File Sharing System for USB Mass Storage Device using ARM and Linux

Akash M. Jobanputra[1], Vrushali S. Savkar[2] & Saurabh S. Yeolekar[3]

[1] *Department of Information Technology, Matoshri College of Engineering & Research Centre, Nashik, India.*
[2] *Department of Information Technology, Matoshri College of Engineering & Research Centre, Nashik, India.*
[3] *Department of Information Technology, Matoshri College of Engineering & Research Centre, Nashik, India.*

ABSTRACT

Generally, we used to transfer data between two pen drives by using laptops or desktops. But it is not always possible to carry such a large size device to a particular location. So to overcome this problem, we are designing a system which is more compact to carry anywhere. With the help of this project we can not only transfer the data but also we can see the transfer of particular files which we want to send on the LCD display. In our project we are transferring the data between two pen drives without using any computers or laptops. We have designed a project which is known as pen drive to pen drive data transfer. The system can be altered for more secure and safe data transfer so that it can be used to exchange data by not leaving any identifiable trace.

Keyword : - *ARM, LINUX, USB, LCD, Display, Data transfer and Pen Drives.*

1. Introduction

Universal Serial Bus (USB) is the most popular mode of data transfer and connection in today's generation. Due to this, the scenario of getting data from one storage device to another is very common. To achieve this we've to use a computer (desktop or laptop). By the usage of computer for such a simple task very high electric power and high computational power is utilized. To avoid this small dedicated hardware can be made for the same where there is less consumption of power and resources. This small hardware can be any ARM based processor based on Cortex architecture. This RISC machines can be low powered but high tolerant to change and specification. Due to its low powered nature it can be powered by Li-on battery.

2. Literature Review

In year 2010, Zhang Xiaoyan, Tie Yong, Li Dong published a paper titled Design and Realization of an Embedded Storage System Based on LPC2387 Microprocessor under publication of ICCASM. In this paper they implemented a host in embedded device. The main advantage was reducing resource consumption by using low powered device as a host, the downside of the same was that it is not suitable for high-rate data transfers. [1]

In year 2013, Priyanka Bapat, Neha Lodh, Ratna Polas, Swati Pulkurte, Prof. Rupali Dalvi published paper titled USB TO USB Data Transfer without Connecting to PC under publication of IJERT. In this paper usage of UART Bridges and USB to Serial converters was taken into consideration for efficient communication between storage devices it achieved efficiency in file transfer. The downside of this was it had high power consumption, complex, less scope for improvement. [2]

In year 2014, Sonal N. Kawale, Rahul Dhuture published paper titled USB TO USB Data Transfer without Connecting to PC Using ARM Processor under publication of IJERA. In this paper usage of a board which can handle a Linux Kernel was in prime focus. Due to usage of Linux, scope can be increased without any changes in hardware. The downside was that it had low resources. And cost is very high because they had used Samsung S3C2440 processor. [3]

In year 2014, Khakal S.M., Awari M.V., Gawner A.U published paper titled USB Slave-to-Slave File Transfer Device under the publication of ICMSET. In this paper prime idea was usage of USB controllers to facilitate file transfer and for more efficiency in file system level functioning. Used AVR microcontroller to handle the user interface. The downside of this was deeply involved with limited functionality and scope also it failed for handling heating issue. [4]

3. CONCLUSIONS

The developing devices should have efficient management of heat dissipation, less usage of resources that are at disposal. Also this might be helpful for reducing power consumption with usage of battery and low-powered development board.

4. REFERENCES

[1] Zhang Xiaoyan, Tie Yong, Li Dong," Design and Realization of an Embedded Storage System Based on LPC2387 Microprocessor", ICCASM, 2010.

[2] Priyanka Bapat, Neha Lodh, Ratna Polas, Swati Pulkurte, Prof. Rupali Dalvi," USB TO USB Data Transfer without Connecting to PC", IJERT,Feb-2013.

[3] Sonal N. Kawale, Rahul Dhuture,"USB TO USB Data Transfer without Connecting to PC Using ARM Processor", IJERA, 2014.

[4] Khakal S.M., Awari M.V., Gawner A.U, "USB Slave-to-Slave File Transfer Device", ICMSET, 2014.