

Sashank Rao
ECE304 PDR1 Resubmission
4/8/22
ID: 32356918

Problem Statement

Overcrowding of the front desk at commercial sites or stores is an issue due to the effects of covid today. It is important to afford that 6 ft distance for front line workers and their respective costumers to create a safe space for both parties. The “Counter Approach Regulation” system offers a fantastic way to maintain a 6 ft distance between the worker and the consumer. The system is tasked with presenting the distance between the costumer and worker at the counter during the approach so that there is visual information present for both groups. If an attempt is made to come closer than 6 ft of the counter, a warning system will be taken into place, keeping the customer party in check.

System Specifications

1. The system should automatically detect persons approaching the counter.
2. System shall provide an approaching person with visual indication of their distance from the counter.
3. The system should provide direction to indicate the customer to come closer to the counter or move farther away depending on how close or far they are with a little bit of buffer room (6-7 ft to avoid display changes often).
4. System must provide a button to indicate that the employees shift or counter is open.
5. System must provide a list of the closest several customers have come over the course of a shift primarily
 - a. Number of people that came close to the counter.
 - b. The closest distance someone came in contact with the counter.

6. Device will be in continuous use from customer to customer so that no reset will be needed.
7. Product will be designed so that it guides customers into a safe space.

Design Block Diagram

