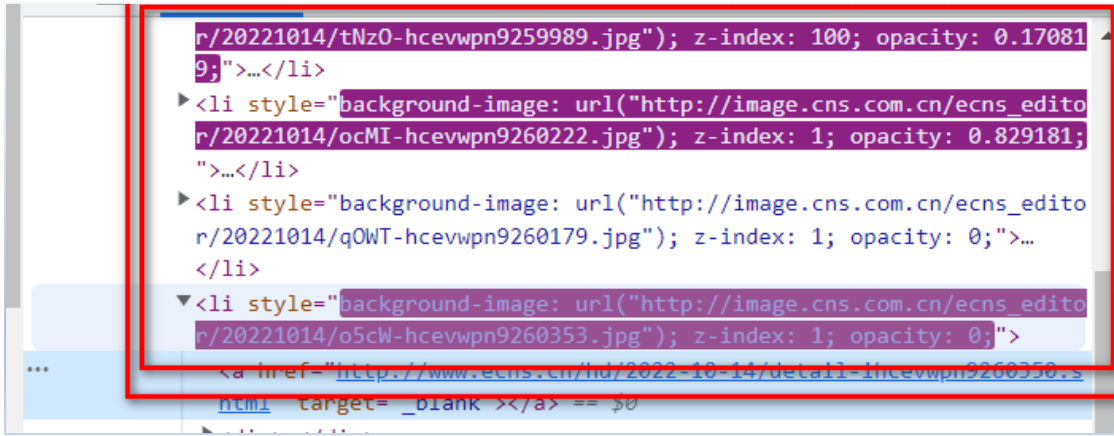
At the same time, the carousel on the homepage of the ECNS website switches pictures every five seconds. Click F12, you will find that every time you switch pictures, the resources are cached again. This is a huge mistake.



Request	Size	Type	Method	Time
tNzO-hcevwpn92...	200	jpeg	Other	(me... 0 ms
o5cW-hcevwpn9...	200	jpeg	Other	(me... 0 ms
tNzO-hcevwpn92...	200	jpeg	Other	(me... 0 ms
o5cW-hcevwpn9...	200	jpeg	Other	(me... 0 ms
tNzO-hcevwpn92...	200	jpeg	Other	(me... 0 ms
o5cW-hcevwpn9...	200	jpeg	Other	(me... 0 ms
tNzO-hcevwpn92...	200	jpeg	Other	(me... 0 ms
o5cW-hcevwpn9...	200	jpeg	Other	(me... 0 ms

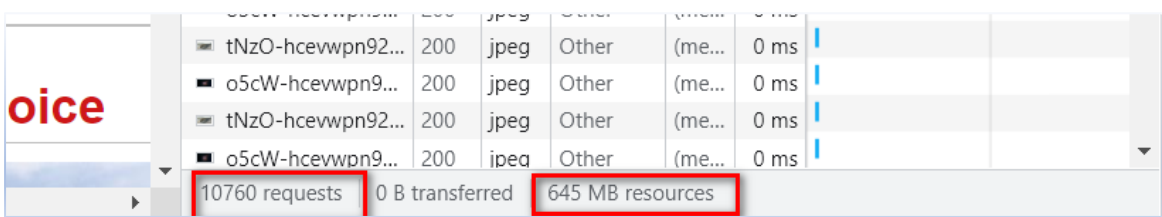
586 requests 0 B transferred 35.2 MB resources

8 Carousel cache error(1)



```
<li style="background-image: url("http://image.cns.com.cn/ecns_editor/20221014/tNzO-hcevwpn9259989.jpg"); z-index: 100; opacity: 0.170819;">...</li>
<li style="background-image: url("http://image.cns.com.cn/ecns_editor/20221014/ocMI-hcevwpn9260222.jpg"); z-index: 1; opacity: 0.829181;">...</li>
<li style="background-image: url("http://image.cns.com.cn/ecns_editor/20221014/qOWT-hcevwpn9260179.jpg"); z-index: 1; opacity: 0;">...</li>
<li style="background-image: url("http://image.cns.com.cn/ecns_editor/20221014/o5cW-hcevwpn9260353.jpg"); z-index: 1; opacity: 0;">...
```

