Digit88

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CASE STUDY 2025

Engineering a **full-scale SaaS product** for a US-based Fortune-500 Energy/ Utility Company

Highlights

- The client needed to automate solar credit allocation and billing to eliminate manual inefficiencies and high operational costs.
- Digit88 led end-to-end product engineering, ensuring seamless third-party integrations in a multi-vendor ecosystem.
- Delivered an innovative SaaS solution, achieving complex integrations, a **60% reduction in billing efforts**, and a smooth production go-live on-time and within budget.

Client

The client is a Fortune-500 energy company headquartered in Hartford, Connecticut, and Boston, Massachusetts, with several regulated subsidiaries offering retail electricity, natural gas service, and water service to approximately **4+ million customers**.

Challenges

- Scattered manual workflows across multiple vendors (PowerClerk, ClearResult) and databases created inefficiencies, requiring extensive manual work.
- Processing credit allocations and billing manually led to frequent errors, overpayments, and underpayments, making reconciliation complex.
- Business rules buried in spreadsheets slowed updates, increased miscalculations, and made process modifications cumbersome.
- A lack of system integration and automation introduced security risks, created multiple points of failure, and limited the ability to scale operations efficiently.

Results & Outcome

- **Zero operational disruptions** – Structured 12+ months milestone based rollout ensured seamless transition.
- **>97% defect removal efficiency** – Rigorous automated testing minimized post-deployment issues, enhancing system reliability.
- **70% reduction in regression efforts** – Automation reduced testing time, allowing faster feature releases and improved maintainability.
- **60% faster billing & credit processing** – Eliminated delays, improved accuracy, and enhanced financial operations.

Strategy & Solution

Digit88 designed and built a scalable SaaS platform to automate the Solar Credits Allocation process, replacing manual workflows with an integrated, efficient system. The platform was developed using a microservices-based architecture to ensure high availability, fault tolerance, and scalability.

With AWS infrastructure automation, the platform could provision and scale environments on demand, eliminating delays. End-to-end security measures, including encryption, access control, and penetration testing were integrated to safeguard sensitive data. Automated testing using improved release cycles and cut regression testing efforts.

Digit88 led the entire project lifecycle, managing product teams, UI/UX, QA, security, compliance, and global vendor coordination. A team of architects, engineers, and DevOps specialists ensured smooth implementation and ongoing reliability.

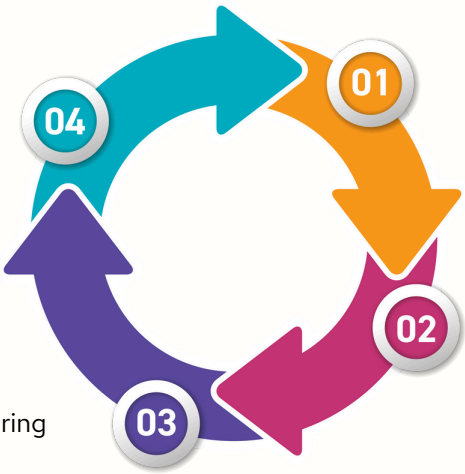
With real-time monitoring, alerts, and logging, the system provided full visibility into operations, reducing downtime and improving efficiency. Delivered on time and within budget, the platform is now fully operational, with Digit88 managing hosting, support, and maintenance.

Tools & Technologies

React, Java, Springboot, Microservices Architecture, AWS, Terraform, Elastic/OpenSearch, CI/CD, CloudWatch, Kibana, Production Alerts integrated into Slack, Email and other channels, Postgres DB, Veracode, Cypress, Postman, OKTA, Azure AD OAuth implementation and integration, Auto-recovery

Support & Maintenance

- 24x7 Support, On-Call
- High Availability Infra SLA
- Regression & QA Automation
- Bug fixes
- Technical Debts & Upgrades



Initiation, Design & Development

- Requirements, Design, Architecture, Development
- Agile/ Scrum Delivery Model

SaaS Product Aspects

- Observability: App logs, Monitoring
- Accessibility: WCAG 2.0, ADA
- Security: Encryption, Access Control, Penetration test using Veracode
- QA Automation
- Quality: SonarQube, CI/CD, Jest, Github Actions

AWS Infra Automation

- IAAC Using Terraform
- EKS Clusters
- AWS Open Search
- Cloudwatch, Alerts
- Dev, QA, Stage, Prod, PERF ENVS