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Study, Analysis of Nadi Priksha method in ayurveda and Implementation of early detection of Heart related disease using Embedded System

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ABSTRACT

In Traditional Indian Medicine (TIM) , diagnosis of the diseases is based on pulse detection. Pulse diagnosis technique is used for predicting diseases for thousands of year. Body constitution of a person can be determine from the values of tridosha that is vata, pitta and kapha. In this paper, we are trying to determine the values of tridosha. From that normal and abnormal health conditions can be determined.

Keywords: Ayurveda, tridosha, prakriti

I.INTRODUCTION

Today we see many people around us who are suffering from cardiovascular diseases, obesity, high blood pressure, asthma, arthritis, depression etc. In such sedentary lifestyles it will become a wonder if we know in advance about the ailments which we are going to suffer from in future and our present health condition. We can take the help of 'Ayurveda' which is used for thousands of years for promoting good health rather than treating diseases.

'Ayurveda' literally means 'science of life'. It demonstrates the science of diagnosing the imbalances within our body. According to Ayurveda, our body is made up of five elements- air, water, ether, fire, space. These five elements constitute three biological components 'vata', 'pitta' and 'kapha'.

Vata(mobility)= air + space, pitta(heat)= fire + water and kapha(viscosity)= water + ether.

Pulse diagnosis technique from ancient Ayurveda is one of the most powerful diagnostic tools for understanding the cause of ailments in human body. A pulse, too strong or too weak, denotes illness. Pulse reading helps to diagnose the problem at the first stage.

That's why we are making a device which can detect the condition of our body based on three doshas that are 'vata', 'pitta' and 'kapha'.Using this device we can determine the imbalances of these doshas in the human body by comparing it with certain threshold values and can predict the diseases, the body is prone to. As the difference in pulse patterns of three pressure points are found clearly, operating at the deep pressure, we can predict other diseases like hypertension and diabetes through this method

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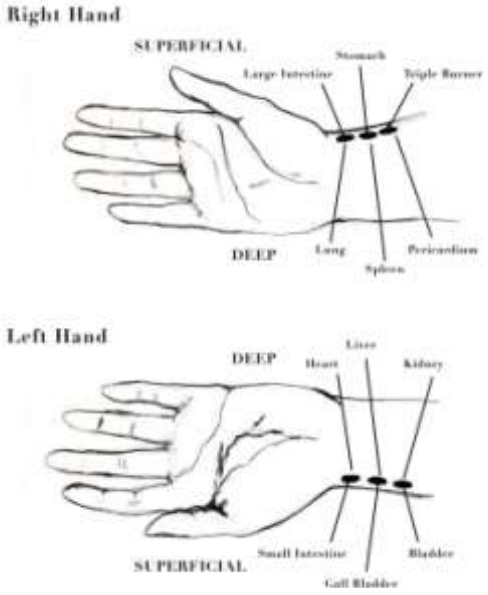

Fig.1.1 Classical

1.1 System block diagram

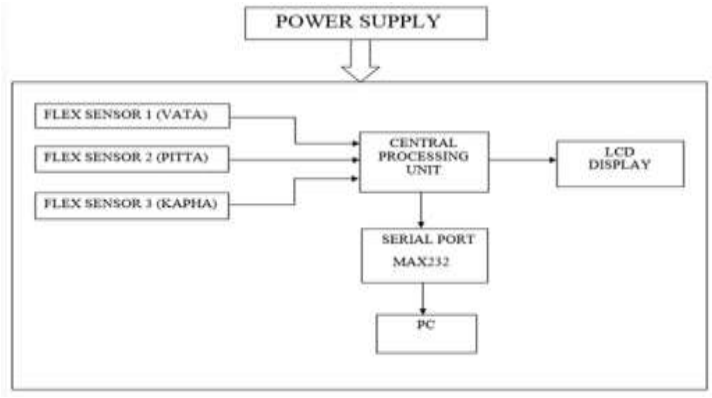

Fig 1.2 System block diagram

System consists of consists of:

1. Flex sensor: A **force-sensing resistor** is a material whose resistance changes whena force or pressure is applied. They are also known as "force-sensitive resistor" and are sometimes referred to by the initialism "FSR". Force-sensing resistors consist of a conductive polymer, which changes resistance in a predictable manner following application of force to its surface.[3] They are normally supplied as a polymer sheet or ink that can be applied by screen printing. The sensing film consists of both electrically conducting and non-conducting

particles suspended in matrix. The particles are sub-micrometre sizes, and are formulated to reduce the temperature dependence, improve mechanical properties and increase surface durability. Applying a force to the surface of the sensing film causes particles to touch the conducting electrodes, changing the resistance of the film. As with all resistive based sensors, force-sensing resistors require a relatively simple interface and can operate satisfactorily in moderately hostile environments. Compared to other force sensors, the advantages of FSRs are their size (thickness typically less than 0.5 mm), low cost and good shock resistance. A disadvantage is their low precision

measurement results may differ 10% and more.

