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Project Title: Mobile Manipulator for Automating Delivery of Essentials in Hospitals.

Objective:
In this project, the purpose is to build a mobile manipulator to collect food and medicines from the dispatch center and deliver them to the hospital cabins. The robot model will be demonstrated in a simulated hospital environment inside the CoppeliaSim software and controlled via a remote API on MATLAB.

Contribution:

I am working on the vision sensor of our mobile robot. The core operation of our robot is to identify the objects at the pickup point and deliver them to the correct destination. For this to be successful, we have to process the data coming from the vision sensor and correctly locate the position of the desired objects. My job is to implement an object detection algorithm for the robot to correctly localize the supplies at the pickup point. The rest of the robot operation pipeline is highly dependent on correct object localization. For example, if it cannot locate the objects correctly, the robot pickup arm will not be able to grasp and pick up objects in a precise manner. It might drop expensive medical supplies and cause health hazards in the hospital. Without correct object detection, the rest of the operation becomes useless.