**Almost every electronic product needs a “brain” of some sorts to control the various product functions.**

**The continuous advancement in technology has given us a revolutionary strength of Microcontrollers. Consumer products have evolved over the last few decades to use microcontrollers (small, low-powered computers) in applications from toasters to alarm clocks. These devices allow for some intelligence to be programmed into electronics, appliances, and other products, allowing for better power management or additional features. There are many uses and great potential for these microcontrollers. One such microcontroller we are here taking about is Arduino Portenta H7**

As we know about Aurdino. It is well known brand which makes designs and manufactures programmable electronic boards for Iot industries. It is designed to make electronics more accessible to artists, designers, hobbyists and ayone interested in creating interactive objects or environments. They make variety of Microprocessors and controllers and day by day. They introduce new products.

Now, Aurdino is coming up with new Microcontroller Portenta H7 module which is designed for demanding industrial applications, AI edge processing, and robotics. They have done many upgradation in this module which allow us to run tasks parallel. It can run Arduino code, Python, and Javascript.

**FEATURES-**

1.***Graphics Processing Unit:-***

A graphics processing unit (GPU) is a specialized electronic circuit designed to rapidly manipulate and alter memory to accelerate the creation of images in a frame buffer intended for output to a display device. GPUs are used in embedded systems, mobile phones, personal computers, workstations, and game consoles.

They have **on-board GPU, the Chrom-ART Accelerator**. This GPU unit will be having a dedicated JPEG encoder and decoder. It can help us to connect an external monitor and building up our own embedded computer with our own interface.

2.***Connectivity:-***

It will be coming with an onboard wireless module which will support WiFi and Bluetooth. Other than this it also have wired connectivity options including UART, SPI, Ethernet, and I2C among others.

3. ***USB-C Connector:-***

It  is a 24-pin USB connector system, which is distinguished by its two-fold rotationally-symmetrical connector.

It will allow USB-C connector which will be benificial as new smartphones and and laptops are coming with a USB-C port

4. ***Crypto Chip:-***

A secure cryptoprocessor is a dedicated computer on a **chip** or microprocessor for carrying out **cryptographic** operations, embedded in a packaging with multiple physical security measures, which give it a degree of tamper resistance.

This module comes with an onboard crypto authentication chip which gives the device a high degree of tamper resistance.

5. ***Configuration Options:-***

It will be available in different configuration options that you can choose depending on your budget and needs. We can also upgrade the default configuration  to get a more powerful board.