9 Carousel cache error(2)



Request	Size	Type	Method	Time
tNzO-hcevwpn92...	200	jpeg	Other	(me... 0 ms
o5cW-hcevwpn9...	200	jpeg	Other	(me... 0 ms
tNzO-hcevwpn92...	200	jpeg	Other	(me... 0 ms
o5cW-hcevwpn9...	200	jpeg	Other	(me... 0 ms

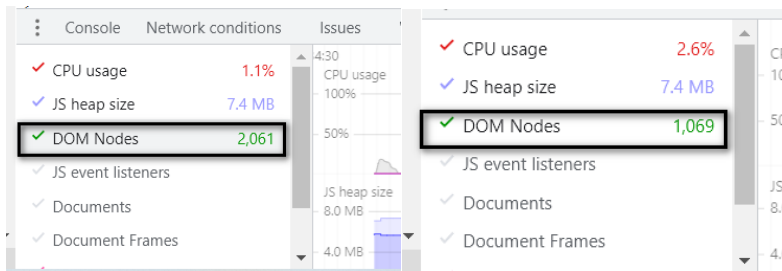
10760 requests 0 B transferred 645 MB resources

10 Carousel cache error(3)

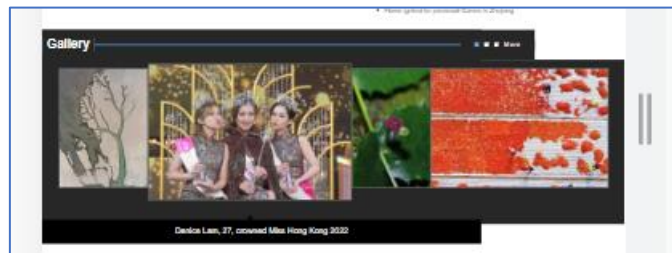
● Layout of Content

The ECNS website has a small fixed window and is the app that recommends it. The floating navigation bar of Global Times can make users more convenient, ECNS does not have this part.

At the same time, there is a problem with the floating of the ECNS website block layout, and the pictures are stacked too much, which looks messy.



Global Times on the left , ECNS on the right



11 ECNS block element layout issue

## ● Usability and Navigation

The color matching of the navigation bar of the ECNS website is very good and can be quickly identified, while the color matching of the Global Times is similar to the color matching of the entire webpage, which is difficult to identify quickly.

The layout of the header and footer navigation bars of the two websites is compact and the content is arranged reasonably. The navigation bar of Global Times provides users with more content.

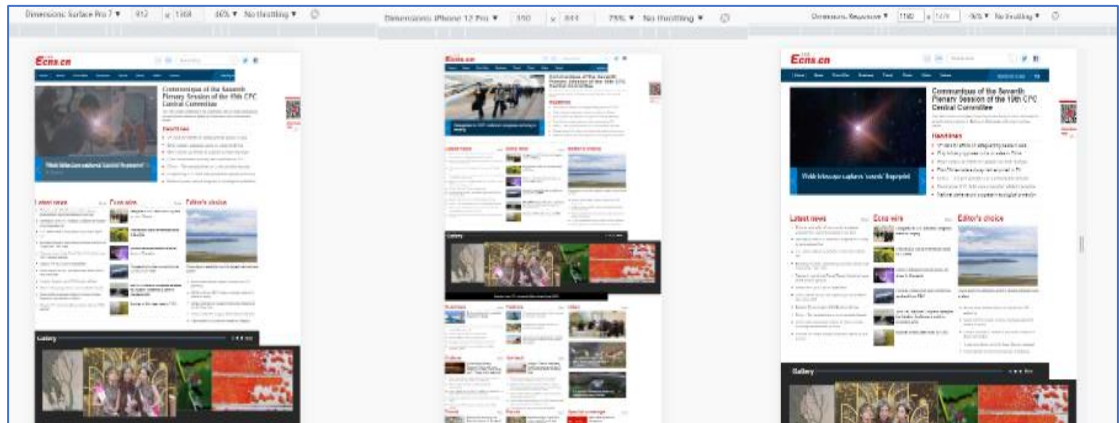
## ● Use of Links

Links to both sites can be clicked quickly. The downside is that the logos of the two websites and the link to the home block of ECNS are still the homepage of the website itself.

