PTC Inc. - The Internet of Things and Crisis Management Phase II

Overview
PTC (Parametric Technology Company) is an IoT (Internet of Things) based company. Last semester, they sponsored a project that sought to improve campus safety through using their IoT product called ThingWorx. ThingWorx is a platform that enables users to develop and deploy connected solutions for IoT. This semester, we sought to improve upon the past semester's work to improve campus safety by using ThingWorx.

Objectives
The past semester created a raspberry pi with sensors and an IOS app that sends data to a ThingWorx server where an administrator can view the data.
We sought to improve campus safety by using the ThingWorx platform in three ways:
1. Create an companion Android App so Android end users can report data.
2. Improve the UI and functionality of the ThingWorx administrator dashboard.
3. Improve the functionality of the raspberry pis.

Approach
• Get together and brainstorm on how to improve the three areas listed above.
• Drafted up ideas which we communicated and walked through with our sponsor every week
• Used PTC's ThingWorx documentation to create an Android App and a Java program for the raspberry pis.
• Spent a lot of time redesigning the UI on the ThingWorx admin dashboard with iterating feedback from the sponsor
• Discussed and implemented improved functionality on the admin dashboard through the admin being able to filter, create, and merge events.
• Increased raspberry pi functionality through adding a touchscreen that displays alerts from the admin
• Used CAD software to design a case for the raspberry pis

Outcomes
With our improved campus safety solution, the following is possible:
• Faster diffusion of information to people in State College
• Data gathering through crowd sourcing
• More relevant information is accessible relevant to an emergency