Final project proposal

Title of project: Sleep motion monitor

Team member:

1. Dichen Qian, [qdichen@ucsd.edu](mailto:qdichen@ucsd.edu), A53233471
2. Min Hsuan Wu, [mhwu@ucsd.edu](mailto:mhwu@ucsd.edu), A92424998

Plan:

We want to use night vision camera to record sleep motion. This is going to help people know their sleeping quality and posture, in addition for sleepwalkers it can help both doctor and sleepwalkers. However this sleep motion monitor isn’t cheap. The cheapest one is about 400$ searched from google(quite expensive). Our goal is to provide a cheaper solution to this.

In our project, we want to use vision camera to catch all sleep motions and save some useful motions into local. This project consists of several parts

1. Hardware, night vision camera connected to RPI3.
2. Software, kernel module or user-space program to handle stream data and save them to local. This part needs motion recognition model to help ignore some meaningless motions.
3. Software, good UI to help people check their motions like webserver.

So we think it’s a good final project for this course.

Experiments:

We would use this to record our sleep and figure out something interesting.

Mid report:

We hope we can use night vision camera successfully and in progress of sleep motion recognition model.

Final demo:

We think out sleep motion is best for demo.