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Transferring the Data between One USB to another USB without Using a Computers or Laptops

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ABSTRAC: In this project, we are transferring the data between one pen drive to another pen drive without using a computers or laptops. Normally, we use the computer or Laptop in order to send the data from one pen drive to other.. But it is difficult to carry such a large size device to the particular location and data transfer is done by using a computer or laptop means it consumes more power. So to overcome this problem, we are designing a hardware which is more compact to carry at any place.

KEYWORDS*:* Data Transfer, USB Port, ARM Processor, LED.

I. INTRODUCTION

Under normal circumstances, to copy or move data from one mass storage device to another, the computer/Laptop is used as an intermediate device. This system describes a device which can eliminate the use of a computer/Laptop for transferring the data of one USB flash drive to another. The methodology shows that the system can be used to do data communication between two USB mass Storage devices without using computer/Laptop. This means this system can also transfer data between digital-cams, phone memories and other similar devices. Consider a USB flash drive in which there is a large amount of data and there is urgent need to copy this data into another flash drive. This can be done without any hassles by utilising this gadget. As a solution to the USB Flash drive disadvantage, the system aims to develop a device that allows data transfers between two USB devices without the need for Laptop and computers.

LITERATURE SURVEY

A Pen drive is an external device which is used to store the data and also help us to move files or folders from one central processing unit to another; hence they are in addition called as USB flash drives. An USB flash drive includes flash memory which is interfaced with integrated Universal Serial Bus (USB). USB flash drives are not fixed and rewritable, and physically much minor than a disc. Since, to copy data from one Pen drive to another pen drive, third medium is needed and pen drives are USB slave device, since USB slave devices cannot directly converse with another USB slave devices

HARDWARE:

- ARM 11 (Raspberry pi Board)
- SDCARD
- Power Bank
- 3.2" inch Touch screen
- USB Pen Drives

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SOFTWARE:

- Embedded Linux
- Raspbian Operating System
- Qtopia GUI
- C++ language

II. DESIGN CONSIDERATIONS

ARM 11 (Raspberry pi Board):

The ARM architecture is developed in such a way that where it is supporting so many implementations across a wide spectrum of performance points. Hence in the developing technology ARM architecture is considered as the dominant architecture across many market segments. Since the architectural simplicity of ARM processors has traditionally led to very small implementations, and this small implementations allow devices to consume very less power. Because of very less size, good performance, and very low power consumption ARM architecture has made its own place in the today's developing technology.

ARM Registers

ARM processor is built with 31 general-purpose 32-bit registers, but only 16 of these registers are visible. The other registers are used in order to speed up the exception process. All the registers specified in ARM instructions can address any of the 16 visible registers. This main bank of 16 registers is used by all unprivileged code. These are also called as user mode registers. Since user mode is different from all other modes as it is unprivileged

ARM Architecture comparative analysis

Parameter	ARM7	ARM9	ARM10	ARM11
PIPELINE DEPTH	3 Stage	5 Stage	6 Stage	8 Stage
TYPICAL MHz	80	150	260	335
Mw/MHz	0.06	0.19	0.5	0.4
MIPS/MHz	0.97	1.1	1.3	1.2
ARCHITECTURE	Von Neumann 8x32	Harward 8x32	Harward 16x32	Harward 16x32

III.SYSTEM DESIGN

SYSTEM ARCHITECTURE AND PROGRAM FLOW

As introduce, The device facilitates transfers the files from one USB drive to another USB drive using the Raspberry pi Board without using Personal Computer (PC). The system allows the user to select files for copying from a source USB drive to destination drive. Figure shows in below the system setup (major modules and sub modules

