***The Governor’s STEM Competition***

***Bishop Shanahan High School***

***Regional Competition Project Outline***

**“Code Blue”**

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**Proposal**:

Through the use of real-time GPS coordinates, Google Maps API, and various sensors, such as temperature and piezo buzzers, we hope to create a prototype device that can be implemented into a variety of storage units which assists authorities and social services in quickly finding the homeless to provide shelter for them during freezing conditions, while maintaining the utmost privacy of the user.

**Real World Problem:**

On any given day, 16,200 Pennsylvanians are known to be homeless. During one school year, school districts around the state provide services to approximately 13,000 homeless children. Pennsylvania is ranked 28 out of 50 in the United States in terms of homeless persons; roughly 120 out of 100,000 people are homeless. One major concern with the homeless is finding shelter, especially in freezing conditions. Providing warmth and a place to stay for the night during the winter months is crucial for homeless shelters in the Northeast and Midwest. However, some homeless people do not go to the shelters and instead sleep outside in the frigid temperatures. This poses a serious health risk for frostbite as well as potential death due to a low body temperature. We intend to solve this issue with our prototype by reaching out to the homeless in a more effective and productive way.

**Materials:**

Arduino Uno

SEEED GPRS Shield 2.0

Adafruit GPS Breakout

DHT11 Temperature & Humidity Sensor

Piezo Buzzer

SIM Card

12v DC Cooling Fan

Adafruit Rechargeable 5v Backup Shield

Storage Solution (cart, backpack, etc)

**Business/Corporate Connection:**

**Communications Test Design Inc**

**Professional Services**

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