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## **TITLE**

HTML Shorthand for Faster Web Page Transmission

## **ABSTRACT**

In order to speed loading times of web pages, the size of data transferred across the internet to view a web page is reduced using an OS level translator. HTML code for the web page is translated into HTML Shorthand before transfer that reduces the size of the information. The HTML Shorthand data is converted back to normal HTML code before interpretation by other software such as a web browser.

## **1. BACKGROUND**

### ***Problem or Opportunity***

As more and more people and devices have access to the internet, the speed of data transfer is becoming increasingly important. While the average bandwidth has increased over time, consumers are still struggling with load times for web pages. This increased wait time decreases the satisfaction of the user. A new method is necessary to minimize load times for web pages without relying on the creation of new bandwidth.

### ***Background Publications***

The following publications have attempted to address the issue of slow transmission of HTML code. However the existing publications do not solve the problem by reducing the size of the HTML code.

US Patent Number 7127503 describes an invention for increasing the speed of web page rendering. When processing a request for a web page, an internet server sends a message to the client machine that initiates the rendering process prior to processing the request. This speeds the rendering process, but it does not reduce the amount of data sent to the client machine.

European Patent Number 1125221 improves the execution of HTML code on a server by using parsed HTML. Dynamic and static HTML commands are separated and when data

is requested, the static HTML commands are sent to the requesting party without any interpretation. Dynamic HTML commands are interpreted as normal. This saves the server a great deal of processing power, however it does not directly decrease the page load time for end users and it has no effect on the size of the code.

## **2. SUMMARY OF INVENTION**

### ***Invention Summary***

The Unique OS Code provides a system for reducing the amount of data transferred between two computing machines on a network such as the internet. As a result, the requesting machine is able to receive and display data faster than traditional data transfer techniques.

The Unique OS Code is a language that reduces the size of HTML code by establishing a shorthand version of HTML that can be easily translated by the OS. Common commands in the code are reduced to small binary sequences. Since the code only exists in this shorthand version for transmission purposes, the code does not need to be easily understood by humans and can therefore be significantly smaller in size.

When a computing machine requests a document stored on an internet server, the request includes a string identifying the operating system on the requesting machine. If the operating systems of the internet server and the user machine are capable of interpreting the HTML Shorthand, an HTML Translator module converts the original HTML Code to HTML Shorthand before sending it to the User Machine. An HTML Translator module on the User Machine translates the HTML Shorthand to the original HTML Code for rendering by the Web Browser.

By reducing the size of data for transfer, the speed with which the user receives and views web pages is increased.

### ***Unique Concepts***

The unique concept of this invention is the establishment of HTML Shorthand for decreasing the size of HTML documents for transfer.

## **3. DESCRIPTION OF THE INVENTION**

**Figure 1** depicts the system for implementation of the HTML Shorthand for Faster Web Page Transmission.

The Internet Server is a computing machine that stores and transmits publicly accessible HTML Code.

The User Machine consists of any personal computing device, such as a desktop computer, laptop, or mobile device.

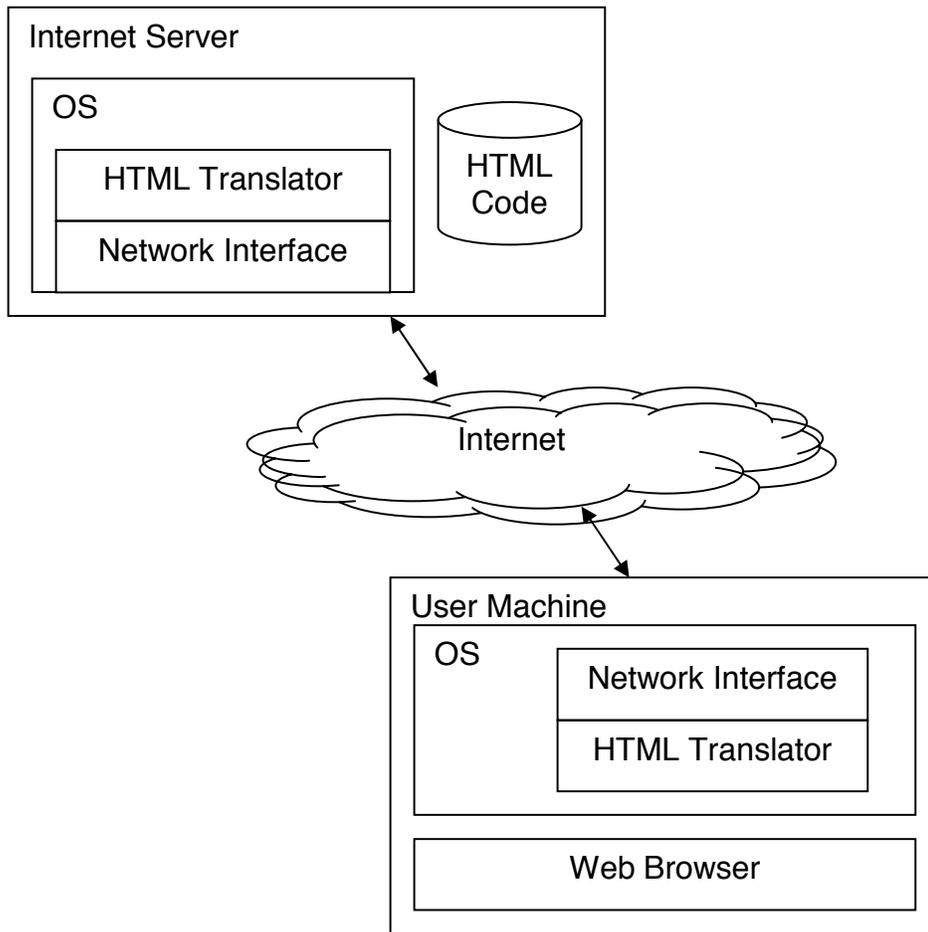
The OS is an operating system, such as Linux, that resides on the Internet Server and the User Machine. The OS manages interactions between hardware, user inputs and applications.

