Food Bank for the ICD

Abstract

The ICD (Islamic Centre of Detroit) food bank management system optimizes processes associated with food assistance registration, verification and distribution operations. The system uses automation to optimize business operations while eliminating errors through automated user processing, including verification functions and duplicate data protection. The system implements barcode scanner technology and real-time database updating mechanisms, which produce secure and precise data management capabilities. The system gives administrators powerful reporting capabilities to evaluate food distribution patterns through analytical tools. The system operates with three core functions: automated user signup using IDs or hand input, eligibility assessment through age and household screening, and registration blocking for duplicates. Users receive unique registration slips that allow tracking of food distribution for verification purposes. The system incorporates separate permission levels for ICD personnel, administrators, and kitchen staff to maintain secure data management. The application manages high registration flows, especially during large events such as the Turkey Drive, while respecting data protection standards. The system offers real-time data synchronization between registration points and operates with PDF417 barcode scanners through scalable design. While maintaining advanced features, the system faces two main limitations: hardware connection issues and networking requirements, along with additional needs for error prevention controls and system stability improvements. This implementation will advance food distribution procedures by delivering more efficient processes that properly distribute resources with transparent and accountable frameworks.