BVRIT HYDERABAD College of Engineering for Women

Department of Information Technology

SMART SHOE FOR HEALTH FITNESS USING IoT

Under the Guidance of

Guide Name: Ms. K.S.Niraja

Assistant Professor

Team- 8

C. Neha Reddy(1262)

K. Deekshita(1273)

S. Sravani(1280)

B. Sai likhitha(1298)

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Introduction

- IoT technology nowadays is used for many purposes which make the user's daily life more comfortable.
- Recent years have seen a rising in wearable sensors and today several devices are commercially available for personal health care and activity awareness.
- The principal intention of this project is to establish a smart shoe setup which will function as a health tracker.
- The purpose of this wearable physical device is to create convenient, portable and hands-free access to computers, thus facilitating or enhancing everyday tasks.

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Existing System

The existing system is smart shoe which helps the user to know how much distance he walked and calorie burnt based on step count using force sensor which helps in step count.

There are also some similar wearable devices like smart watch which helps in monitoring the user heart rate, blood pressure, how much distance he walked.

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Problem Statement

Designing a unique wearable device in order to help the people in there health fitness by monitoring step count, avoiding dehydration and helping them from over exercise and tracking there whereabouts.

Literature Survey

S.no	Title	Author	Journal Year	Observation
1	Smart Shoe using IoT	Rafeek Biradar, Ms. Anuruchi Shinde, Ms. Shruti Potadar	2021	Get to know how many steps we walked, temperature of the body and calorie burnt.
2	An IoT Based Solution For Health Monitoring Using A Body-Worn Sensor Enabled Device	Harika Devi Kotha, Manisha Gunturi, Sirisha Potluri	2019	It tells how much distance we walked, pulse rate, calorie burnt etc.

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Proposed System

The Proposed system is used for finding number of steps they have walked or runned by using ultrasonic sensor and mems sensor. The shoes will be designed in such a way that anyone who does running or walking by wearing these uniquely designed shoe they will get to know how many steps they have walked and if the person sit ideal for sometime then he get a notification to warm up and if he do over exercise he get a notification to rest for a while through a mobile application. And there will be also a water remainder to help the user to avoid dehydration. And the proposed system also consists of GPS location tracking using GPS sensor so that if the user went for a walk or run then the concerned people can track him.