The Network Interface is the software component of the OS that manages the transmission and reception of data over a network.

The HTML Translator is a module within the OS that works closely with the Network Interface. The HTML Translator translates HTML Code to HTML Shorthand. The HTML Shorthand replaces HTML commands with shorter binary sequences that are recognized by the HTML Translator.

The HTML Code is a document, such as a web page, encoded in Hyper-Text Markup Language stored on the Internet Server.

The Web Browser is an application residing on the User Machine. The Web Browser accesses and displays documents stored in a variety of formats, such as HTML Code, to the user.



**Figure 1. System for implementing the HTML Shorthand.**

**Figure 2** outlines the method for implementing the HTML Shorthand for Faster Web Page Transmission.

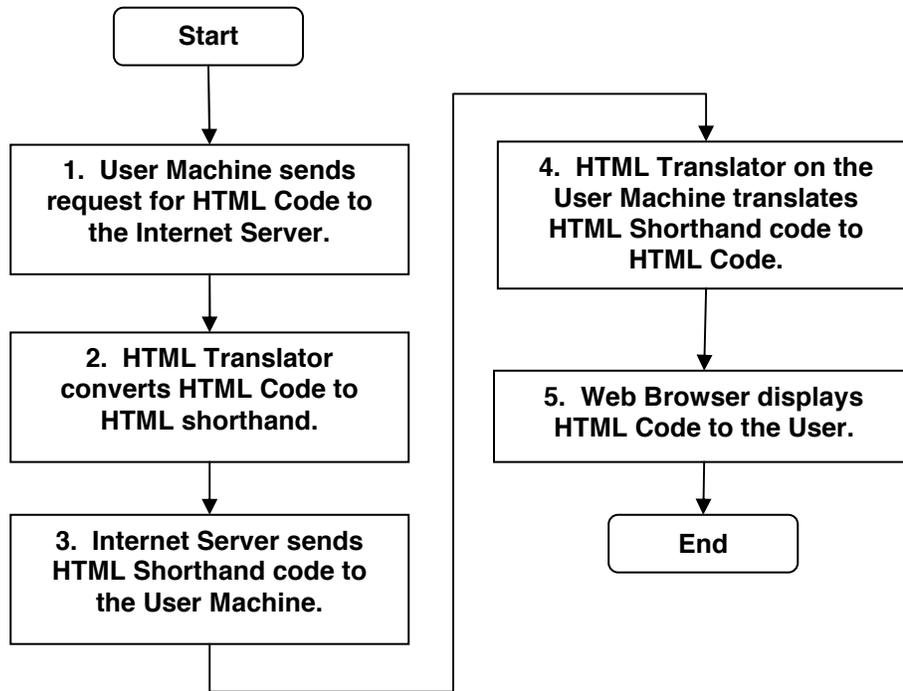
In step 1, the User Machine sends a request for the HTML Code to the Internet Server. This request includes an identification of the OS on the User Machine.

In step 2, the Internet Server recognizes the capabilities of the User Machine OS and the HTML Translator converts the HTML Code into HTML Shorthand code.

In step 3, the Internet Server sends the HTML Shorthand code to the User Machine via the Network Interface.

In step 4, the HTML Translator on the User Machine intercepts the HTML Shorthand code from the Network Interface and translates the HTML Shorthand code to standard HTML Code.

In step 5, the Web Browser interprets and displays the HTML Code to the User.



**Figure 2. Method of implementing HTML Shorthand for Faster Web Page Transmission.**