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Commercial Building Occupancy Tracker

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Abstract

Tracking the occupancy of a building, there are various state of the art equipment that are currently available. One of these being the Density DPU which uses sensors and deep learning algorithms to track the density in a room. Another state of the art equipment is the Affinitech Security Systems which uses cameras and computer vision technology in order to also keep track of people.

Research has shown that over the course of a little over 50 years there has been an increase of mass shootings. A study starting it’s research in 1966 showed that 33% of the recorded data happened since 2010. Further research has shown that since 2013, as of 3/1/2020, there have been 46 mass shootings and 4 mass murders with the use of guns. Our hope is that with our product we can reduce/prevent the number of deaths caused by shootings.

The objective of our product is to place sensors in the rooms of a facility and keep track of the occupancy. This information can be used by emergency services when they are arriving or at a call. By knowing the location of where people are in a building a plan can be made as to how to handle a specific situation.

Our approach consists of using cost-effective alternatives that are able to provide the aforementioned services. By using a FLIR Thermal Camera we can track more than just the occupancy of a room. Additionally, by using RFID Technology we can better keep track of individuals coming in and out of a building in a more precise manner.
References:

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