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| Title | Smart Surface: RFID-Based Gesture Recognition Using  k-Means Algorithm | | |
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| Abstract |  |
| Elder adults may have some dependence on performing common activities like zapping on the television through a remote control (i.e. due to possible hand mobility problems). The Internet of Things (IoT), including the Radio Frequency Identification (RFID), interconnects devices to provide a higher variety of services. Together, and by applying intelligence through Machine Learning (ML) techniques, advanced applications can be implemented improving people's life. We present the Smart Surface system, relying on state of the art RFID equipment. It uses the unsupervised machine learning technique K-means clustering to detect and trigger actions by means of simple gestures, in real time and in a non-intrusive way. We implemented and evaluated a prototype of the Smart Surface system achieving an accuracy of 100% gesture recognition. | |