

Modern Restaurant Automation

Project Summary

A modern, minimal restaurant automation system with four interfaces:

- Customer (via QR code)
- Chef (show orders in a panel)
- Waiter (Simple call system from customers and chefs)
- Admin (menu management, sales etc.)

No detailed inventory or reservation system for first stage. Willl focused more communications among different roles and customer orientated.

Goals

- Simple QR menu (multi-language support)
- In-table ordering (no waiter neccessary)
- Order status
- Efficient admin dashboard, comprehensive sales graphic

System Components

1. Customer

- Browse menu via QR code (Optional registration)
- Add to cart
- Call a waiter or place order without waiter
- See order status
- Call a waiter button for bill or anytime
- Rate food and service

2. Kitchen Panel

- View incoming orders with time detachced
- Select an order to see more details.
- Change the status as “preparing” or “ready”

3. Waiter Panel

- Show the calls from the kitchen or customers
- Mark the calls as “answered”
- Shows the additional requests from customers
- Mark the request as “done”

4. Admin Panel

- Customizable dashboard
- View various things like orders or stuffs that simple list format. Most ordered items ?
- View the sales more advanced ways with graphics ?
- Update menu.
- Export order logs (CSV)

Technologies to Use

?: Little understanding

?: I think i can figure it out

???: No idea or/and optional

1. Backend

- Java Spring Boot
 - JWT auth ?
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- PostgreSQL
 - users: email, role, password
 - items: name, category, price, photo
 - orders: items, prices

2. Frontend

- React + tailwind ??? Check Shadcn/UI for ready widgets like buttons, tables ??
- PWA ??
- QR link mapping to table id ??

3. Extra

- Postman
- Dbeaver
- Git, Github
- IntelliJ IDEA
- Docker ??
- Firebase or websocket (Real time notifications) ??
- Test ???
- Menu in JSON based i18n ??
- Sales analytics Chart.js / Recharts ???
- Deployment (cloud) Railway/Render/Fly.io ????