

PROJECT DESIGNING

Solution Architecture

Date	28 June 2025
Team ID	LTVIP2025TMID60545
Project Name	Cafeteria Menu Display Using Service now
Maximum Marks	4 Marks

Solution Architecture: Cafeteria Menu Display Using ServiceNow

Core Architectural Components in ServiceNow

Layer	Component
UI Layer	Service Portal / Workspace / Mobile App
Business Logic	Business Rules, Script Includes, Flow Designer, Scheduled Jobs
Data Layer	Custom Tables (e.g., Menu, Menu Item, Category, Allergen, Schedule)
Integration Layer	REST APIs (for screen clients), Scripted REST APIs, MID Server if needed
Presentation (Display)	External TV displays pulling data via REST API or iFrame to Service Portal
Authentication	Role-based ACLs, OAuth tokens for external devices

Data Model Design (Custom Tables)

Table Name	Purpose
u_menu	Stores daily/weekly menu entries
u_menu_item	Stores individual dish items linked to a menu
u_category	Breakfast, Lunch, Snacks, etc.
u_allergen_tag	Gluten-free, Vegan, etc.
u_schedule	Timings and recurrence rules for menu display

Relationships:

- u_menu has many u_menu_items
- u_menu_item has many u_allergen_tags

Functional Flow (End-to-End)

1. Admin adds menus via:
 - Now Platform Form View
 - Service Portal (custom page or catalog item)
 - Flow Designer can trigger approval if needed
2. Schedule-based Activation:
 - Use Scheduled Jobs or Flow Designer Scheduled Triggers to activate menus based on the date/time.
3. Display Logic:
 - Digital signage screen (e.g., Smart TV with browser) connects to:
 - Service Portal page showing current menu
 - Or uses Scripted REST API to fetch current menus in JSON format for a custom UI
4. Real-time Updates (Optional):
 - Screens poll the API every few minutes (WebSockets not natively supported in SN)
 - Admin changes menu → Flow Designer or Business Rule updates related displays

UI Options for Menu Display

Option	Notes
Service Portal Page	Custom page that auto-refreshes and shows current menu dynamically
HTML iFrame Embed	Display a simplified version of the portal in a full-screen browser
External Display App	Custom TV/Tablet app that uses SN REST APIs to fetch menu data

Security & Roles

- Roles:
 - menu_admin – Create/edit menus
 - viewer – Read-only access (for screens)
- ACLs:
 - Only allow read access to menus via Scripted REST for viewer devices

Technologies & Tools in ServiceNow

Area	Tool/Method
Forms & UI	Form Designer, Portal Widgets
Workflow Logic	Flow Designer, Business Rules
Schedules	Scheduled Jobs / Script Includes
APIs	Scripted REST APIs
External Display	Portal Page / API consumed by app
Security	ACLs, Roles, OAuth Token