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(57) Abstract :
Along with the observation of important life signs like body temperature and sweat as to sleep, that can have an influence on the patient's health, the quality of sleep is also vital in terms of clinical diagnosis and sleep monitoring. Traditional methods for monitoring physiological changes while you sleep, however, are challenging without being intrusive. The temperature, moisture, and pressure sensors used in the smart cushion have been strategically positioned inside the cushion to provide a relatively simple method of monitoring a person's sleep condition. With the patient's head on the pillow, the sensor’s functions are classified as primary, auxiliary, or environmental temperature based on variations in sensor readings. By using statistical methods, the sleep pattern may be retrieved, and the body temperature is measuredandis deduced using a unique fuzzy logic system if the head-on position remains steady for more than 15 minutes. Data from the BMP180 sensor shows night pressure. The smart pillow is designed with a Display-based health-sensing technology to gather and process data. Pressure relief is achieved by employing the automatic vibration motor and sound start of the APR9600 to lower the pressure. Sweat is identified using a moisture sensor.

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