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Computer Engineering.

i) Actuator: This is a part of a device or a machinery upon which a movement and guidance of an apparatus is dependent on

Sensors: This is a device that helps detect different actions and gestures of the surrounding.

Examples of Sensors

* Biosensors

EMG sensors: Also known as electromyography, it is a method to detect evaluate motor unit action potential activity in a muscle region

* Electrical Sensor (electrocardiography or ECG)

Heart rate sensor: These sensor helps to track and display heart rate within a particular period of time

* Optical Sensor

Finger print sensor: These sensor helps to scan the finger, and generate a particular pattern of ridges and valleys on the finger, known as finger print

* Thermal Sensors

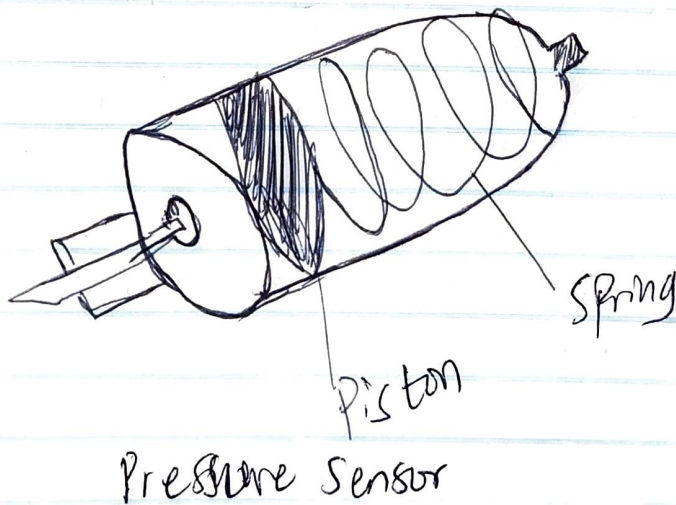
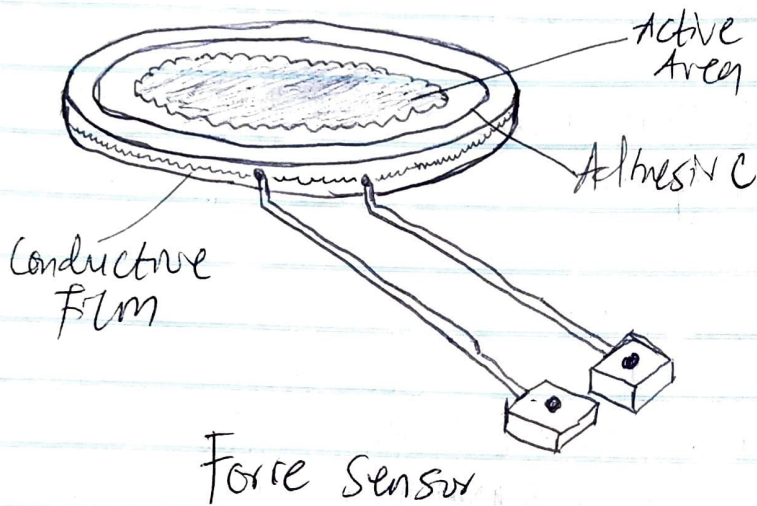
Thermometer: This is used to measure the degree of hotness or the degree of coldness of a body.

Examples of Actuators.

- Hospital lifts: This lift helps to move patients ~~one~~ from one place to another within the hospital
- CT, MRI and PT scanners: These instruments are scanning devices. They are used for examination and diagnosis purposes.
- Smart robotic arms: These micro arms are made of polyimide material. They are suitable for the construction

of Artificial Muscles

2)



- Primary Element
- Variable Element
- Manipulation Element
- Data transmission element
- Data Presentation element

THERMOMETER

A Thermometer is a device that measures temperature or a temperature gradient (the degree of hotness or coldness of an object).

In a thermometer, there are two major components, which are temperature sensor, ~~and~~ a well calibrated scale.

Example of the part of a thermometer that serves as a temperature sensor is the mercury in a bulb. Note, this deals with mercury related thermometers or a pyrometric sensor which deals with an infrared thermometers.

Thermometers are widely used technology, used in, medicine, meteorology and in scientific research.

Some of the principles of the thermometer were known to philosophers of two thousand years ago.

There are various types of thermometer

Electronic ear thermometer

Forehead thermometer

Plastic strip thermometer

Pacific thermometer

Glass thermometer

Mercury thermometer.

STETHOSCOPE

The stethoscope is an acoustic medical device for auscultation, or listening to internal sounds of an animal or human body. It typically has a small disc shaped resonator that is placed against the skin, one or two tubes connected to two earpieces. A stethoscope can be used to listen to sounds made by the heart, lungs, intestines, and as well as blood flow in arteries and veins. In combination with manual sphygmomanometer.

Stethoscope usually have rubber earpieces, which aid comfort and create a seal with the ear, improving the acoustic function of the device. Stethoscopes can be modified with moulded versions,

which improve comfort and transmission of sound. Moulded earpieces can be cast by an audiologist or made by the stethoscope user from a kit. There are various types of stethoscope

BD - prital stethoscope

Doppler stethoscope

Fetal stethoscope

Recording stethoscope

Electronic stethoscope

Acoustic stethoscope.

The stethoscope was invented in France back in 1816 by René Laennec at the Necker Enfants malades hospital in Paris. It consisted of a wooden tube and a monaural