**GROUP 5**

TEAM MEMBERS

**BALENDRAN MOHANAN (301431842)**

**KIEVE JOE VARGHESE (301427418)**

**NIVEDHITHA AJAY (301431918)**

**Produce Recognition and Billing System**

**Objective**

The proposed system is an advanced solution for automating the identification and billing of produce items, such as fruits and vegetables, in retail stores. Utilizing cameras and sensors, the system captures the visual characteristics of the produce, including shape, color, and texture, to accurately recognize and weigh the items. The core of the system is powered by Artificial Intelligence (AI) algorithms that compare these captured images with an extensive database of produce items. Once identified, the system calculates the price based on the weight and inputs the data into the billing system. This automated process eliminates the need for customers or cashiers to manually search for product codes, resulting in a faster and more accurate checkout experience. The system seamlessly integrates into both self-checkout kiosks and cashier-assisted counters, offering a flexible solution for various retail environments.

**Existing Challenges**

The need for this system arises from the inefficiencies in current produce identification and billing methods. In traditional checkout processes, customers must either manually type in product codes or search through long lists of produce items, which can be time-consuming, especially for those unfamiliar with the system or during peak hours. Additionally, incorrect code entries often require intervention from customer service assistants, leading to longer wait times and increased frustration for both customers and staff. These delays are particularly problematic during busy shopping periods when long queues form. By automating the identification process, this AI-powered system addresses these challenges, improving operational efficiency, reducing human error, and enhancing the overall customer experience by speeding up checkout times.