



Systems Architecture

Document Owner(s)

Name	Project/Organisation Role
Iain Prior	Systems Architect

Document References

Document	Description

Version Control

Version	Status	Date	Author	Change Description
V1.0	Draft	2017-08-26	Iain Prior	Document created

Overall Systems Architecture

Per Store IT

POS System
Kiosk/Smart Tables
Local Network / Country Link
Resilience
Supplier management
Ingredients Procurement
Menu control
Staff management (HR/Payment etc)
Routing + tracking
Customer detection system
Marketing support
Basic IT in shop – Wifi, Cabling etc
Finance
In shop displays
Complaints management
Driver IT
Website
Social media
Training
QC

Country-Wide IT

Overall reporting / analytics
Marketing support & nationwide campaigns
Finance
Tracking and setting up shops
Websites – nationwide
Cross shop Customer support
Staff authentication & management
Call centre support
Social media support
Overall QC
External APIs
Mobile App Support & Dev
POS monitoring
Training
Internal HR Support
Company Procedures & Policies

In-Store Systems Overview

In Store – Front End Systems

Kitchen IT

- Driver Displays
- Order Displays
- Status Tracking
- Stock Tracking
- HW Monitoring

- POS
- Customer Payment Systems

- In Store Displays
- Exterior Displays

Kiosk / Smart Table / VR /
AR / Tablets

Customer Detection
System

In Store – Back End Systems

Supplier Ordering System

Customer Database

Customer Ordering System

Safety Systems

QC System

Software Deployments

Security Systems

Sync System

Central Provided Systems

- HR Systems
- Marketing
- Web
- Menu Control
- Routing
- Finance
- Ordering System
- Complaint & Escalation System
- Tracking etc.
- Social Media

Main + Backup
Servers and Internet Links

Central Systems Overview

Internal

Finance Systems

CRM System

HR System

Internal Database

Customer Order System

Customer DB

Marketing

Vouchers & Promotions

Social Media

- Management
- Links

Marketing Digital Assets

Customer Facing

Websites

Mobile App

Call Centre

OPS

Supplier Order System

Routing & Tracking System

Complaints Escalation System

Menu Control

Registered User Detection

Notification Systems

Software Deployment

External Interfaces

Below the line

- Push Notifications
- SMS & Email

Payment Gateways

Store Sync

Live Tracking

Mobile App

Driver App

External Ordering API

Reporting

MIS

KPI's

Analytics & Data Science

DevOps IT Infrastructure / Process

Development

Dev Environment

Dev HW Sensors etc

HW Prototyping

Team Methodology

Source Control

Continuous Integration

QA feedback & review

Testing

Continuous Deployment

Regressions vs Live

Simulated External Deps

Prod-alike QA clones

QA Team & Processes

Auto & Continuous Testing

Deployment

Environment

Code

Live Testing

Auto Back-out

Customized Deployment

Monitoring

Production Environment

Ops Team – Pager duty

In Store

Requirements Gathering

Team Methodology

Business Analysis

KPI

Support

Security

1st & 2nd Line Support Ops

Store Setup Team

Mobile Support Team

Feature Ideas – Mobile

Customer App

Place Order

Repeat Previous Order

Preferences

- Banned ingredients
- Allergies
- Intolerances

Track

- order status
- driver + pizza temperature

Multiple people using same phone

Push notifications + SMS

Payment

- multi channel bitcoin etc
- register card

Selfie with pizza – free publicity

Bring pizza to me – GPS of customer

Scan QR code on pizza box

Order and collect at store

Driver App

Smart routing

- display route
- reroute for traffic
- reroute for accidents
- geofencing

Sorry I'm running late

- customer communication
- ops (perhaps resend)

Track pizza vitals & driver location

- Bluetooth temp sensor in casing

QR Code Scanning

- Ensure correct pizza to the customer
- QR code on pizza box

Feature Ideas – In-Store

POS System

Standard POS System

Phone # pickup

Customer preferences callup

Face detection -> registered user detection

Payment – Card, cash, bitcoin, Ethereum etc.

NFC phone swipe payment

Kitchen Systems

Oven etc HW monitoring

- incl. Health and safety systems (fire)

Overhead screens

- Courier locations, routing plans
- Current orders
- Stock levels

Supplies procurement

- Stock in/out
- One click ordering

Quality Control

- Inspections / Measure / Control
- Complaint register

Customer Area

Registered User Detection

- Phone (app)
- NFC
- Button / Screen
- Facial Recognition

Smart Table/Kiosk

- Phone on table
- Build your pizza
- Register
- Repeat orders

Food is ready buzzer, push etc.

Automated food delivery (Sushi bar)

Feature Ideas – Head Office

Call Centre

CRM
Complaints register linked to store
Social media tools – Buffer etc
Order management tools linked

Customer Website(s)

Central website
Find a store
Some customization per store
Order management, create
Register
Preference management
Complaints
Payment
Advertising
How to
Get the app
About us (per store)

Intranet Website & Systems

Marketing machine – SMS & Push & opt out
Store analytics presented to management (+store)
Live KPI tracking
Finance systems

- POS management

HR systems

- Leave
- new staff

Promotion systems

- store can set up vouchers, promotions

Driver management

- Set up geofences, routes, areas to avoid etc.

Menu control
CRM access
External API access – Zomato etc

Next Level Ideas

Drone delivery

3d Pizza printing

Upload a picture and get pizza in that shape

AI pizza suggestion engine – use past behaviour and liked ingredients etc.

Pizza Coin (altcoin ICO etc)

Pizza ATM

PaaS – become the back end to other pizza shops

The awesome pizza making table thing from the ads

VR / Augmented reality for staff and customers

Smart watches for staff