The Technology and Innovation

- Seven layers of LEDs and each layer is a different color
- The colors we used were blue, green, yellow, red, white, and purple
- The LEDs in each layer were soldered together by the short lead of the LEDs
- The layers were connected by soldering the long or positive leads together
- An Arduino Microcontroller was used to light up the pyramid
- The pyramid was put on the breadboard
- While wiring, we added resistors and used wire rapping to connect all the LEDs to the Arduino
- We also used 7 transistors; one for each layer of the pyramid
- The code first made the LEDs light up randomly, then only the outside LEDs would light up and finally all the LEDs would light up together

Community/Industry Impact and Value

- There are infinite patterns that could be applied to the pyramid thus it is useful for many companies such as home security systems, industrial companies, health systems and others

Community/Industry Engagement

- Wayne State University, Detroit

Team Composition

- Rafeef Hamad, Chemical Engineering
- Lubna Alazzawi (Faculty Advisor)

Learning Experiences

- Arduino Microcontroller Programming
- Computer-electronics integration
- Prototype Designing
- Testing

Further Research and Development

- There are many different and creative patterns that could be applied to this structure
- Experimenting and developing the code would result in multiple innovative arrangements