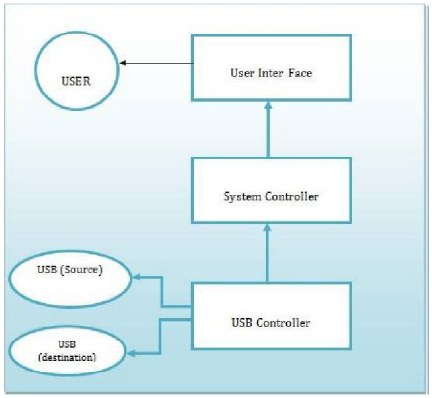

Fig. SYSTEM ARCHITECTURE AND PROGRAM FLOW

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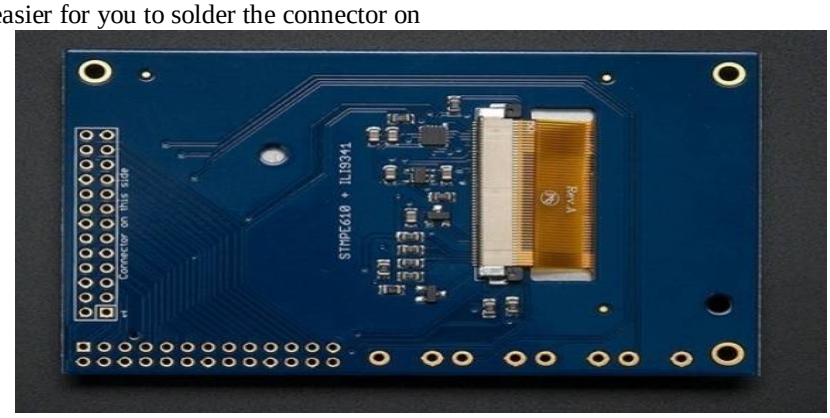
SYSTEM ASSEMBLY

Before we starting to work on this project, check that you have the parts you need: an assembled Raspberry Pi TFT plate with the 3.2" screen, extra tall female header and the 2x13 IDC socket. Note that it is normal for the screen to be 'loose' - this is so it's easier for you to solder the connector on



Check also on the back that the TFT is attached and that the flex connector is seated into the onboard FPC socket. The easiest way to attach the header is if you have a Raspberry Pi as a 'stand' - make sure its Powered off & unplugged!

Plug the extra tall female header into the GPIO port on the Pi as shown. Make sure it's seated Nice and flat

Place the Raspberry Pi TFT shield on top so all the pins stick through the connector on the side. Gently flip the TFT so it's off to the side and won't be in your way while you solder

Heat up your soldering iron, and grab some solder. Start by tack-soldering one of the corners while pressing on the plate to make it sit flat. Once you have one or two pins done you can continue to solder each of the pins Line up the screen on the white outline, make sure there's some space from the header you just soldered in and the metal sides of the screen. As long as you don't really press down on the screen you can reposition it once or twice.

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Once you have the screen so it is definitely not touching the header, you can gently press on the sides to secure the tape. If the protective plastic cover is still on the screen you can press it against a clean table from above. That way you will really securely attach it!

If you want to attach an Adafruit Cobbler or similar, you can solder in the optional 2x13 IDC on the bottom of the screen as shown here. This will keep the top side clean and flat. Solder in all 26 pins. The picture shows a 2x13 male header. We've since updated this product to include an IDC socket so it's easier to add a cobbler. Both will work, though! You can attach a 26-pin IDC cable just makes sure the pin 1 indicator is on the right as indicated in this photo - there's also pin1 marking on the PCB!

IV.RESULTS AND CONCLUSION

Analysis of Transfer Speed

The results from the transfer speed test show that increasing the files sizes requires more time .Table show the speed test.

File Name	Size	Speed of Transfer
A	2 MB	0.2 S
B	6 MB	0.6 S
C	50 MB	1.4 S
D	200 MB	2.2 S

V. CONCLUSION

The project “Pen drive to Pen drive Data Transfer Without using Computer/Laptop” will be successfully designed and tested. It will be developed by integrating features of all the hardware components and software used. Secondly, using highly advanced ARM board and with the help of growing technology the project will be successfully implemented

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