**ENGR 331 Project Proposal   
Project Name: Tamper Alarming Safe  
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**PROBLEM STATEMENT**   
Our goal is to create a safe that uses a pin to unlock. It will also have different sensors that will enable it to notify the owner if it is being tampered with.  
   
**REQUIREMENTS**   
The robot **SHALL:**

1. Be 12in x 12in x 12in.
2. Operate using the ARM Cortex M4 processor.
3. Be powered from a battery power source that will last ½ of a year under normal use.
4. Be able to recognize if it has been moved.
5. Have an LCD to communicate with someone trying to access the safe.
6. Contain a push button on the inside of the safe that will allow the user to reset the access code if the button is push, followed by correctly entering the current access code.
7. Open if the correct access code is entered and remain locked if the incorrect code is entered.

**PROPOSED SENSORS AND ACTUATORS:**

1. Stepper Motor
2. MEMS Accelerometer
3. LCD screen
4. Touch Switch Module Capacitive Sensor
5. Numeric Keypad Matrix

**SYSTEM LEVEL PROPOSED BLOCK DIAGRAM**

Diagram

Description automatically generated