## ● Fitness for Mobile Technology

The two websites have similar effects on different screen widths and different devices, such as Huawei meta40, iphone12Pro, and SurfacePro.





12 ECNS Responsive Layout: Simulate Display of Different Device Models

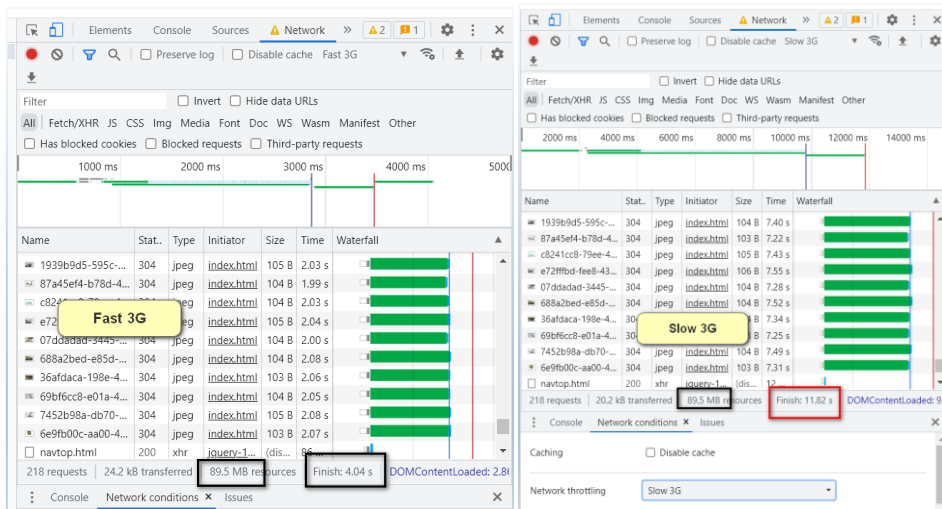
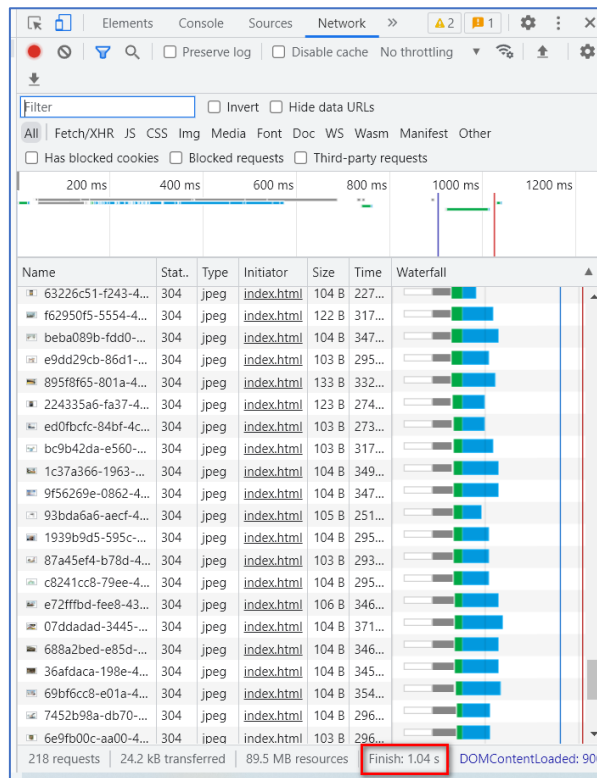


