Abstract

The invention relates to a smart ceiling light for fall detection and elderly monitoring. The system combines a depth imaging sensor and sound recognition system to monitor a space, recognise body posture and movement, detect potential falls, and analyse sounds. A microprocessor performs edge computing and a rule-based engine analyses the detected information to trigger alerts through a call bell system and mobile application. The light sensor can automatically activate lighting when movement is detected in a dark room. A pan and tilt module enables the depth imaging sensor to scan the monitored space. The system is designed to provide non-intrusive monitoring without traditional cameras.

Figure 1