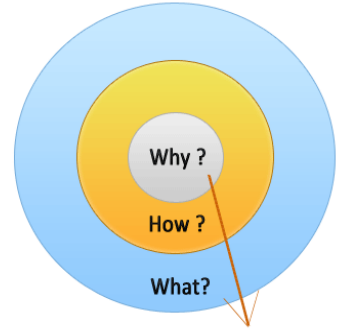# iRaspberryPi

http://iRaspberrypi.co.in

Motive

WHY ?

I would like to see kids & young graduates developing nice pi prototypes

HOW ?

● by providing platform to learn / learn from others
● demo/experiment different Pi-recipes

Dream - iRaspberryPi

some monetary info...

      * venue charge

      * projector

      * i am looking for sponsor (to get rid of venue charges) also..

 I am planing to make this group as non profit organisation.

 extra earning will be utilised for

      * meetup.com charges

      * buying any equipment / modules (which will be used by group member only)

there are lots of plan but, need support from group.

      * member can join "the leadership team"

Today's Session :- 150 INR

Introduction - PiL

1. Name
2. What you do for living ?(students, don't worry)
3. Do you own Pi? Any pi projects ?
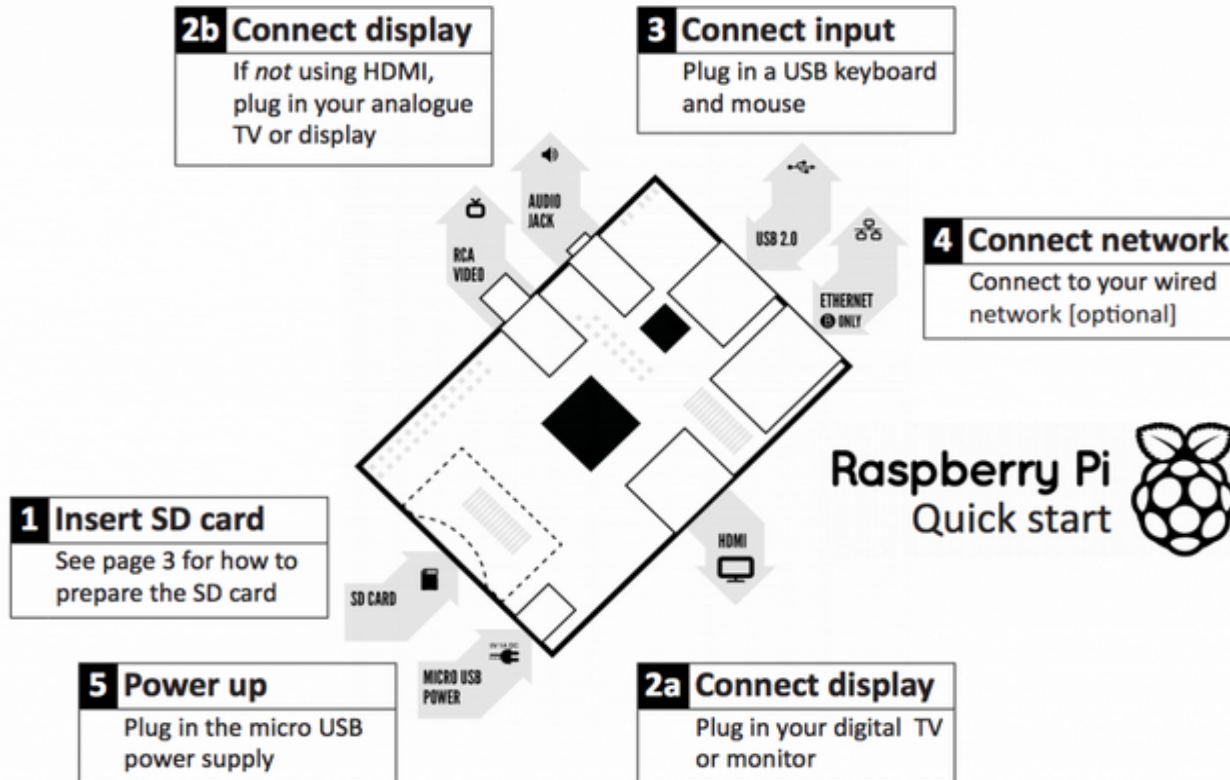
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Plan for next 2 Hrs

