Financial Services

Insurance

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Java/J2EE

Mobile Platforms

Microsoft .NET

ON–DEMAND LAUNDRY SERVICE

Case Study

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The Client

Inspired by UBER the on-demand taxi service, this startup wanted to implement an on demand service for laundry. Metropolitan cities like New York have individuals and couples who are fast moving, career oriented and live in high rises that do not have the necessary or convenient laundry facilities. Moreover, the chore is considered essential but unproductive and uninteresting.

The client wanted to implement an on-demand service using iPhone, similar to UBER, that will make for a pleasant laundry experience for the customers.

The Business Challenge

The client was looking for an application development partner to create an end-to-end solution that will scale to onboard users across neighborhoods, cities, states and country.

The requirement was to develop a suave and impeccable state-of-the-art enterprise system providing an extraordinary user experience. The platform was required to handle several hundred thousand users and provide a secure environment for credit card transactions.

The customers have to be informed of the status of their laundry even when they are not accessing the application. To estimate the time required for reaching the user, to collect or deliver laundry, the Geo location feature of the iOS needs to be integrated. A user request has to be serviced within a reasonable time limit of say 20 – 30 minutes. The system needs to manage the logistics and scheduling of runners. The system needs to archive receipts and provide an easy mechanism for the customers to send feedback.

As the platform needs to support different types of Mobile clients, it has to be built based on true SOA.

The platform as envisaged by the client required the application development partner to:

- Provide a distributed architecture with server clusters
- On-board several hundred thousand users across geographic locations in the next 3-5 Years
- Provide a secure authentication mechanism and exclusive access to the system by invitation
- Configure a sophisticated way to schedule a pickup and delivery of clothes, with the provision for specifying the address

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●   Build a rule-based logistics system that will perform optimal scheduling by identifying the runner who can service the user in the shortest possible time

The Engagement

The Client chose the Thapovan team for its capabilities in building high-performance applications and providing end-to-end solutions and for its tight project management capabilities. The engagement included the following:

●   Combination of onsite and offshore service model.

●   Interfacing with the product team in New York and gathering business requirements .

●   Providing technical project management and steering the engineering team for the company.

●   Designing and developing the core applications and modules in both web and mobile technologies.

●   Carrying out performance analysis, benchmarking, and solution identification.

●   Carrying out new feature design and development.

●   Carrying out quality assurance.

●   Performing application maintenance and change management.

Solution Highlights

The overall solution for this on-demand service platform included a variety of modules and applications. The following are some of the highlights:

SOA Cloud implementation:

The AWS cloud infrastructure was chosen to provide a clustered, fault-tolerant, on-demand, scalable solution. Multiple instances of servers, each with a different software support and hardware configuration was setup.

Onboarding Users – Registration and Login:

The system has a robust registration and login module that auto detects the location and captures the address details. The system is built to be exclusive and allows only invited users.

Schedule a Pick up and Delivery using iPhone:

The system has a sophisticated iPhone application that identifies the current location of the user and walks the intuitively to place an order to schedule a pick up and delivery. The application running in the iPhone lets the user to change the delivery to a different time and place overwriting the address captured automatically

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Bar code generation and reading:

An independent software is used to generate the barcode that is associated with each laundry bag. The laundry bag is given to the user for storing the clothes to be laundered. As the Julliete runner picks up the the laundry, the bar code associated with the laundry bag is scanned by the application and the information is tagged in the system for continuously updating the status.

Apple push message integration:

To keep the user informed of the status, even when the user is not logged into the application, the apple push message system is closely integrated with the platform to inform the user about the status, even when the user is not logged in to the application.

Payment Integration

The credit card information captured at the time of registration is stored securely and is used to process the payments for the laundry using STRIPE, a third party payment gateway and processing vendor.

Technology Environment

Major Technology Components:

Language: Java, PhP, Objective C, JQUERY,
Webserver: Apache, TOMCAT
Database: MYSQL,

Apple Push Message system

Caching Technolog: E-CACHE, REDIS
Architecture: MVC – 2
Frameworks: ZEND

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Key Technical Tools Used:

- E-CACHE, REDIS – Free, open source, high-performance, distributed memory object caching system used to reduce database load and improve performance.
- CLUSTERED MULTI-CORE SOLR - High-performance, full-featured text search engine library written entirely in Java and PhP. Used for greatly enhancing text based searches resulting in outstanding response times.
- BAR CODE generation and reading
- AJAX,JSON
- JSON for easy retrieval of the data in the PHP pages.
- Distributed Database : Better performance, fault tolerance and failover
- Session Tracker for auto logout of inactive sessions
- J-METER for performance testing

Results Achieved

The client achieved the following major benefits from the partnership:

- A complete state-of-the-art neighborhood social platform
- Rich functionality, high-performance, high availability, and ease of administration
- Highly cost effective solution with a significantly better ROI
- Excellent customer adoption and user base growth
- Joint Development that led to better products that were brought to market faster
- Efficient use of technology that led to a wonderful user experience

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