



ENTERPRISE WEB APPLICATIONS



AN AMERICAN ELECTRONIC BILL PRESENTMENT AND PAYMENT (EBPP) SERVICE PROVIDER INCREASES MARKET REACH WITH ROBUST WEB APPLICATION

QUICK READ

The EBPP application launched in 2005 as a subsidiary of Client's parent company, which is a leading "Service Bureau", offering computer services to various businesses throughout Southern California since 1970. The computer services offered included processing payrolls, accounts receivable, accounts payable, general ledger, and many other custom systems. For the past 15 years, Client has focused on the waste industry and municipalities, providing outsourcing services.

The EBPP service web application launched to better serve the needs of Client's customers as well as provide state-of-the-art Electronic Bill Presentment & Payment services to organizations, which do not use Client's services.

The SaaS application manages electronic payments for the customers, maintains invoices and information for reporting purpose, and provides comprehensive functionalities including electronic bill presentment and payment service, virtual terminal service, customer support system and transactional management system.

The legacy system built on PHP had grave performance issues in managing large transaction load; thereby leading to loss of customers. Client decided to have a system overhaul wherein system should be able to handle large amount of data and hundreds of users accessing the system simultaneously. In addition, the system should concurrently handle 15-20 automated jobs that are scheduled to run daily.

PSI offered comprehensive solution to fix the problem & support the application. PSI created a robust application, helping the client to increase market reach and ensure high quality customer experience. We provided 10 months onsite and 60 months off-site support, which is still going on.

Since July 2008 PSI Team has successfully released 200 builds, provided 100 critical, 105 major and 286 minor fixes; and 250 feature enhancements since going live.

THE CHALLENGE

The major challenge was designing a new version of the system, which incorporates (and adds on to) the features of the previous version, while getting rid of the existing deficiencies and ensuring a much more scalable and secure application.

KEY BUSINESS CHALLENGES

- Designing a new version of the system which incorporates (and adds on to) the features of the previous version, at the same time, getting rid of the existing deficiencies

Project Highlights

Client

Electronic Bill Presentment And Payment (EBPP) Service Provider

Location

United States

Industry

Non-Vertical / EBPP / B2B

Solution Domain

Software as a Service (SaaS), Electronic Bill Presentment and Payment

Project Duration

2008 Ongoing

Team Size

5

Delivery Model

Hybrid Model with Onsite & Offshore

Engagement Model

Initially turnkey and now time & material

- Making sure the new version is much more scalable and secure (in terms of sensitive data protection)
- Migrating existing customer data from the old system to the new system and making sure the process is as smooth as possible for the end user
- Designing a secure system to protect against various vulnerabilities including protection against XSS and CSRF attacks and getting PCI certified, so sensitive card/bank account data is secured with the system.
- Integration with different types of industries including Health Care, Hardware Retail Chain, Waste industries, State Water distribution company.

KEY TECHNOLOGY CHALLENGES

- Handle large amount of data and thousands of users accessing the system simultaneously.
- The system has to handle 15-20 heavy processing automated jobs that are scheduled to run daily.
- Integration with multiple payment processor API.
- Create a methodology for quick setup and debugging.
- To meet an SLA of payment response time > 1 sec
- Fetch Transaction reporting on millions of data per month

TECHNOLOGY DEPLOYED

Language	:Java/J2EE
Framework	:Spring MVC, Hibernate
Front End	:BootStrap, HTML , JQUERY
App Server	:WildFly 10.x
Database	:MySQL 5.7.x
Platforms	:Java: JDK 1.8, OS: Windows XP, Red Hat Linux 6
Other	:Java Mail API, JMS & JAAS

Solution Approach

- Understanding of the existing system and extracting requirements based on the existing system and as per discussion with client
- Complete design and development of the new system using the Waterfall model.
- By integrating with payment processors, we have nullified the need to store sensitive card/bank account data
- Develop data migration utility to help migrate data from the old system to the new one
- In maintenance mode, we have switched to an agile hybrid model. We make Quarterly releases, which contain fixes and/or feature enhancements as requested by the client.

Mapping With The Challenges

Backed with rich expertise and experience of Application Development in Java/J2EE and MySQL database; PSI has been able to provide round-the-clock support. We provided on-site support initially and have been providing off-site support for the last 60 months.

- Robust Solution with high performance
- Successfully integrated with four payment processor APIs and system has been built in a way to make integration with additional payment processors easier
- Employing multiple database approach has provided added security (data segregation that avoids mix-ups) and is the backbone behind the system's capability to be highly customized for different third party clients

Catering To Market Needs

- More robust and feature-rich than the old version
- The EBPP web application has enabled a rich customer experience
- With large transaction handling capability client can cater to larger market
- Highly customizable system and good example of a SaaS product

ACHIEVEMENTS

- Successfully released 200 builds; 100 critical, 105 major and 286 minor fixes; and 250 feature enhancements
- Quick response to the client's support request within 24 hours
- For critical issues, ultra-quick response within 1-2 hours
- Scalable, robust and feature rich system
- A potential SaaS product which could go commercial soon

About PSI

Pratham Software (PSI) is a global IT services company (with established ISO 9001:2015 & ISO/IEC 27001:2013 practices) providing software product development, consulting and outsourcing solutions to enterprises world-wide. While providing a wide range of solutions, we focus on Outsourced Product Development (OPD), Business Process Management (BPM), Application Development and Maintenance (AMD) and Content Engineering. Our extensive experience in OPD helps us build strong relationships with Independent Software Vendors (ISVs), as we work with them throughout the product development lifecycle. In terms of technology and platform, we work across all major technologies such as Microsoft, Java and Open source and have capabilities and experience in developing solutions for web, mobile, Cloud and social media. For Enterprise customers, in addition to Process Automation, we also offer development and support services in BI and DWH.

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