

# M2SCREEN

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## ABSTRACT

A new design scheme of the Touch screen based Multitasking system applied to all people. The development of the M2Screen is based on the software-hardware platform on ARM11 (Raspberry pi Board), using TFT For touchscreen technologies. It has advantages of high performance-cost ratio, low power, high reliability and friendly user interface. This paper introduces two sections one is hand held device section and other is main section. It is a portable touch screen used as an alternative to mobile screen, pc and tablets. Most of us when we get up are used to look at our phone check messages , emails and other stuff. In doing so we forget to do our daily chores and get late for our jobs and college. it is designed to do all the multitasking and also save your time. Would not it be easier if you could do all such things along with brushing or showering or cooking. M2 does just that.

**Keywords:** 7 inch touch screen, display, Raspberry pi , Raspberry pi camera.

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## I. INTRODUCTION

The Raspberry Pi is a series of small single-board computers developed in the United Kingdom by the Raspberry Pi Foundation to promote the teaching of basic computer science in schools and in developing countries. The original model became far more popular than anticipated, selling outside of its target market for uses such as robotics. Peripherals (including keyboards, mice and cases) are not included with the Raspberry Pi. Some accessories however have been included in several official and unofficial bundles. it incorporates the raspberry pi technology along with previously designed modules that include weather, email account, messages, camera, document modifiers , Internet access all this a touch screen and a reflective screen that acts as a mirror. As of right now we are ready to work for these modules but if given time we want to develop it a bit further.

## II. METHODOLOGY

Here's my latest DIY project, a M2SCREEN based on a Raspberry Pi. It's called – wait for it – the M2SCREEN. It makes use an Adafruit touchscreen interface. It's more of a proof of concept to see what could be done with a relatively small form factor with off-the-shelf (cheap) components. I

don't expect everyone to be rushing out to build this one, but I had great fun in doing it, as it builds quite nicely on my previous projects, especially the Lapse Pi, a touchscreen time-lapse controller, and uses most of the same hardware.

What makes this different from the Timelapse controller is the addition of a a SIM900 GSM module, which is connected via UART to the Raspberry Pi. Also, I got myself a LiPo battery that would fit nicely between the TFT screen and the Raspberry Pi, so it could be used standalone, without any wires hanging off it whatsoever.

## III. OBJECTIVE

1. To save time and manage it properly.
2. To be used in colleges for timely updates from all departments on a single screen.
3. Ease of access while at home.
4. To be used by corporate people and moms for daily updates in their respective fields while doing other daily chores too.

We came across this idea while searching across the net for various innovative ideas and projects. We wanted to do

something which could make our life easier after all that's what engineers are for. There are lot of raspberry pi projects that consisted of using mobile as displays or lcd screen. Our idea incorporates all that.

#### IV. SYSTEM ARCHITECTURE

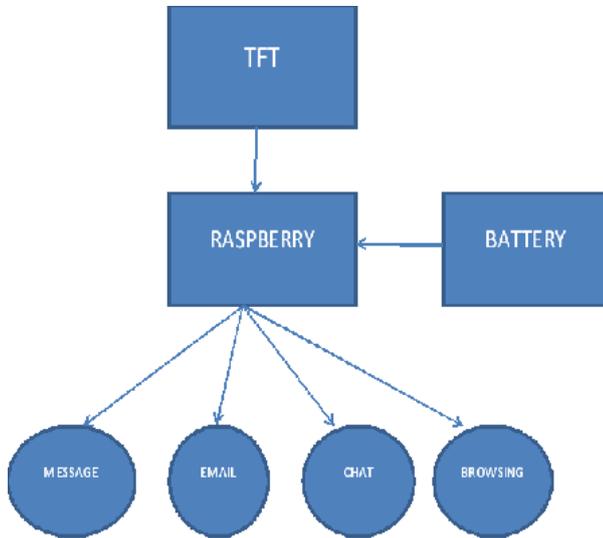


Fig 1. System architecture

#### V. HAEDWARE USED

##### 1. 7 inch touch screen display.

The 7" Touchscreen Monitor for Raspberry Pi gives users the ability to create all-in-one, integrated projects such as tablets, infotainment systems and embedded projects. The 800 x 480 display connects via an adapter board which handles power and signal conversion. Only two connections to the Pi are required; power from the Pi's GPIO port and a ribbon cable that connects to the DSI port present on all Raspberry Pi's. Touchscreen drivers with support for 10-finger touch and an on-screen keyboard will be integrated into the latest Raspbian OS for full functionality without the need for a physical keyboard or mouse.

