Task 1

Overview

This document outlines the results of the testing, and a few important considerations that were made along the way.

(The results are a part of the excel sheet in the same folder)

A couple of important things to note are:

- The website score depends on factors like Speed of internet, ping, latency etc.
- The website with the best score has the lowest load times and lowest number of broken links.

The website score is calculated using the **load time value**. This is different from response time. **Load Time** is the time taken for the entire dom to be rendered, whereas **Response time** is the time taken for the server to process the request and send the first byte of information.

Response time is dependent on only the internet speed, location of the user or distance from the server. Load time is dependent on more parameters such as browser being used, browser cache, code practices etc.

Though Response time would be easier for practical evaluation, load times are more in line with real world performance of the websites.

This is our motivation behind considering load times for the websites.

Usually load time values are greater than response time values.

Individual Results

1. Nrega website

This website is the most poorly maintained among the five.

Problems:

- Relatively high number of broken or bad links
- High load times due to the presence of large documents such as pdfs
- Expired Security certificates or legacy security certificates
- Large number of redirects, considerable number of duplicates

Navigation through the website was unintuitive and cumbersome . High chance of users getting lost while navigating through the website.

2. USA web link

This website is very well maintained with fast link load times, no broken links, minimal number of redirects, up to date security certificates.

Highest number of links among the websites we tested.

A side note - this website doesn't have any safeguards against automated testing

Problems :

- Lots of duplicate links.
- Navigation through the site is average as a complicated mesh of links.

3. Bits website
This website is moderately maintained.
Though the website has no broken links, it has some "javascript:void(0)" hrefs which are somewhat peculiar.

   Note: This href is a part of a programming practice that uses this expression to prevent unwanted effects when the link is clicked. (This practice is still followed but, there are better alternatives to this practice). For eg. to prevent the page from reloading when link is clicked or when a new page is opened with the link.

The link load times are average to good and navigation throughout the website is relatively simple. Also, it has the second largest number of links out of which some are duplicates or unnecessary.

4. ISRO website
This website scores the best in terms of website score.
This website features no broken links but has some html elements with no href attribute. But, the faster load times compensate for this.
In terms of navigation, this site performs decently
Notably, some elements lack any hrefs provided as attributes, leaving the links unusable.

5. Medium website
This website is very well maintained, and understandably so considering it sees regular activity on a daily basis. It has fairly high link load time due to the more dynamic content and javascript compared to other websites in the list. This dynamic content coupled with advertisements make the link load times increase.
This website has the most modern security certificates and very few redirects and duplicates.
The Website has no broken links. However one particular link could not be tested with Selenium as it was very well safeguarded against automatic web crawlers.
Otherwise, the interface and navigation were excellent.

Conclusion

Website score is a good parameter for analysing a website's performance. However, it is in no way exhaustive. Some features like interface, ease of navigability and website experience among others, need to be considered. But, these parameters are harder to quantify.
The link load times of the website provide a rough estimate of the experience of the users while the broken links and number of links provide an estimate on the navigability of the website.
In these terms of the website score, the ISRO website came out on top. However, after a discussion among the group members, the Medium Website was unanimously voted the best when considering other non quantifiable aspects. The Nrega website was rated the worst, which was also reflected by the website score it received.