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Today we use facial recognition in a variety of applications. Uses include integrated systems in unlocking phones and forensic analysis. **The objective of this device is to increase the efficiency of camera-driven security systems that removes human dependency.** This system will track a target person(s) using an array of multi-axis cameras and various sensors.

The system is comprised of the following key features:

1. Identifying a given target
2. Tracking the given target's location
3. Recording video and images of the given target's movements
4. Creating a three-dimensional head scan
   a. If you find three similar-looking people in an investigation, using the 3D head scan, it becomes more evident who the target is.

What are the key advantages?

1. Removes the need for constant human monitoring to identify a given person(s)
   a. **Reduces the cost of monitoring** by not needing to hire someone to manage the system
2. Allows for a more definitive answer on who the target is when presented with similar-looking people in an investigation
3. **Increased efficiency** compared to human monitoring.
   a. Able to track multiple targets simultaneously
      i. You can feed it a large data set of images, and the system can identify which of the given targets are in the monitored space.
   b. The **system can run on both real-time and prerecorded surveillance videos** and identify if the target(s) are present, processing the video streams much faster than a human is capable of.
4. **Does not require custom hardware** and can be used with cheap off the shelf cameras

Why would I want this versus state-of-the-art?

The current state of the art only allows the user to record clips when motion is detected, allows users to move the cameras manually with an application, and rely on the user for surveillance, video analysis, and target identification. This system enhances the capabilities of the current state of the art with increased efficiency and reduced costs. In addition, The cameras do not require human interference except to upload the initial images of the target, and therefore the system does not need to be monitored by humans. However, the current state of the art relies on users, and the cameras do not communicate with one another. They are either stationary or move independently, not sharing data, and require humans to identify a threat.