##### 2. RASPBERRY PI

Just over seven million Raspberry Pis have been sold around the world. That makes this credit card-sized PC one of the most successful computers the UK has ever made. It's quite amazing really, that a tiny UK charity, dedicated to making computing and computer science affordable and available to people from all walks of life, should end up with such an incredible success story on their hands. You can learn more about the Raspberry Pi Foundation's charitable and educational aims at raspberrypi.org, but regardless of what

you want to do with your Raspberry Pi – be it for fun, for education, or as a proof of concept for a multimillion-dollar invention – The Official Raspberry Pi Project Book has something to inspire, help, and guide you on your journey.

##### 3) Pi Camera

The Raspberry Pi Camera Module v2 replaced the original Camera Module in April 2016. The v2 Camera Module has a Sony IMX219 8-megapixel sensor (compared to the 5-megapixel Omni Vision OV5647 sensor of the original camera).

The Camera Module can be used to take high-definition video, as well as stills photographs. It's easy to use for beginners, but has plenty to offer advanced users if you're looking to expand your knowledge. There are lots of examples online of people using it for time-lapse, slow-motion, and other video cleverness. You can also use the libraries we bundle with the camera to create effects.

You can read all the gory details about IMX219 and the Exmor R back-illuminated sensor architecture on Sony's website, but suffice to say this is more than just a resolution upgrade: it's a leap forward in image quality, colour fidelity, and low-light performance. It supports 1080p30, 720p60 and VGA90 video modes, as well as still capture. It attaches via a 15cm ribbon cable to the CSI port on the Raspberry Pi.

#### VI. SOFTWARE USED

Raspbian is the recommended operating system for normal use on a Raspberry Pi.

Raspbian is a free operating system based on Debian, optimised for the Raspberry Pi hardware. Raspbian comes with over 35,000 packages: precompiled software bundled in a nice format for easy installation on your Raspberry Pi.

Raspbian is a community project under active development, with an emphasis on improving the stability and performance of as many Debian packages as possible.

#### INSTALLING OPERATING SYSTEM IMAGES

This resource explains how to install a Raspberry Pi operating system image on an SD card. You will need another computer with an SD card reader to install the image.

We recommend most users download NOOBS, which is designed to be very easy to use. However, more advanced users looking to install a particular image should use this guide.

## DOWNLOAD THE IMAGE

Official images for recommended operating systems are available to download from the Raspberry Pi website Downloads page.

Alternative distributions are available from third-party vendors.

If you're not using Etcher (see below), you'll need to unzip .zip downloads to get the image file (.img) to write to your SD card.

## WRITING AN IMAGE TO THE SD CARD

You will need to use an image writing tool to install the image you have downloaded on your SD card.

Etcher is a graphical SD card writing tool that works on Mac OS, Linux and Windows, and is the easiest option for most users. Etcher also supports writing images directly from the zip file, without any unzipping required. To write your image with Etcher:

Download Etcher and install it.

Connect an SD card reader with the SD card inside.

Open Etcher and select from your hard drive the Raspberry Pi .img or .zip file you wish to write to the SD card.

Select the SD card you wish to write your image to. Review your selections and click 'Flash!' to begin writing data to the SD card.

## VII. ADVANTAGES

1. RELIABLE
2. LOW COST
3. FAST PROCSSING SPEED
4. MULTITASKING
5. EFFICIENT

## VIII. CONCLUSION

This paper proposes a set of Intelligent and system based on TFT. We designed and developed a prototype system that allows user to make various task by them and it solved the problem which is faced by the student and business person in the attempt to organize the schedule more efficiently skilled and capable. Furthermore, it also can improve human resource utilization and speed up the

management in task. Besides that, it reduces the lateness and the error on lagging work

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