- Intro to RPi.
- What all you can (can't) do with RPi ?
- Setup RPi & Pi software.
- simple HW/SW project - LED,Buzzer,Temp.
- sensor, webiopi
- RPI Camera module
- PiFM
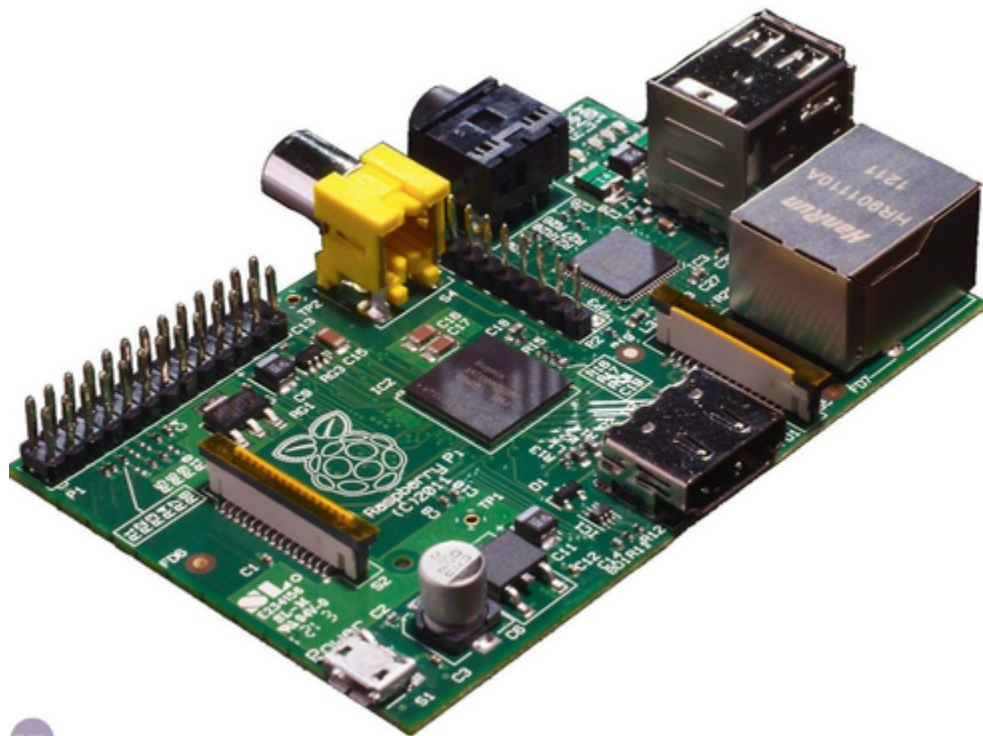- hands on with RPi
- give feedback.

Intro to RPi

2b Connect display
If *not* using HDMI, plug in your analogue TV or display

3 Connect input
Plug in a USB keyboard and mouse

4 Connect network
Connect to your wired network [optional]

1 Insert SD card
See page 3 for how to prepare the SD card

5 Power up
Plug in the micro USB power supply

2a Connect display
Plug in your digital TV or monitor

AUDIO JACK

RCA VIDEO

USB 2.0

ETHERNET @ ONLY

HDMI

SD CARD

MICRO USB POWER

Raspberry Pi
Quick start

A Cheap Computer, size of credit card

1

Intro to RPi

RPi Specification

Raspberry Pi - Model B - 512MB

- **SoC -** Broadcom BCM2835
- **CPU -** 700 MHz ARM1176JZF-S core (ARM11 family)
- **GPU -** Broadcom VideoCore IV, OpenGL ES 2.0, MPEG-2
- **Memory** - 512MB
- **USB 2.0** - 2 Ports
- **Video Outputs** - HDMI and Composite RCA
- **Audio Out** - 3.5 mm jack and via HDMI
- **Storage** - SD Card Slot supports Upto 32GB
- **Network** - 10/100 Ethernet (RJ45)
- **Power Source** - 5Volt (Micro USB)
- **Size** - 85.60 mm × 53.98 mm
- **Weight** - 45g
- **Operating Systems** - Debian Linux, Raspbian OS, Fedora, Arch Linux ARM, XBMC

blank

What all you can do with RPi ?