Force-sensing resistors are commonly used to create pressure-sensing "buttons" and have applications in many fields, including musical instruments, car occupancy sensors,Foot pronation systems and portable electronics.

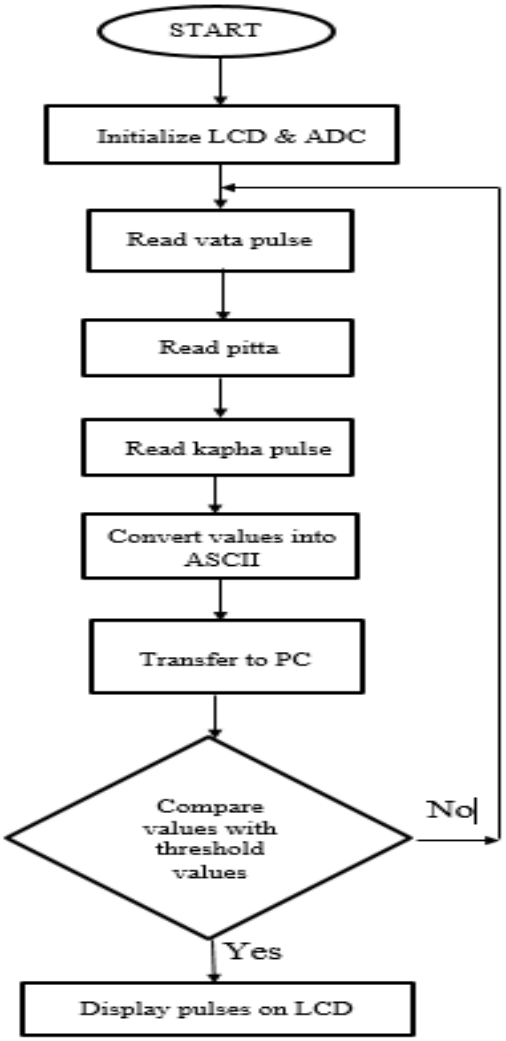

Fig.1.3 FSR

3. Microcontroller ATmega16: The ATmega16 is a low-power CMOS 8-bit microcontroller based on the AVR enhanced RISC architecture. By executing powerful instructions in a single clock cycle, the ATmega16 achieves throughputs approaching 1 MIPS per MHz allowing the system designer to optimize power consumption versus processing speed.

II.FLOW CHART

The actual working of the system can be understood by using the flow chart shown further

when the logger is fixed to consumer enfd we just have to set the date and time and that's all.

As soon as the pressure switch sense the pressure it gives a signal to microcontroller and microcontroller starts reading the values of different sensors and starts logging maximum and minimum value of respective sensor.

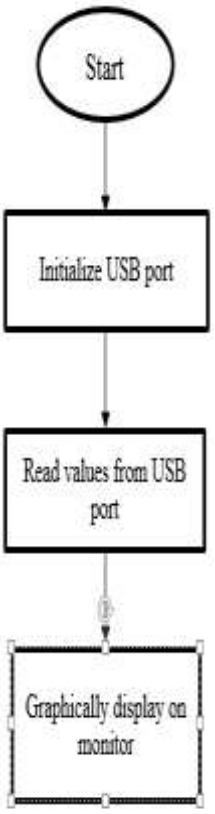

Fig.2.1 Flow Chart

III.EXPECTED RESULTS

After programming the LCD will display following outputs:

1. Rate of Vata, Pitta and Kapha in human body.
2. Comparison between threshold values and the values obtained from a person's body.

Also from these values one can predict the ailments our body is prone to.

IV.CONCLUSION

In this project, the prakriti of a person is predicted according to the characteristics of individuals. Due to imbalance of tridosha different values are obtained for vata, pitta and kapha than that of normal person by which disease can be predicted. Hence proper prevention steps can be taken.

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