**CERTIFICAT DE SPÉCIALITÉ**

**SERVICES NUMÉRIQUES AUX ORGANISATIONS**

**SESSION 2024**

**ÉPREUVE E3**

**ACCOMPAGNEMENT DES UTILISATEURS**

**AUX USAGES DU NUMÉRIQUE**

**Phase A : Production d’une ressource**

Durée : 2 h

L’usage de tout modèle de calculatrice avec mode examen actif est autorisé.

L’usage de la calculatrice sans mémoire « type collège » est autorisé.

Aucun document n’est autorisé.

**Une ressource numérique sous format pdf doit être rendue à l’issue de l’épreuve sur clef avec un nommage de fichier permettant d’identifier le candidat.**

Ce sujet se compose de 5 pages numérotées de 1/5 à 5/5

Dès que le sujet vous est remis, assurez-vous qu'il est complet.

**SUJET**

L’entreprise Green My *Web*, située à Bâle (Suisse) est spécialisée dans l’éco-conception logicielle, le développement d’applications internet web et mobiles, le référencement naturel et l’hébergement.

L’entreprise intervient auprès de clients dans plusieurs pays et dans différents secteurs.

L’effectif est de 50 salariés répartis dans différents services:

* Le service administratif et comptable,
* Le service des développeurs et web designer,
* Le service commercial,
* Le service qualité.

Vous travaillez sous la responsabilité de l’administratrice SI, Madame Rony.

La démarche d’éco-conception d’un logiciel ou d’un site internet est un processus de développement informatique dont le but est de minimiser les besoins en ressources, tant du point de vue des serveurs d'application que du point de vue des utilisateurs.

La mission de l’entreprise Green My *Web* est de co-construire avec ses clients, le web de demain, un web responsable et respectueux de la planète.

Cette entreprise dont l’activité se situe dans des pays anglophones a décidé d’étendre son marché à la France. À ce jour, toute la documentation destinée aux clients est en anglais. Pour assurer le suivi des bonnes pratiques de l’éco-conception, elle doit produire une documentation en français à destination de ses utilisateurs.

Mme Rony vous charge d’exploiter la documentation technique en langue anglaise afin de produire une ressource à destination des utilisateurs français.

**Travail à faire**

* Réaliser la documentation en français au format pdf

**Documents du sujet à votre disposition**

* Document 1 : Toward eco-friendly, high-performance websites: what are the best practices ?
* Document 2 : A Guide To Creating An Eco-Friendly *Web*Site

**Documents numériques à disposition :**

* Images des documents 1 et 2 au format numérique (.png)

**Document 1 :** Toward eco-friendly, high-performance websites: what are the best practices?

**Toward eco-friendly, high-performance websites:**

**what are the best practices?**

No one is unaware that digital technology is constantly on the rise, and this does not bode[[1]](#footnote-1) well for the planet. Estimates show that in 2022, the internet will be responsible for 4% of global greenhouse gas emissions, over 1.5 times more than air transportation (source: Ademe, the French Environment and Energy Management Agency). […]

**Digital sobriety, a topic that’s hotter than ever**

[…] With the total number of websites nearing 2 billion, of which 576 000 new sites are created each day (according to Internet Live Stats), the web is becoming a major environmental factor to contend with[[2]](#footnote-2). […] The most energy-hogging[[3]](#footnote-3) usage is streaming video, which accounts for 1% of CO2 emissions, the equivalent of 300 million tons of CO2. […] Total power consumption is shared with the production of computers, televisions, smartphones, and other electronics, which represent 45%.

**How does your website rate in terms of environmental performance?**

[…] it is important to measure what’s called the [EcoIndex](http://www.ecoindex.fr/" \t "_blank). This index evaluates the ecological impact and the amount of[[4]](#footnote-4) water required to display a web page. The EcoIndex was developed by a collective which federates some fifty organizations around [Green IT](https://collectif.greenit.fr/outils.html). Other online tools are available, among them [Ecometer](http://www.ecometer.org/" \t "_blank), [Greenspector](https://greenspector.com/fr/accueil/" \t "_blank), [Website carbon](https://www.websitecarbon.com/), etc.

**What metrics are used to calculate a website’s carbon footprint?**

The EcoIndex calculates for each web page tested:

* The technical footprint[[5]](#footnote-5) (size, complexity, etc.) :
* the application footprint (number of DOM elements, number of requests, etc.),
* the physical footprint (CPU usage, RAM consumption, quantity of data exchanged, etc.).
* The environmental footprint (greenhouse gases and water consumption).

These metrics contribute to the definition of an overall absolute environmental performance score (from 1 to 100) as well as the relative environmental performance (ranking from A to G).

The EcoIndex is calculated from three objective physical measures: **DOM size, Kb transferred, and number of HTTP requests** (source: ecoindex.fr).

5🞻 [3🞻Fd(Taille*DOM*)+1🞻Fs(Poids*Page*)+2🞻(Nb*Requêtes*)]

6

Ecoindex=100 –

**How to make your website more environmentally responsible**

Ecological questions should be considered at the very beginning of site design or website overhaul[[6]](#footnote-6). […]

**Optimizing the ‘physical’ and code**

**Hosting**

According to the Ademe, 25% of the greenhouse gas emissions from ICTs are related to infrastructures, networks, and data centers. […] we recommend choosing a hosting company with a good environmental performance record, and which is powered by renewable sources of energy. In addition, it is highly advisable to set up a CDN (Content Delivery Network), which lets you distribute your site to any country in the world and bring your content closer to your visitors.

