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Thesis

for

Automated optimization of WordPress websites using plugins

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II.   Abstract

Content Management Systems (CMS) plays an important role when it comes to website development. Because CMSs like WordPress doesn't require their users to have a very technical knowledge if he/she wants to use it to develop websites. Research shows that a website needs to load within 3 seconds, or else 57% of the mobile users would leave the website. Accordingly, it is imperative that the page load time (PLT) is quick. Despite recent statistics on CMSs show that WordPress is the popularly used CMS, the PLT of WordPress is quite an alarming issue as a research done showed that it takes 4.39 seconds to load the website with only just three basic plugins installed. This research project identifies that the optimization that should help improve the performance of a WordPress website while reducing the PLT. The proposed plugin, Optimizo, should be usable by all the users including the non-technical users and not only by the technical users. Optimizo automatically applies the necessary optimizations to the WordPress website upon activation of the plugin. This research project solves the issue of high PLT by minifying the website's HTML, Cascading Style Sheets (CSS) and JavaScript (JS) files, and by merging all the available CSS files into a single style file and the JS files into two separate script files for header scripts and footer scripts. It also contains other methods that would reduce the PLT of the WordPress website. Three tools are used to test the plugin and its impact on a website, the tools are Google PageSpeed Insights, Pingdom Tools and GTmetrix. Results showed that the plugin was able to reduce the PLT of the website by over 10% of the original PLT.

Keywords: WordPress, PLT, Gzip compression, Page optimization, WordPress optimization, Reducing PLT.