COMMUNITY HEALTH MONITORING UNIT

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Introduction:

A Health Monitoring Unit (HMU) is a device to track and monitor various health parameters, providing real-time data and insights to support better health outcomes. HMUs enable early detection of potential health issues, personalized care, and informed decision-making.

Components Used:

* Arduino mega
* Arduino Nano
* Ultrasonic sensor
* SpO2 sensor
* Thermal scanner
* Load cells
* Power supply
* LCD display

Operation:

* A Health monitoring device typically works by integrating various sensors and technology to continuously measure and record Vittal health parameters.
* Health monitoring device are typically power by rechargeable batteries to ensure portability and continuous operation.
* Measurement: the user places that device ultrasonic sensor it measures the height of the person and by use of load cell to measure the weight of the person.
* Data processing: the sansar collect the data such as heartbeat blood pressure and oxygen saturation.
* Display: the LCD displays the seven major parameters that is height, weight, temperature, heart rate, blood pressure, body mass index, fat.

Essential Parameters:

Body mass index [BMI]: -

• BMI is commonly used as a straining tool to characterized individuals into different weight categories (underweight, normal, over and obesity).

• This helps healthcare professional assespotential health risk associated with weight.

Heart rate: -

• Heart rate is a key indicator of cardiovascular fitness and overall heart health.

• A lower resting heart rate often indicates better cardiovascular efficiency and fitness levels.

Temperature: -

• Body temperature is a key indicator of health.

• Elevated Temperature can s/g fever, infection while abnormally between temperature or other health issues.

Benefits:

1. Real time health tracking: you can monitor your vital signs and health parameters continuously providing immediate feedback on your well-being.

2. Early Detection: HMUs can detect health issues early, allowing for timely interventions and better health outcomes.

2. Personalized Care: HMUs can provide personalized health recommendations and treatment plans based on individual health data.

3. Improved Disease Management: HMUs can help manage chronic diseases, such as diabetes, hypertension, and heart disease.