



## Case Studies – Key Projects Done Using Microsoft .NET Technology Stack

## USE CASE – MICROSOFT AZURE CLOUD APP

### About Customer

- Edgar and XBRL Tagging and SEC Filing Service Provider
- Offers consulting, conversion and taxonomy development services
- Customers include leading banks, regulators, financial printers, broking firms, mutual funds etc.

### Business Drivers

- Lack of multi user support due to use of local databases on individual user machines
- Lack of systematic database backup and recovery
- Inability to scale data processing dynamically on demand
- Lack of anywhere, anytime access to the system

### Implementation Details and Technical Capabilities

- Implemented multi-tenancy support using SQL Azure by creating master and tenant databases.
- Used Azure Tables (NoSQL storage) for storing tenant specific configuration and personalization settings to deliver unique user experience to each tenant
- Implemented Message Broker Architecture using Azure Queue service for processing of huge taxonomy documents asynchronously
- Designed and implemented validation and shredding workflows and developed

#### Technologies Used:

- Front End: (Container: MS Azure Web Role) - HTML, CSS, Ajax, JQuery, C#, ASP.NET MVC 3
- Middle Tier: (Container: MS Azure Worker Role) - C#, WCF, ADO.NET, LINQ
- Backend Tier: SQL Azure

## USE CASE – .NET CORE 2.0 WEB API SERVICE

### About Customer

- **Multinational car manufacturing corporation** having presence in more than 100 countries and employing over 240,000 people
- Customer was using error prone Excel Spreadsheet process to track scheduled preventive maintenance activities leading to unorganized communication and lack of collaboration among groups

### Business Drivers

- **Lack of Maintenance Software** leads to **Operation in-efficiency** and production losses due to increased downtime of machines
- A software system is needed to ensure better communication and collaboration among groups
- Ensure efficient tracking and reporting of maintenance activity progress

### Implementation Details and Technical Capabilities

- Implemented Web APIs using cutting edge ASP.NET Core 2.0 Web API.
- Deployment of Service in a load balanced high availability environment
- Designed an easy and simple to use hybrid mobile app using Ionic for quick reporting of breakdown incidences and to ensure advance notifications of scheduled maintenance activities.
- Efficient use of maintenance workers and thereby reduced overtime costs through the means of work order management and assignment.
- Effective analytics and reporting

#### Technologies Used:

- **Front End:** - HTML, CSS, Angular, Ionic
- **Middle Tier:** - ASP.NET Core 2.0 Web API, C#, Entity Framework Core, LINQ
- **Backend Tier:** SQL Server

## USE CASE – MS ASP.NET MVC BASED WEB APP

### About Customer

- **Food Processor and Exporter Company** supplying fresh, frozen and processed food to European countries
- Customer was lacking efficient means of backward integration and supply chain management.

### Business Drivers

- Lack of handy tools to record field observations
- Productivity loss and delays in consolidating information
- Lack of anytime, anywhere availability of traceability data
- Regulatory compliance requirements

### Implementation Details and Technical Capabilities

Designed and developed a seamless web application using MS ASP.NET MVC to provide functionalities such as Goods Inward Entry, Supply Chain Management, Inventory Management, Backward traceability by the means of field observations and activities tracking.

Developed a Web API service as a middle tier that can be consumed by the web application as well as Android mobile app provided to field staff.

#### Technologies Used:

- **Front End:** - HTML, CSS, JavaScript, Ajax, ASP.NET MVC 5, C#
- **Mobile App** – Android, Java
- **Middle Tier:** - ASP.NET Web API, C#, Entity Framework 6, LINQ
- **Backend Tier:** SQL Server

# USE CASE – AN IOT PROJECT USING MS .NET STACK

## About Customer

- Automobile Rubber Part Manufacturer
- Customer was following error prone manual weighing process leading to wastage of material and degraded quality due to inconsistent quantity of raw material being used

## Business Drivers

- Process Automation - Develop a system to automate rubber mixture making process
- System should ensure reduction in wastage of raw material and consistency in picking required quantity within predefined tolerance limits of allowed weight of raw material as per rubber part being manufactured.

