Universiti Teknologi MARA

HOMENAS with RASPBERRY PI

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SUPERVISOR'S APPROVAL

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This report was prepared under the supervision of the project supervisor, Nurul Najwa binti Abdul Rahid @ Abdul Rashid. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Computer Science (Hons.) Data Communication and Networking.

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STUDENT'S 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 acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

Home networking is used widely among users. People share data digitally by having a server running nonstop. However, such activity required a lot of electricity. Therefore, home networking can be adapted by using Internet of Thing (IoT). NAS is develop using raspberry pi which consumes less power compared to the traditional server. The raspberry pi has no problem in running non-stop all day because of its electricity efficiency. Only cost less than RM1 per-month, turn it into a powerful server with the lowest cost by being a server. Network Attach Storage (NAS) is developed so that data sharing among users become easier than ever. Without having to move around the physical storage, file sharing become faster. Each user in the household members will have access to their own server. The NAS can be easily being attached by the external storage in case if it required more storage to support users' data. Another thing that makes it more interesting is that it can be a torrent box. Means that users can use the server to download a file using torrent. The NAS has the capability to run the torrent process on its own with notification on telegram bot when the file is finish downloaded. The process of downloading file become more convenient as it consumes less electricity to download file on NAS compared to the personal computer. Moreover, the server has been install with a web server so that the NAS can be used as a streaming platform. People can stream movie anywhere in the house using a laptop or mobile devices. Finally, the NAS can be secured with file encryption so that the privacy of each user can be protected. In conclusion, this particular Network Attach Storage can become a powerful hardware that will make its user's life better.

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