

Universiti Teknologi MARA

**SafeSearch – Microcomputer Based
VPN**

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STUDENT DECLARATION

I certify that this report and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledge in accordance with the standard referring practices of the discipline.

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ABSTRACT

In networking, a VPN also known as Virtual Private Network could be described as a private network that uses public network to tunnel the connection from the user end until it reaches the VPN server. VPN allows user to create a secure connection to another network over the internet. VPNs can be used to shield users browsing activity and encrypts data transmitted over the network to prevent sniffing attack. Nowadays, user can either pay a premium price for a good VPN service or risk their privacy using free browser-based VPN. Safesearch is developed to address these issues in mind. With Safesearch, users will not need to fork over their hard-earned money for premium VPN subscription services or expose themselves to targeted advertising when utilizing free browser-based VPN. OpenVPN protocol was used to create the VPN server on a microcomputer called Raspberry Pi. The Software used was mostly open-source except for the VPN client. The hardware cost may vary among online marketplace. After the VPN server was established, tests are carried out to evaluate the functionality and reliability of the VPN server in “real-world” environment. The outcome of the test was positive as substantial amount of participant are confident that Safesearch can secure their connection and protect their privacy when browsing the web. To conclude, both objectives in this project were fully achieved and the scope given was followed thoroughly. In the future, students seeking to create their own VPN server can refer to this project to gain further understanding.

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