13 Global Times Responsive Layout: Simulate Display of Different Device Models

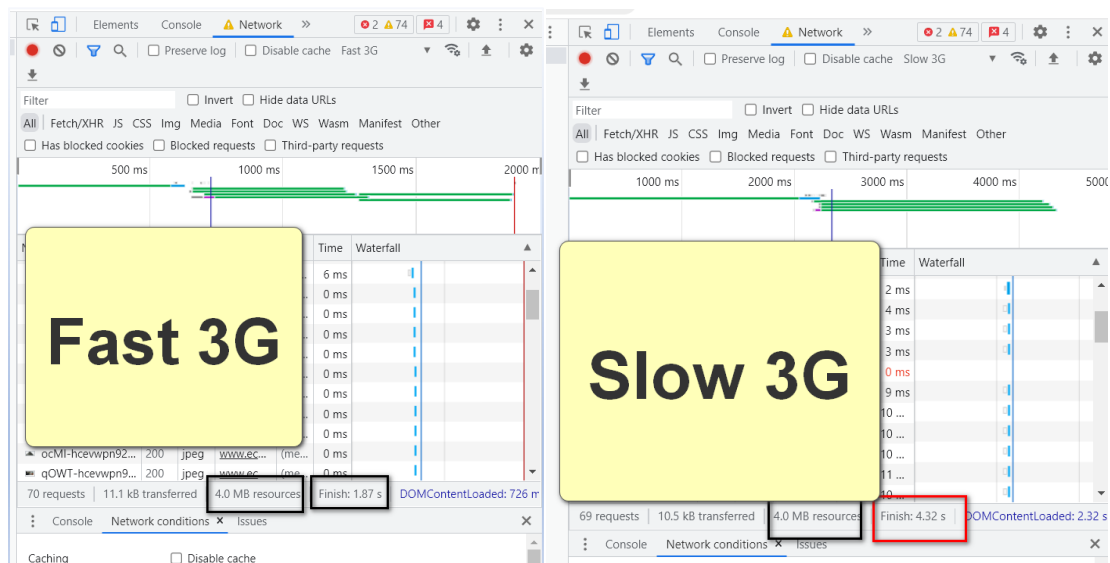
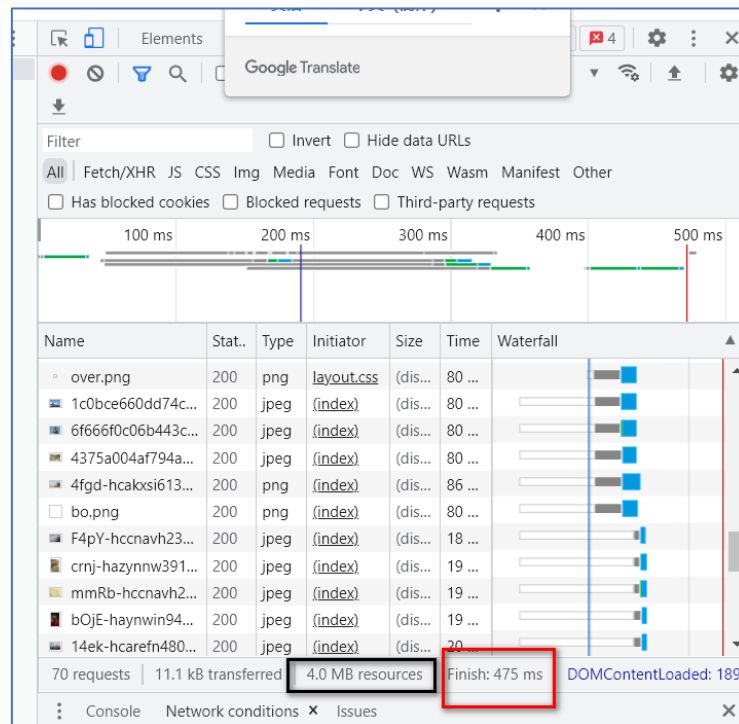
## ● Load Times

By testing the two websites with chrome's own network, the current WiFi and fast 3G and slow 3G are compared.

	WiFi	Fast 3G	Slow 3G
ECNS	0.475s	1.87s	4.32s
Global Times	1.04s	4.04s	11.83s



14 Global Times network load times (WiFi, Fast 3G, Slow 3G)



15 ECNS network load time (WiFi, Fast 3G, Slow 3G)

## How ENCS (<http://www.ecns.cn/>): addresses the criteria

### Fit for Business Purpose:

The logo of the ECNS website is in the upper left corner, the position is off, and the size of the logo is small, which cannot be well remembered by users. When pulling down the webpage, there is a fixed block element on the right, showing the mobile app of ECNS, which can clearly reflect the commercial nature of the website.