- A General purpose computer.
- A media center
- Learn to program
- Learn electronics
- Take Photos
- Robotics
- Network Storage
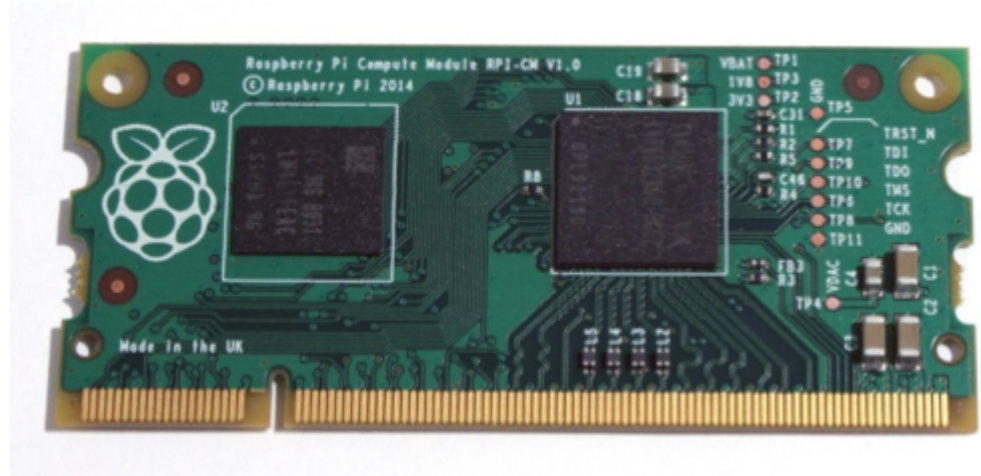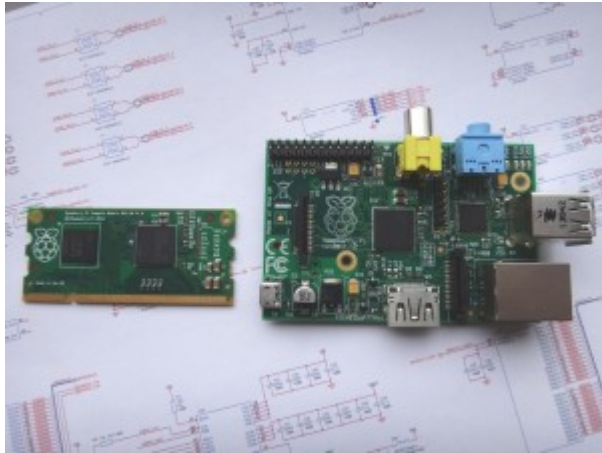- Retro games console
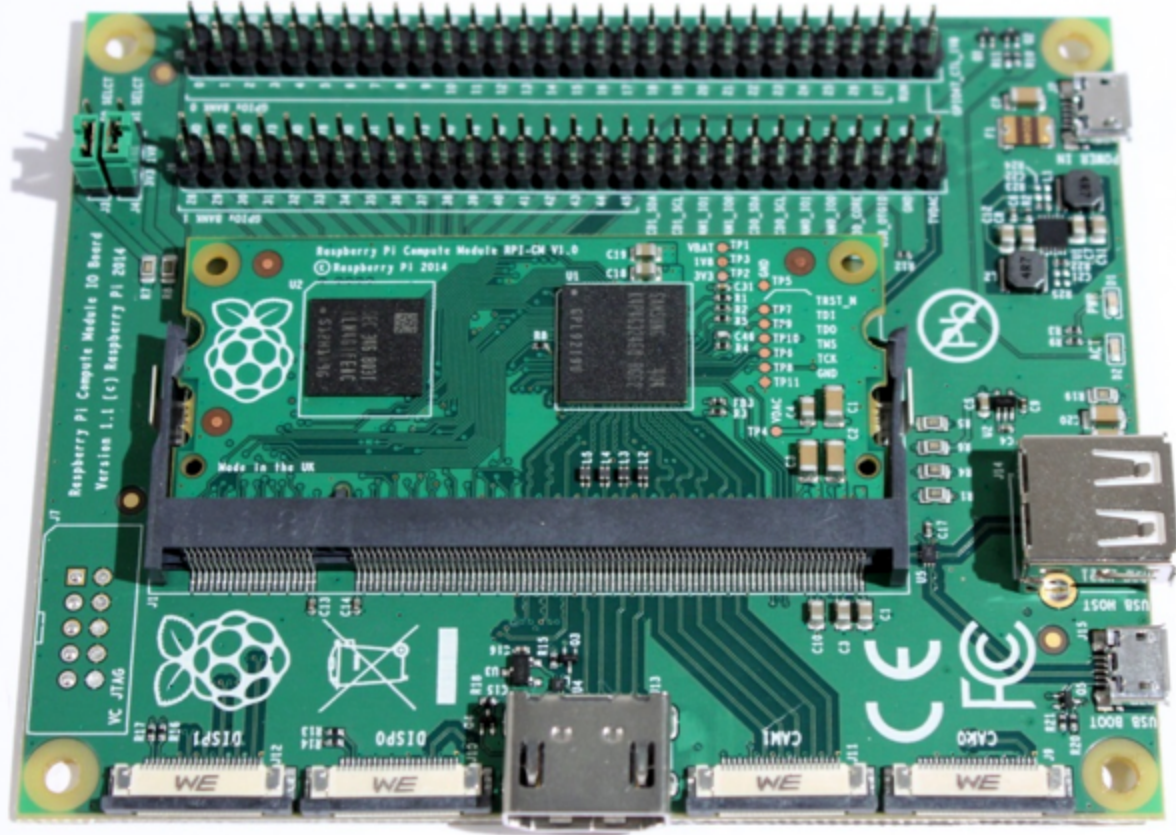- Weather Station

Raspberry Pi TRUTHs

- It Supports 1080p video.
- It's easy to overclock.
- It's a complete Linux machine.
- It's a Media Center with AirPlay.
- It is great for learning to code.
- It's a fun educational PC for little kids.
- It's gaming machine.

