South East Technical University

HDIP in Computer Science

Networking using Connected Devices-

Assignment 2

Proposal Document – Security System

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1 Proposal Description

The goal of this project is to increase the security of my home and to track the number of times my front door is opened throughout the day. This will be achieved using a system of sensors, a Raspberry Pi, and an Arduino.

Alarm system

- Once sensor is triggered a countdown will begin and a specific PIN must be entered via a keypad.
- If the correct PIN is entered, the system will be deactivated.
- If the PIN is entered incorrectly or a set time is exceeded the buzzer will sound.

Notification and Monitoring

- The Raspberry Pi will send data to ThingsSpeak which will log:
    - The time in which movement was detected.
    - If the PIN was entered successfully or exceeded the allocated time.
- The system will also send an email notification to the user's devices of the above data.

Activity Tracking

- The system will maintain a log of the number of times the door sensor is triggered with corresponding timestamps. This will be accessible for the user to review.

If the system is implemented correctly, it will improve home security, allow the user to have insight into the activity in the home, and give real time notifications.