LAB SCENARIO

Building Serverless Solutions with Azure and .NET

The Cool Revive Journey

From Frosty Beginnings to Innovation

Founding Story

- Evalyn Frost and Victor Glacier

- Shared dream: revolutionize world of refrigerator

- Believed every appliance deserves second chance

- Founded during the frosty winter of 2005

- Mission: reduce waste, conserve resources, create sustainable solutions

Early Challenges

- Prototype: ice-blue retro fridge

- Worked into late into the night, soldering wires, recalibrating thermostats, and whispering encouragement to the stubborn compressor

- Knew they were onto something

The Breakthrough

- Innovative approach caught attention of local repair shops, environmentalists, and Percy

- ChillCycle algorithm optimizes cooling efficiency while minimizing energy consumption

Manifesto

- Refrigerators Deserve Resurrection

- Eco-Friendly Overhaul

- Art Meets Appliance

- Community Cool-Offs
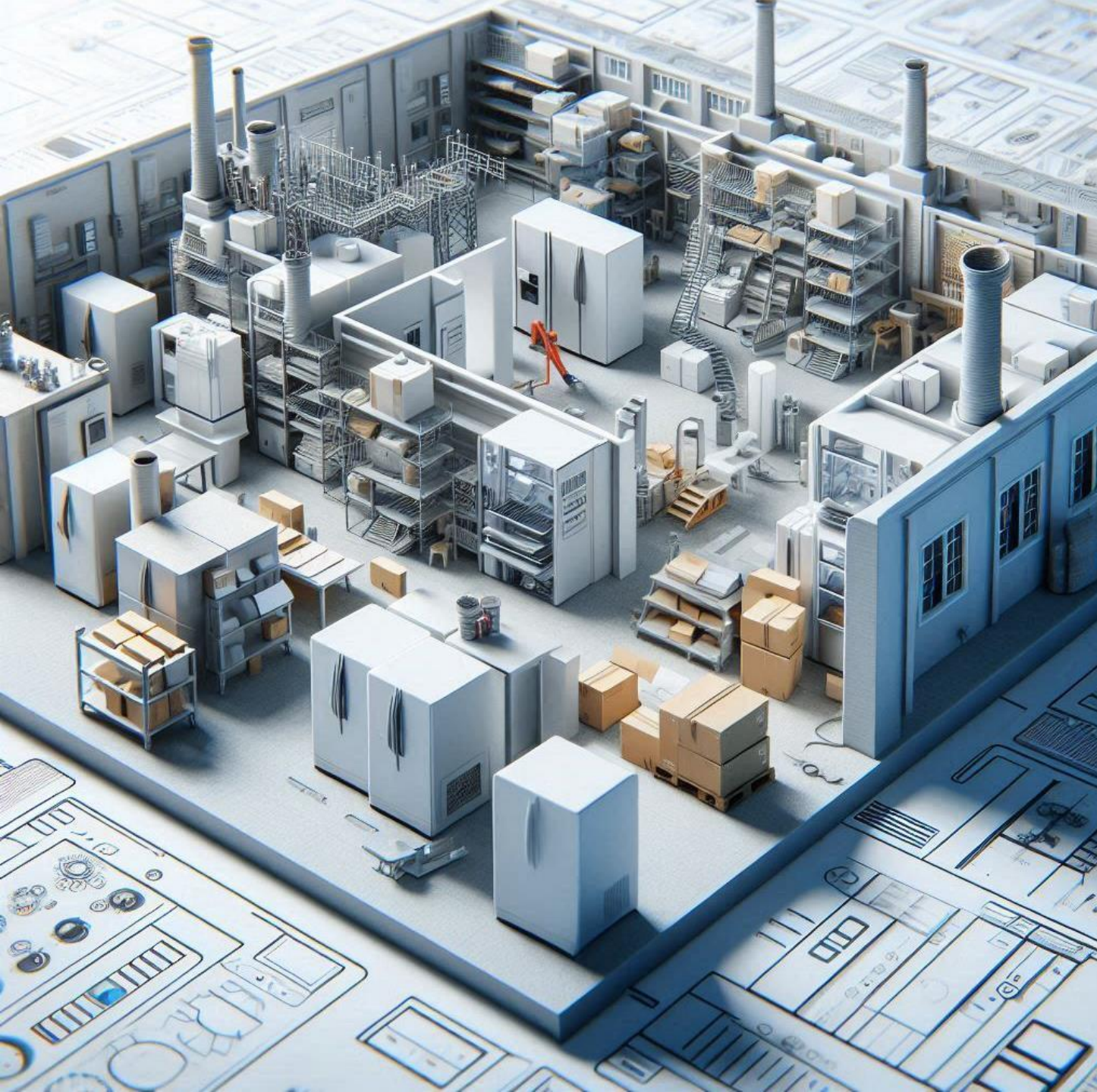
The Cool Revive Legacy

- Stands tall, emphasized by its logo, the phoenix

- Refrigerators grace trendy cafes, cozy cabins, and eco-conscious homes

- Frosty tale of resilience, reinvention, and art of keep things cool

Business Scenario

Refrigerator Remanufacturing

Business Scenario

- Relies on paper-based solutions to manage remanufacturing process

- Need better, more automated process

- Improve company's efficiency

The Remanufacturing Process

Cool Revive's Mission and Values

Environmental Responsibility

Innovation and Aesthetics

Community Engagement

Additional Considerations

- Exemplifies how technology, sustainability, and creativity intersect

- Saves energy and tells a frosty tale of resilience and reinvention

- "Keep it cool, but always stay warm-hearted."

