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Experiment 1.

Aim - Study of Rasberry - Pi, Beagle board, Arduino and other micro controller.

Theory -

Study of Raspberry Pi 3.

The Rasberry 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 Computers Science in schools and and in Developing countries. The original models became far more populars than anticipated, selling outside of its target market, for uses such as computer. By November 2016 they hold sold 11 million units.

The First generation was released in February 2012, followed by the smaller simpler and cheaper models. A in 2014, Foundation released A board with a Improved design, Raspberry pi 1. models B+. These boards are approximately credit-card sized and represent the Standard mainline from factors. Improved A+ and B+ models were released A year later.

History and Elevation -

In 2006, early concept of Raspbery pi, were based on the Atmel ATmega 644, microcontroller. Its Schematics and PCB, layout are publicly availables. Foundation truetee Elben Upton assembled a group of inspired by Acorn's BBC micro of. 1981. models A, model B and model B+. names are references to the original models of the British educational BBC micro. Computer, developed by Acorn computers. The First ARM Prototype version of the Computers was mounted in a package. Same size as a USB memory Stick. It had a USB port on one end and. HDMI port on the other.

Study of Beagle Board.

The Beagle Boards is a low-Power. open-source Single board Computer produced by Taxas Instruments in a. association with Digi-Key and Newark element14. The Beagle Board was also. designed with open source software. Development in mind, and as a way of Demonstrating the texas instruments OMAP3530 System on a chip.

The board was developed by small team of engineers as a educational boards that could be used in colleges around the word to teach open sources hardware and software capabilities. It also sold to public under the creative commons sheare-like license. The board was Design using Cadence orCAD for Schemantics and Cadence Allegro for PCB manufacturing, no simulations software was used.

Study of Arduino.

The Arduino project started at the Interaction Design Institute Ivera (IDII) in Ivrea, Italy. At that times, the students used to a BASIC Stamp microcontroller at a cost of $100, a considerable expense for many students. In 2003 Hernando Berrange created the development platform, wiring as a master's thesis project a IDII, under the supervision of massimo Banzi and Casey Reas, who are known work on the Processing languages

The project goal was to create simple, low cost tools for creating digital projects by non-engineers. The writing platforms consisted of a printed circuits board (PCB) with an ATmega168, microcontroller, an IDE based on processing, and library functions to easily program the microcontroller.

In 2003 massimo Banzi, with David, mellis, another IDII Students, and David Cuartielles, added work supported for the cheaper ATmega8 microcontroller to writing, But instead of continuing the work on writing they forked the projectand renamed it Arduino.

The Initial Arduino core team consisted of massimo Banzi, David Cuartielles, Tom Igoe, Gianlucamartino, and David mellis, but Barragan was not invited to participates.

Conclusion → Thus, we have studied, history Raspberry Pi, Beagle bone and Arduino.