

Project Design Phase
Solution Architecture

Date	23 june2025
Team ID	LTVIP2025TMID29043
Project Name	Cafeteria menu display
Maximum Marks	4 Marks

Solution Architecture:

1. User-Friendly Display

Digital screens or kiosks with clean, categorized menu layout.

Easy navigation with images and large fonts.

2. Real-Time Menu Updates

Admin dashboard to update items, prices, and availability instantly.

Schedule-based display (e.g., breakfast, lunch, dinner).

3. Backend API

Built using FastAPI or Node.js for fast and scalable communication.

Connects frontend, admin panel, and database.

4. Cloud-Based Storage

Menu items, categories, and media stored in MongoDB / Firebase.

Real-time syncing across all display devices.

5. Responsive Admin Dashboard

Allows cafeteria staff to easily manage and customize menu.

Secured access and user authentication.

6. Scalable Infrastructure

Can be deployed across multiple locations or campuses.

Auto-scaling via AWS, Azure, or IBM Cloud.

7. Optional Features

QR code ordering

AI food recommendations

Multilingual support

Feedback collection

8. Improved Customer Experience

Reduces wait time, confusion, and wrong orders.

Example Solution Architecture

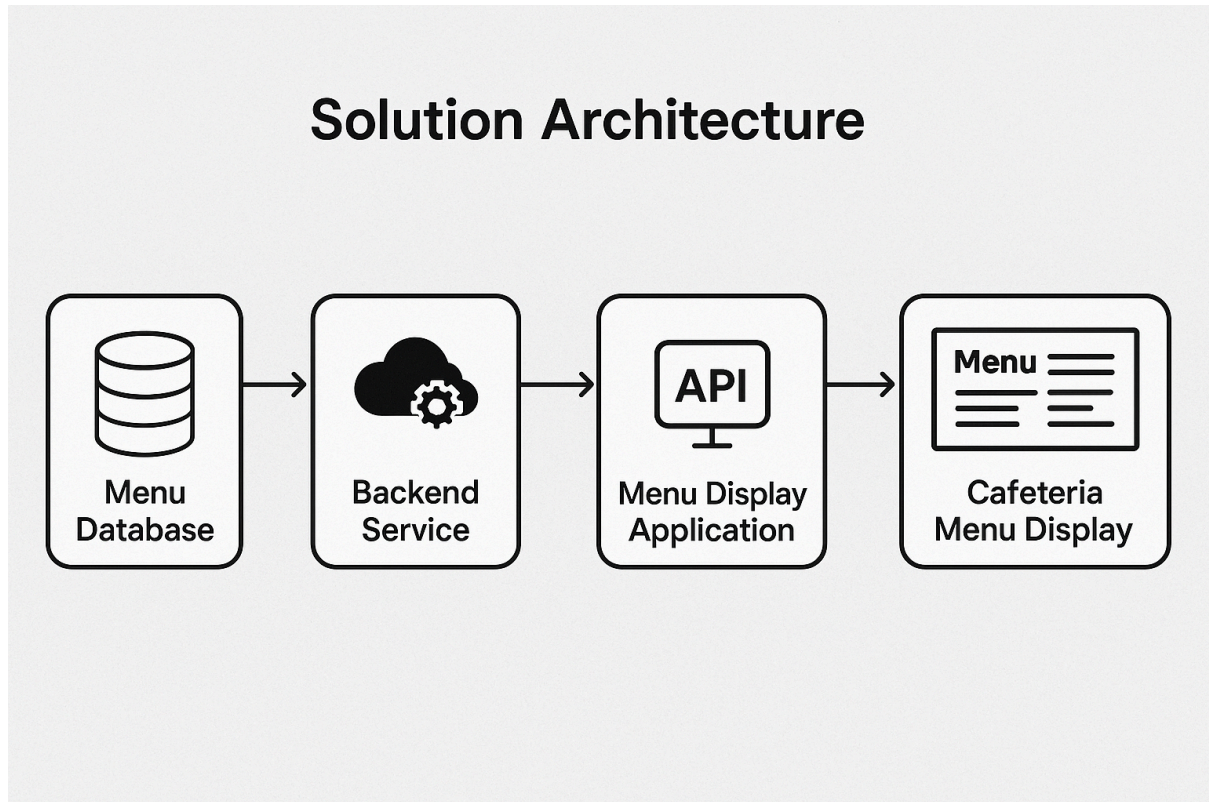


Fig: and data flow of the Cafeteria menu display.

Reference:

<https://aws.amazon.com/blogs/industries/voice-applications-in-clinical-research-powered-by-ai-on-aws-part-1-architecture-and-design-considerations/>