

## **ABSTRACT**

### **DETECTION OF SLEEP DISORDERS IN HUMANS USING CAMERA KINECT**

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Sleep activity is an important factor in determining the quality of human life. A commonly used sleep monitoring device polysomnography by attaching electrodes to the patient's head. The weakness of this tool is the discomfort in the patient. Sleep Disorders are disorders of difficulty regulating sleep patterns because of breathing and sleep posture.

In this study, a sleep pattern monitoring system was built using Microsoft Kinect Sensor v.2 for Restless Leg Syndrome (RLS). Restless Leg Syndrome or restless leg syndrome known as Wiliis-Ekbom disease (WEB) is a common sensorimotor disorder characterized by a desire to move and is associated with uncomfortable sensations in the legs.

The output of this sleep disorder detection system is a change in the movement of the nine joints. The test was carried out on eight subjects with a system of 135 minutes duration and changes in the subject's joint movement per 5 seconds. Sleep disorders are classified into three parts, namely: Mild, Moderate and Severe based on the PLMS index. The PLMS index value is obtained based on the value of joint movement divided by the total sleep time. Based on data collection from 8 subjects, the system designed has a relative error value of 0.8530% with an accuracy value of 99.1469%.

**Key Word** : *Polysomnography, Microsoft Kinect Sensor v.2, Sleep Disorder.*