Digital Carbon Emissions Identifier, Measurer and Rectifier

Technical Field

The present invention relates to a software and methods thereof for identification, measurement and rectification of digital carbon emissions.

Background

Carbon emissions come from various sources – either directly from physical sources (for example carbon dioxide emitted from cars) and indirectly (for example the carbon dioxide emitted by a power plant used to supply energy to a data centre which processes cloud storage).

At present, most of the focus of carbon emissions has been on those derived from physical sources. This leaves a large gap in the measurement of global Green House Gas (GHG) and ignores the negative impact brought about by indirect carbon emissions.

In view of the above, the presently disclosed technology is put forth.

Summary

The aim of this software is three fold.

In the first aspect, the software is meant to identify which aspects of another digital product or service relates to the digital carbon emissions

The second aspect is to measure the amount of digital carbon emissions that is produced by the given digital product or service.

The third and final aspect is rectification whereby the software will make changes to the digital product and service to reduce the amount of digital carbon emissions produced, and to reduce the amount of electrical energy consumed while also reducing amount of data produced, used or transmitted.

Definitions

The following words and terms used herein shall have the meaning indicated:

The term “digital product or service” refers to any product or service that can found electronically – these products or services can be found in the desktop, laptop, notebook, chromebook, e-book reader, mobile phone, tablet computers, software enabled watches, software enabled fridges, software enabled speakers, software enabled Internet-of-Things (IOT) sensors, software enabled robotic devices, software enabled cars.

These digital products and services include websites, mobile applications, Internet-Of-Things (IOT) applications, applications that are found in “smart”

devices, Web 3.0 blockchain enabled protocols, blockchain, digital ledgers.

The term “Digital Carbon Emission” refers to the carbon dioxide or Green House Gas (GHG) equivalents that arise from the usage of digital products and services.

Plainly, each use of a digital product or service would consume energy due to the usage of the device’s central processing unit(s), or the device’s graphics processing unit(s)or the display screen or a combination of the above.

This energy that is consumed would have been derived from a power source which in some cases would be the main energy grid of the place in which the device was charged.

The main energy grid may be powered by a mix of energy sources, some of which could be non-renewable energy (such as coal, oil or natural gas).

The carbon dioxide emission from the use of a digital product or service can be broken down into the number of bytes of data used to effect the digital product or service.

The number of bytes of data can then be related to the amount of energy consumed and the amount of energy consumed can be related to the energy mix found in the power grid, eventually relating the energy consumed to the amount of carbon emissions produced as a result.

The link between data, energy consumption and carbon emissions can then be established. This type of carbon emissions is thus termed digital carbon emissions.

Examples

Non-limiting examples of the invention will be further described in greater detail by reference to specific Examples. These examples should not be construed as in any way limiting the scope of the invention.

Example 1: Display of Information Panel

In this example, the software display the on a panel the amount of data and electrical energy consumed by a specific feature of a digital product and or service. The panel also shows the amount of digital carbon emission caused by the same specific feature of the said digital product and or service.

Example 2: Illustration of Digital Carbon Emissions Reduction

In this example, the information panel of the software shows the amount of digital carbon emission for each specific feature. It shows the current digital carbon emission related to the specific feature and the amount of digital carbon emissions produced after the rectification process is complete.

The information panel shows the current and rectified carbon emissions on a per click basis as well as the estimated amount weekly, fortnightly, monthly and annually.

Example 3: Dark Mode

The information panel and the entire website can turn into a dark mode when the dark mode button is turned on.

Applications

The potential applications of the presently disclosed technology are wide-ranging and are described below:

The software will enable the widespread measurement of the environmental impact of digital products and services.

Further, it would also for the automated and convenient rectification of the said digital products and services without the need for excessive manual intervention.

This would allow the increasing number of technology companies or traditional companies that are digitizing to measure and rectify their digital carbon emissions.

The software fills a critical information gap in current Environment, Social and Governance (ESG) reports – that of digital sustainability and sustainable digitization.

Claims

1. A software for use in Environment, Social and Governance (ESG) and sustainability reporting; and for other general purposes. This software can take the form of a desktop application, system level core program, mobile phone application or website extension.

2. The software of Claim 1, whereby the software can identify how digital carbon emissions relate to a specific feature or line(s) of code of a digital product or service such as a website, mobile application, Internet-of-Things (IOT) computing program, blockchain or blockchain based product.

3. The software of Claim 1, whereby the software can measure how much digital carbon emissions relate to a specific feature of line(s) of code of a digital product or service such as a website, mobile application, Internet-Of-Things (IOT) computing program, blockchain or blockchain-based product.

4. The software of Claim 1, further wherein the software can rectify and reduce the amount of digital carbon emissions produced by a digital product or service. The rectification and reduction of digital carbon emissions is carried out in an automated manner.

5. The software of Claim 1, wherein software can be an Artificial Intelligence (A.I.) model that can be updated

through manual means or through the automated learning mechanism of the Artificial Intelligence model.

6. The software of Claim 1, wherein Artificial Intelligence model of the software uses natural language processing (NLP) and Large Language Models (LLMs) to continually improve the accuracy and impact of its work.

7. The software of Claim 1, wherein the software can be used for a wide range of use cases including but not limited to pictures, videos, animations, GIFs, Non-Fungible Tokens (NFTs), blockchain protocols, assembly language code and backend code.

CONTACT TRACING AND SOCIAL DISTANCING DEVICE

Abstract

The present invention relates to a software and its associated methods of use as part of an enhancement to current Environment, Social and Governance (ESG) tools, particularly with respect to the identification, measurement and rectification of digital carbon emissions.

FIGURES

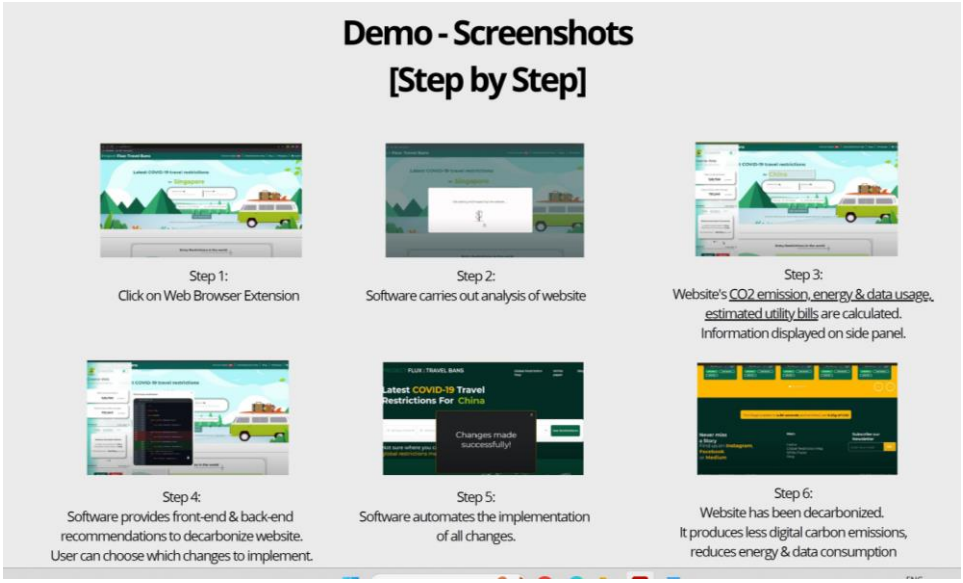


Fig. 1