### User Appropriate:

ECNS provides users with multiple modules such as main news, business, travel, photos,

videos, etc., and users have a wider range of choices<sup>[5]</sup> ECNS articles are interspersed with brightly colored images to attract readers. At the same time, the layout of ECNS is simple, which saves adaptation time for users to read news.



#### **Offer Informative Feedback:**

The page title of the ECNS website will show where the user is currently relative to the home page. But when the webpage is pulled down, it will be found that there is no effective navigation bar for the user to click. And the tail navigation bar provides less content, which is not directly related to the user's reading content.



#### **Strive for Consistency:**

The ECNS website layout framework is similar in its various sub-pages, and its layout is simple, with only a few simple ones, users can quickly understand the website in depth.



#### **Use of Colour:**

Darker, cooler tones. The color layout of the entire web page looks good. Click on the meeting to first see the navigation bar and logo against the layout color.

On the day of the 20th National Congress of the Communist Party of China, ECNS added a picture above the navigation bar. The picture is dominated by red, and the tone is still dark.<sup>[6]</sup>



#### **Accessibility:**

Tested while evaluating the website evaluation matrix. Videos on the ECNS website are subtitled, which is convenient for people with hearing impairments. The text size of the article can be debugged, the link jump is simple, and there is no need to return. And there are no large blocks of red and green in the picture selection and color layout. In terms of keyboard shortcuts, there are some shortcuts, but not many and not precise enough.



#### **Error Handling:**

There is a big problem with error handling. Like a button link called "RSS" at the top of each navigation bar on a web page, it is garbled when clicked. The carousel image on the home page will be cached again every time the image is switched, which wastes resources.



#### **Layout of Content:**

The layout content is all about news, except for the "RSS" useless layout, there is basically no useless information.



#### **Usability and Navigation:**

Navigation is useful and streamlined.



**Use of Links:**

It can be used normally, and the link is opened in a new tab.



**Fitness for Mobile Technology:**

Tested with different devices, there is no major problem with the layout.



**Load Times:**

In different networks and operator services, the speed is very fast.

## How Global Times(<https://www.globaltimes.cn/>) addresses the criteria

✧ **Fit for Business Purpose:**

The logo is large, and the logo and navigation bar can also be seen when pulling down the web page, and the commerciality is intuitively visible.

✧ **User Appropriate:**

The content is rich, the classification is clear, and the user experience is good. But there are satirical graphics, which may lead to the loss of potential users.

✧ **Offer Informative Feedback:**

The logo and navigation bar can be seen anywhere on the page. And the tail navigation bar provides users with rich content.

✧ **Strive for Consistency:**

The logo color matching is consistent with the main frame of the web page. There are many layouts of block elements in web pages, many types and forms, and low consistency.

✧ **Use of Colour:**

Bright color. Similar to the red color of the Chinese Communist Party. The color scheme of the website better reflects the commercial and publicity nature of the website.<sup>[6]</sup>

✧ **Accessibility:**

Videos are subtitled for the hearing impaired. The text size of the article can be adjusted, and the link jump is more difficult, and it is necessary to return. Lots of reds and greens were chosen in the choice of pictures and the layout of the colors. In terms of keyboard shortcuts, there are some shortcuts, but not many and not precise enough.

✧ **Error Handling:**

No errors were found while testing. This aspect is fine.

✧ **Layout of Content:**

Floating navigation bars are more convenient for users to get messages.

✧ **Usability and Navigation:**

There is no border around the header navigation bar, and users will focus on the logo first, not the content of interest. The navigation bar is rich in content.

✧ **Use of Links:**

The link can be accessed normally. Links are opened within the current interface.

✧ **Fitness for Mobile Technology:**

The responsive layout is well set up.

## ✧ Load Times:

Slow. Several times slower than ECNS.