## Implementation Details and Technical Capabilities

- Weighing scale sensor to Android App integration using RS232 interface
- Developed State-of-the-art process monitoring to track progress of raw material mixing process
- Android app communicates weighing information to Web API service over Wi-Fi and the service directs the further flow of process accordingly
- The entire automated process can be monitored step by step

### Technologies Used:

- Mobile App: - Android, Java
- Windows App – Windows Forms
- Middle Tier: - ASP.NET Web API, C#, Entity Framework, LINQ
- Backend Tier: SQL Server

## USE CASE – ECOMMERCE APP USING WCF SERVICES

### About Customer

- A fintech client that offers customized services like utility bill payments, domestic remittances, Mobile Recharges, DTH Recharges, etc.
- Has a network of 90000+ retail outlets as channel partners using their services

### Business Drivers

- Upgrade existing system to highly scalable and configurable architecture
- System should be highly extensible to quickly and seamlessly integrate with new Service Provider API interfaces
- Cater to 10000+ concurrent users

### Implementation Details and Technical Capabilities

- Re-engineered the existing architecture of the system and replaced ASP.NET state service based out-of-process session management with in-process session management
- Developed new Service Layer using WCF with Net TCP binding support to provide scalability and faster response yet ensuring secure access to data by hosting them in DMZ along with the DB.
- Effective use of Facade pattern to translate fine grained service interfaces into coarse grained one to boost performance of the service layer
- Used Dependency Injection (DI) based design to develop extensible vendor interfaces for quicker and seamless API Integration
- Performance testing of the entire application was carried out to find out bottlenecks and fix them and also to do capacity planning.

#### Technologies Used:

- Front End: - HTML, CSS, JavaScript, Ajax, JQuery, C#, ASP.NET MVC
- Middle Tier: - WCF, C#, Entity Framework, LINQ
- Backend Tier: Oracle 11g

# USE CASE – THIRD PARTY API INTEGRATION

## About Customer

- Amazon sellers looking for a software tool that –
- Manages their Pay Per Click advertising
  - Provides an effective method of attempting to sell more services and products on the internet with the assistance of Amazon
  - Enables you to quickly reach your target ACoS
  - Increases your Ad ranks by bidding on top buyers keywords

## Business Drivers

- Error prone manual analysis of Product listings, Ad Campaigns, Ad groups and keywords leads to in-efficient determination of it's effectiveness.
- Lack of ability to automatically adjust keyword bids based on analysis
- Listing analysis and optimization
- Manual and automatic bid readjustment tool
- PPC Management

## Implementation Details and Technical Capabilities

- Amazon Advertising API Integration
- Pay Pal Payment Gateway API Integration

### Technologies Used:

- Front End: - HTML, CSS, Angular JS
- Middle Tier: - ASP.NET Web API, C#, Entity Framework Core, LINQ
- Scheduler Jobs – using Windows Console Application
- Backend Tier: Maria DB

## USE CASE – .NET CORE 2.0 WEB API SERVICE

### About Customer

- Education institutes, coaching classes
- Students appearing for entrance exams
- Companies conducting online tests for candidates appearing for interviews

### Business Drivers

- Develop system for providing mock online tests
- Develop highly configurable and flexible system to accommodate changes to syllabus and question set easily and quickly
- System should support different question set addition and modification per client

### Implementation Details and Technical Capabilities

- Implemented Web APIs using cutting edge ASP.NET Core 2.0 Web API.
- Deployment of Service on AWS EC2 instances
- Designed an easy and simple to use hybrid mobile app using Ionic and web app using Angular
- Detailed reporting of percentile score obtained by candidate with correct / incorrect answers

#### Technologies Used:

- Front End: - HTML, CSS, Angular, Ionic
- Middle Tier: - ASP.NET Core 2.0 Web API, C#, Entity Framework Core, LINQ
- Backend Tier: SQL Server



THANK YOU

We would love to hear from you !!!

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To know more about us, please visit

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Thank You !!!