What all you can't do with RPi ?

- It can't run x86 operating systems. e.g. windows & Linux distros.
- Some Application which require high demands on CPU.
- Model B took 107ms to complete one calculation of the purely synthetic: prime number test, a mid-range desktop Core 2 Duo E8400 took only 0.85ms
- It can work as personal computer, but can't replace it.

RASPBERRY PI COMPUTE MODULE

Let's start RPi

- pi store
- SCRATCH
- XBMC

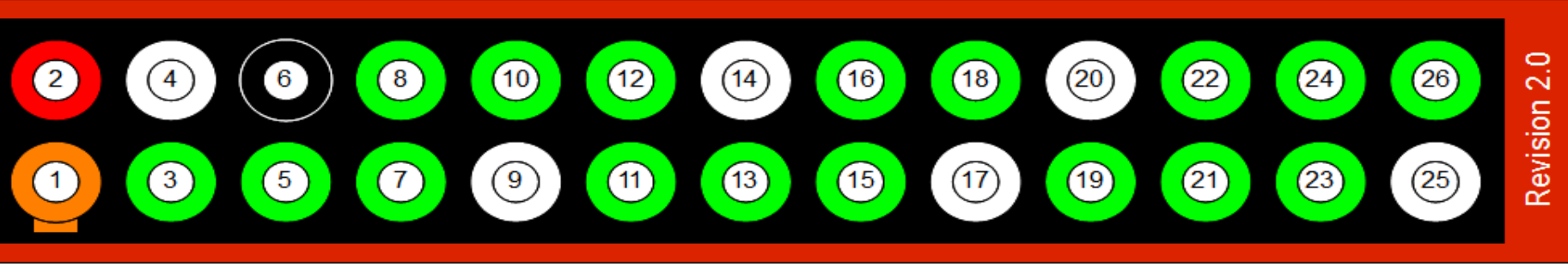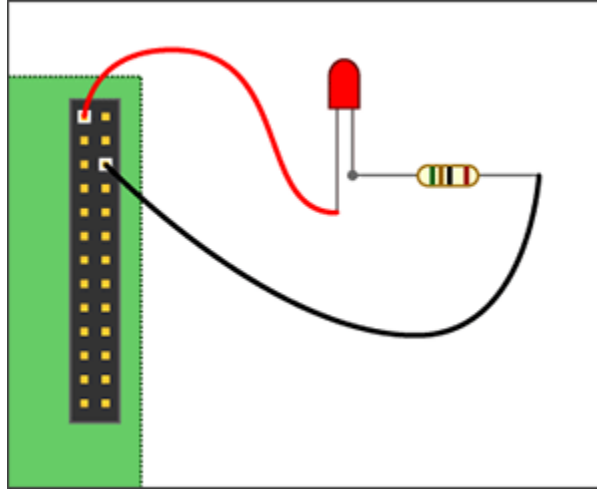# Caution

we will see...

- LED on & off - both (cli & web)
- LED blink
- Temperature sensor
- PiFM

GPIO header raspberry pi

Pin	Label	Function
2	5V	
4	5V	
6	Ground	
8	GPIO14	UART0_TXD
10	GPIO15	UART0_RXD
12	GPIO18	PCM_CLK
14	Ground	
16	GPIO23	
18	GPIO24	
20	Ground	
22	GPIO25	
24	GPIO8	SPI0_CE0_N
26	GPIO7	SPI0_CE1_N

Pin	Label	Function
1	3V3	
3	GPIO2	I2C0_SDA
5	GPIO3	I2C_SCI
7	GPIO4	GPCLK0
9	Ground	
11	GPIO17	
13	GPIO27	
15	GPIO22	
17	3V3	
19	GPIO10	SPI0_MOSI
21	GPIO9	SPI0_MISO
23	GPIO11	SPI0_SCLK
25	Ground	

Revision 2.0

Simple HW/SW project

sudo raspi-config

Camera Module

Hands on with RPi

Feedback

References

- http://www.raspberrypi.org/
- http://pibeginners.com/
- http://www.codecademy.com/
- http://makezine.com/projects/raspberry-pirate-radio/
- http://www.icrobotics.co.uk/wiki/index.php/Turning_the_Raspberry_Pi_Into_an_FM_Transmitter