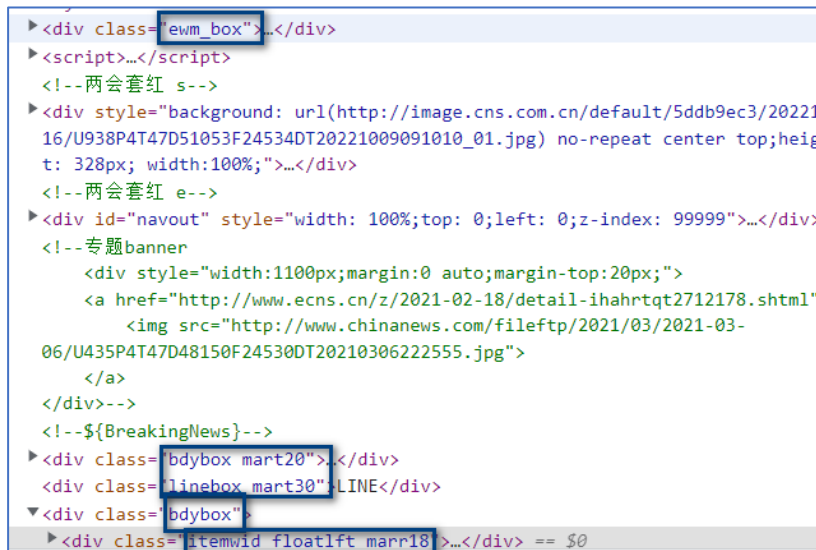
## Reasoned recommendations for improvements for ECNS

- i. In terms of frame layout: the logo can be appropriately enlarged; the effect of the middle picture on the home page can be redesigned; the navigation bar with sticky properties can be added. Re-categorize some content that is difficult for users to understand and others that are not well-categorized.

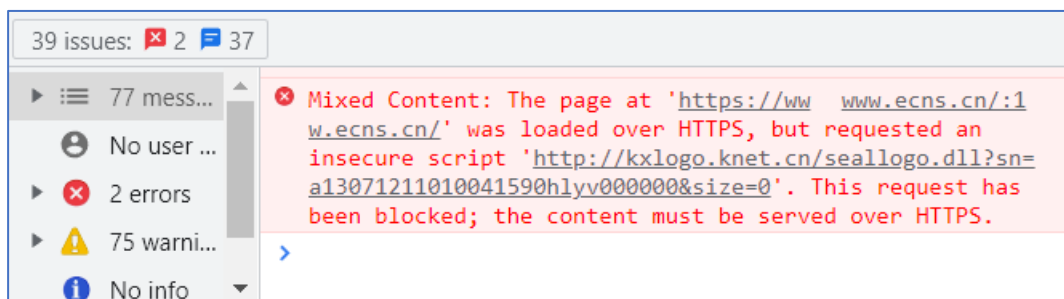


16 Add navigation bar effect

- ii. Unify the naming in html, css and other files. Handle excessive warnings on web pages.



17 Irregular naming



18 Warning not handled

- iii. The picture switching speed of the carousel on the home page is slowed down, and the caching mechanism of the carousel needs to be modified. It cannot be cached again every time the picture is changed.



- iv. Link processing: Process the "RSS" button above the navigation bar or remove the link.
- v. It is recommended to put the link to the article in a tag that contains the article title and article brief.
- vi. It is recommended to put the link to the article in a tag that contains the article title and article brief.

