

SureLock: Intention-based BLE Locking Scheme

Andrew Titus, Austin Freel

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The vast majority of current door lock systems involve some sort of physical interaction with the lock. A hands-free system would require not only a sufficiently secure wireless credential transfer, but also accurate detection of a user's intention to attempt an unlock of the door. We developed such a system using Bluetooth[®] Smart 4.2 and a novel model using acceleration magnitude and RSSI data to detect a user's intentions to unlock a door. We also propose a learning model to dynamically adjust the thresholds of this model to adapt to the specific environment of a given lock.