- Automated process will benefit environment

Statement of Work

Automated Remanufacturing Process

Objectives

Optimize Workflow

- Streamline processes to minimize lead time and resource utilization.
- Enable parallel execution of tasks where possible.

Objectives

Optimize Workflow

Scalability and Flexibility

- Design an architecture that accommodates varying production volumes.
- Support future expansion and additional features.

Objectives

| Optimize Workflow | Scalability and Flexibility | **Event-Driven Communication** |

- Implement event-based communication between services.
- Ensure timely updates and coordination.

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Business Requirements

Efficient Remanufacturing Workflow

- Cool Revive aims to streamline the remanufacturing process for refrigerators.

- The solution should optimize the flow from core unit arrival to quality control completion.

- Efficiency means faster turnaround time and reduced resource wastage.

Business Requirements

Efficient Remanufacturing Workflow

Inventory Management and Tracking

- Cool Revive needs real-time visibility into inventory.

- The solution must track part conditions, repair statuses, and assembly progress.

- Accurate inventory data ensures smooth operations.

Business Requirements

Efficient Remanufacturing Workflow

Inventory Management and Tracking

Scalability and Agility

- As Cool Revive expands, the solution should scale seamlessly.

- Whether handling ten or a thousands of core units, the system should adapt dynamically.

- Agility allows Cool Revive to respond to market demands swiftly.

Business Requirements

Efficient Remanufacturing Workflow

Inventory Management and Tracking

Scalability and Agility

Cost Optimization

- Cool Revive wants to minimize infrastructure costs.

- Solutions should avoid overprovisioning.

Business Requirements

Efficient Remanufacturing Workflow

Inventory Management and Tracking

Scalability and Agility

Cost Optimization

Event-Driven Communication

- Events trigger various steps in the remanufacturing process.

- The solution must handle event-driven communication between services.

Business Requirements

Efficient Remanufacturing Workflow

Inventory Management and Tracking

Scalability and Agility

Cost Optimization

Event-Driven Communication

Security and Compliance

- Protecting customer data and complying with regulations are paramount.

- The solution should incorporate robust security practices.

- Encryption, access control, and threat detection are essential.

Business Requirements

Efficient Remanufacturing Workflow

Inventory Management and Tracking

Scalability and Agility

Cost Optimization

Event-Driven Communication

Security and Compliance

Global Reach

- Cool Revive operates internationally.

- The solution should support the global distribution of inventory data.

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Global Reach

Key Performance Indicators (KPIs)

Scalability and Flexibility

- **Auto-scaling efficiency**: How quickly the system adapts to workload changes.

- **Resource utilization**: Ensuring optimal use of resources without overprovisioning.

Key Performance Indicators (KPIs)

Scalability and Flexibility

Response Time and Execution Duration

- **Service response time:** How quickly the services react to events.

- **Execution duration:** Time taken to complete a service action.

Key Performance Indicators (KPIs)

Scalability and Flexibility

Response Time and Execution Duration

Inventory Visibility and Accuracy

- **Inventory update frequency:** How often data reflects changes

- **Data consistency:** Ensuring accurate and synchronized inventory across locations.

Key Performance Indicators (KPIs)

Scalability and Flexibility

Response Time and Execution Duration

Inventory Visibility and Accuracy

Cost Efficiency

- **Compute cost per transaction:** Calculating cost based on usage.

- **Infrastructure savings:** Comparing costs to traditional infrastructure.

Key Performance Indicators (KPIs)

Scalability and Flexibility

Response Time and Execution Duration

Inventory Visibility and Accuracy

Cost Efficiency

Security and Compliance

- **Security incidents:** Monitoring any breaches or vulnerabilities.

- **Compliance adherence:** Meeting industry standards and regulations.

Key Performance Indicators (KPIs)

Scalability and Flexibility
Response Time and Execution Duration
Inventory Visibility and Accuracy
Cost Efficiency
Security and Compliance
Event-Driven Communication

- **Event delivery reliability:** Ensuring event trigger services consistently.

- **Latency:** Time taken for events to propagate.

Key Performance Indicators (KPIs)

Scalability and Flexibility

Response Time and Execution Duration

Inventory Visibility and Accuracy

Cost Efficiency

Security and Compliance

Event-Driven Communication

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Solution Overview

Order Next Core

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