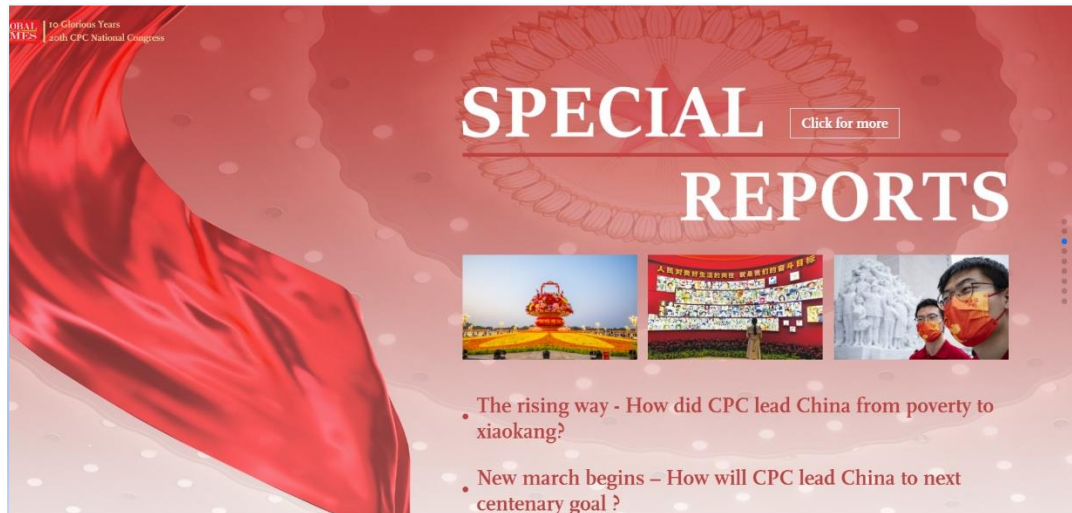


19 Click inside the black box to display the entire article link

- vii. It can further improve the user's sense of use. Properly increase the text by a few pixels to allow users to read the news more comfortably. Add richer pictures to the article instead of just putting pictures at the beginning of the article to increase user interest. Add different border effects and links to pictures to make pictures not crowded and ugly.

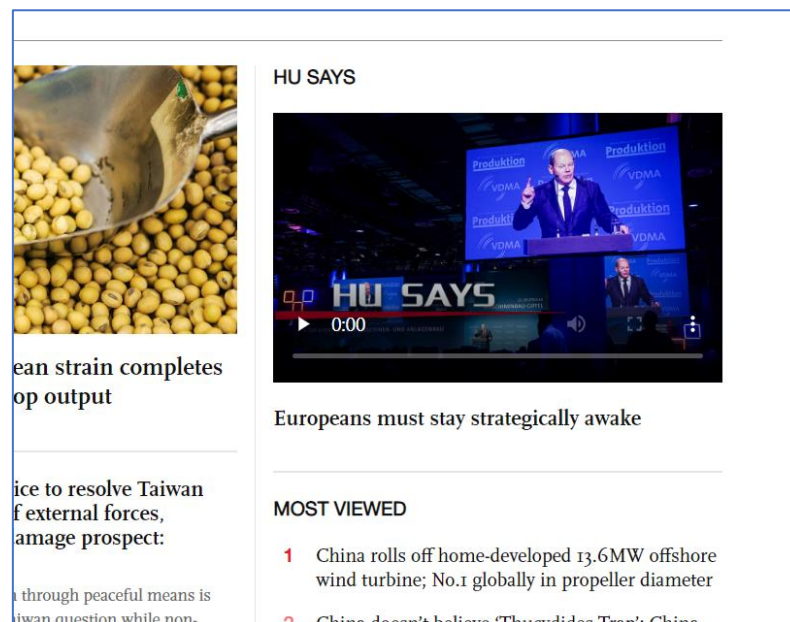
## Reasoned recommendations for improvements for Global Times

- i. Simplify the layout of block elements, allowing users to browse the web easily. The "环球日报" in the logo is very small, and it is not clear if you don't read it carefully. It is recommended to type this text on both sides of the logo or delete it.
- ii. You can add a hint to the image and image link above the logo. Touching the image with the mouse can remind the user that there is content after the image is clicked. Because the link points to the content is very beautiful and has animation effects, it should not be ignored.



20 Click on the image to jump to this page

- iii. The overall color of the web page is bright, and the navigation bar should be darker to make the navigation bar serving the user clearly visible. At the same time, the color of the web page is less red, and it is necessary to strengthen the friendliness of people with red-green color blindness.
- iv. Don't add a separate feature for satirical images, reduce the addition of satirical images, which will result in the loss of potential users.
- v. Increase the difference between the change of the ":hover" element used for the selector in CSS and the original view. A link to the news content is also added to the news summary.
- vi. The content scope of the link embed should include the title and content. Optimized link jumping and rendering load time.



21 The video click has no link effect, and the sequence below is also.

## Reference

- [1] <https://www.washington.edu/accessibility/checklist/>
- [2] [Colour Combinations Every Designer Should Know. \( Perhiniak, 2021\)](#)
- [3] [Design and research of web front-end framework based on HTML5. \(Wang, 2021\)](#)
- [4] [Color matching and layout analysis in website design. \(Song, 2022\)](#)
- [5] [On User Experience in Website Design](#)
- [6] [Application of visual colors in dynamic web page design through affective cognition. \(Kuo et al., 2021\)](#)