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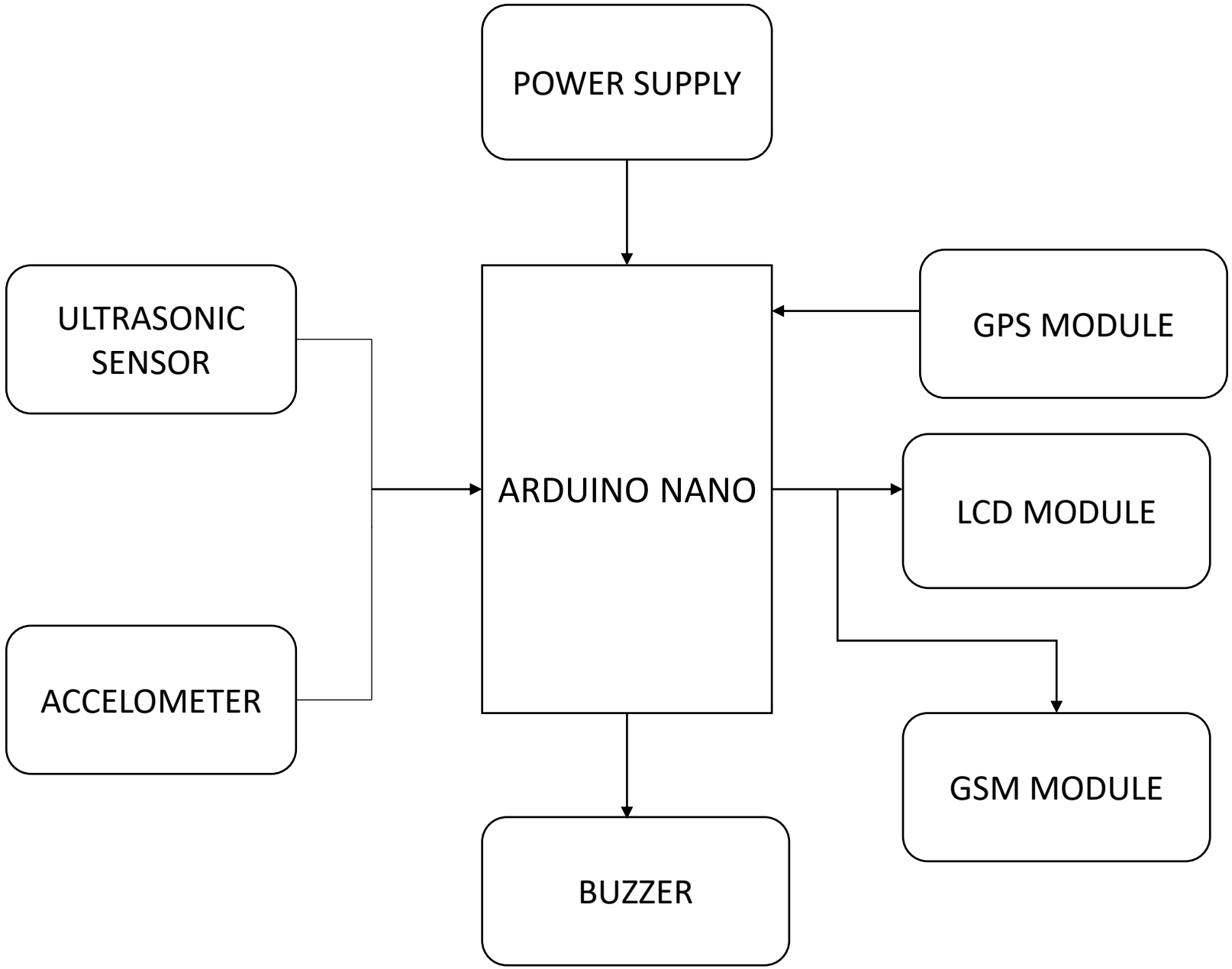

Tools and Technologies

HARDWARE REQUIREMENTS:

- Arduino UNO
- LCD Display
- Power Supply
- Ultra Sonic Sensor
- Mems Sensor
- GPS Module
- Buzzer Alarm

SOFTWARE REQUIREMENTS:

- Arduino-IDE
- Embedded c
- GSM module

Feasibility Study

The key considerations involved in the feasibility analysis are

- **ECONOMICAL FEASIBILITY:** Cost effective and easily handled.
- **OPERATIONAL FEASIBILITY:** Monitors our fitness, helps from dehydration, alert from over exercise and easy to use.

Societal Impact

Our system helps the people in society to monitor there fitness, helps them to avoid dehydration and avoids them to do over exercise and track there whereabouts. The system is easy to use and cost effective which makes ease for the society.

Project Timeline

Date	Duration	Task
1/10/22 – 27/10/22	1 month	Title Finalization and Abstract preparation
28/10/22 – 29/11/22	1 month	Literature survey and requirement analysis
30/11/22 – 17/12/22	17 days	Design and model for step count
30/12/22 – 15/02/23	1 1/2 month	Adding GPS tracker to the model
16/02/23 – 16/03/23	1 month	Displaying the final model

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Reference

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- John Singh. K, Sagar G. V, Sushmita Lenka, "FITNESS MONITOR WITH SMART SAFETY SHOE AND IOT", IJMET 2019.
- Vaishnavi Nayak, Sneha Prabhu, Sanket Madival, Vaishnavi Kulkarni,Vaishnavi. M. Kulkarni,"**Smart Shoe**,"in International Journal of Latest Engineering Research and Applications ,2018

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Thank You