**Source code**

[…] it is important to take a close look at the source code. With the help of measurement tools, you will be able to identify items of code that are useless and minify[[7]](#footnote-7) the CSS, if necessary. The more you minify your code, the eco-friendlier your site will be.

**Storage**

Servers and routers need a significant amount of power to operate. It is essential to adjust usages in order to minimize energy consumption. You might also consider moving to the cloud to share resources.

**Optimizing the ‘visual’ and content**

**Image and video**

It comes as no surprise that graphics and videos are at the top of the list. Before optimizing them, it’s useful to consider what the image or video really contributes to your page. Ideally, the recommended size for images should be under 300 kb. You can easily optimize them using […] tools […]. Moreover, if you can use vector graphics […], they can decrease the size of your pages by as much.

As for videos, we recommend storing them on a dedicated video platform […] and using only their URL for your web page.

**Fonts**

It is preferable to use standard fonts, those which are already natively available on user PCs. This way you can avoid generating HTTP requests and soliciting the server to display the page.

**Design**

The more minimalist the design and the higher the contrast (black text on a white background), the more your website will be in conformity with the codes of digital sobriety. Static content also consumes fewer resources than dynamic content : for example, opt for a clickable graphic rather than a data visualization online.

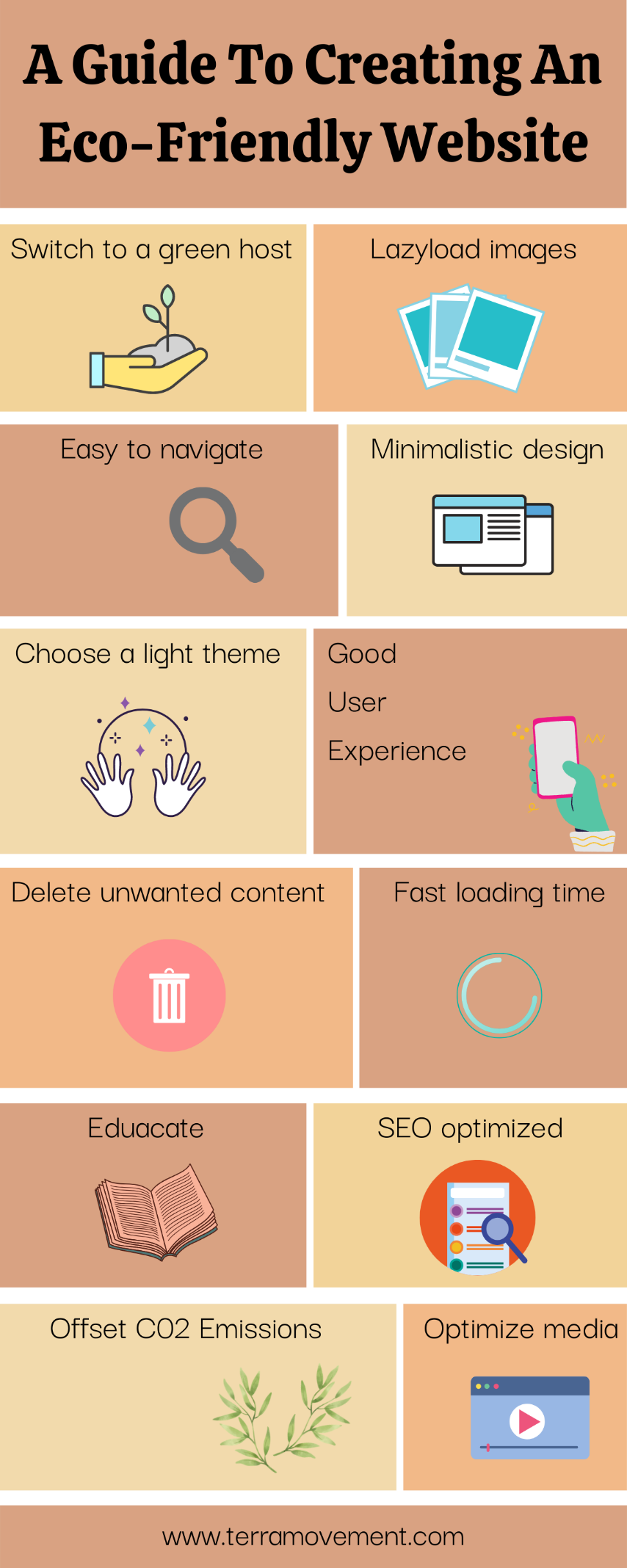
**Pages**

An ecologically responsible website should have a limited number of pages. […]

<https://www.ip-label.com/elementor-9452>

**Document 2 : A Guide To Creating An Eco-Friendly WebSite**

<https://www.terramovement.com/easy-ways-to-make-your-website-eco-friendly/>



1. *to bode* (vb) : présager [↑](#footnote-ref-1)
2. *to contend with (vb) : affronter* [↑](#footnote-ref-2)
3. *energy-hogging (adj)* : énergivore [↑](#footnote-ref-3)
4. the amount (nm) : quantité [↑](#footnote-ref-4)
5. footprint (nm) : empreinte [↑](#footnote-ref-5)
6. o*verhaul (nm)* : modification [↑](#footnote-ref-6)
7. *to minify (vb)* : réduire [↑](#footnote-ref-7)