

Experiment no :- 1

Aim :- study of Raspberry - Pi, Beagle board, Arduino and other micro controller

Theory :-

Study of Raspberry Pi3:-

The Raspberry Pi is a series of small single-board computers developed in UK by Raspberry Pi foundation to promote teaching of basic computer science in schools & in developing countries.

A Raspberry Pi zero with smaller size & reduced I/O & general-purpose I/O capabilities was released in Nov 15 for US\$5. Raspberry Pi 3 model B was released in Feb 16 & has on board Wi-Fi, bluetooth & USB host capabilities. Processor speed ranges from 700 MHz to 1.2GHz for Pi3, on board memory ranged from 256 MB to 1GB per

Raspberry Pi 3 Model B :-

In 2006, early concepts of Raspberry Pi were based on Atmel ATmega844 microcontroller. The computer is inspired by Acorn's BBC micro of 1981. The first ARM prototype version of computer was mounted in package same size as USB memory stick.

Study of Beagle Board :-

The Beagle Board is low-power, open source single board computer produced by Texas Instruments in association with Digi Key & Newmarket element 14. The board was developed by a small team of engineers as an educational board that could be used in colleges around the world.



Fig.1. Raspberry Pi3 Kit



Fig.2.Beagle Bone Kit



Arduino Kit Fig.3.

to teach open source hardware, software capabilities. The board was designed using cadence orCAD for schematics & cadence allegro for PCB manufacturing; no simulation software was used.

Study of Arduino :-

The Arduino project started at Interaction Design Institute Ivesa, Italy.

The initial Arduino core team consisted of Massimo Banzi, David Cuatrecasas, Tom Igoe, David Mellis but Barragan was not invited to participate.

Adafruit Industries, a New York City supplier of Arduino boards, parts & assemblies estimated in mid-2011 that over 30,000 official Arduinos had been commercially produced & in 2013 that 700,000 official boards were in users' hands.

In April 2017, Wired reported that Musto had "fabricated his academic record on his company's website, personal linked in accounts & even an Italian business doc, Musto was until recently listed as holding a PhD from Massachusetts Institute of Technology.

Arounded that same time, Massimo Banzi announced that Arduino foundation would be "a new beginning to Arduino" but a year later, foundation still hasn't been established & state of project remains unclear. Arduino intends to continue to work with all technology vendors & architectures.

Conclusion :-

Thus, we have studied history of Raspberry Pi, Beagle Bone and Arduino.