CleanSlate

HERFF JONES **TECHNICAL INSIGHTS**

A SaaS **JOURNEY**

aws
PARTNER
Advanced Tier
Services

EXECUTIVE **SUMMARY**

Herff Jones, a national leading marketer and manufacturer of student achievement products sought the help of CleanSlate to enhance their yearbook design application. Their core product, eDesign, was running on an outdated 14-year-old flash-based system prone to failure, unsustainable, and nearing the end of life. This created many problems for the company including failing technology, lack of space for innovation, low flexibility for customers, and left Herff Jones struggling to meet the demands of the market.

The solution for Herff Jones involved creating a SaaS product deployed on AWS, supporting 100,000 users in 8,000 schools. It ensured data security through tenant isolation and allowed collaborative work with role-based user management. CleanSlate implemented a robust SaaS DevOps process, involving 10 scrum teams, to automate and ensure quality in releases. This resulted in a faster feature release pipeline and, along with a defined product roadmap, led to a 30% increase in Herff Jones' market share by delivering features more quickly.

THE BURNING **PLATFORM**

Herff Jones' foundational application was built on an aging platform, failure-prone infrastructure which slowed business and product innovation. This legacy platform was over 14 years old and was designed only to build and design yearbooks with outdated and unusable methods. This caused problems with product functionality and crashed often which caused many customers to move away from Herff Jones as their yearbook designer.

Overall, the customer experience was hampered by the instability of the existing application, system performance, lack of new features, long onboarding process, and inability to innovate. This platform boxed Herff Jones into a small part of the school achievement product market and caused them to lose their edge in the industry, becoming a laggard as opposed to their former leader position. They were stuck in a yearbook printing mindset instead of a SaaS product focused one to deliver the desired customer experience opening Herff Jones up to new potential markets. Herff Jones was focused on refactoring their application on AWS but needed a cutting-edge SaaS solution running 100% on AWS to achieve this.

> Herff Jones' current system needed a full upgrade and had many problems that impacted their business negatively. The new platform is needed to solve these problems and create an improved customer experience.

MAJOR CHALLENGES & **PROBLEMS TO SOLVE**

Herff Jones' current system needed a full upgrade and had many problems that impacted their business negatively. The new platform is needed to solve these problems and create an improved customer experience.

- **Herff Jones lacked a stable and scalable solution that scaled for schools, users, and yearbooks.**
- **The inability to launch new features with quality and without impacting users hindered innovation.**
- **The company needed to shift from a Yearbook Printing mindset to a SaaS Product Mindset.**
- **The overall experience from customer onboarding, instability, and ability to effectively produce a yearbook needed to be reworked.**

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SOLUTIONS

TECHNOLGIES & SERVICES USED

MODERN DEVELOPMENT & SaaS

- Amplify
- API Gateway
- App Sync
- Device Farm
- Location Service
- Java
- .NET
- Node
- React Native
- Apple
- Android
- Iconic

AWS SERVICES

- App Runner
- Batch
- EC2
- EC2 Auto Scaling
- Elastic Beanstalk
- Lambda
- LightSail
- Serverless Application Repository
- Snowball
- Snowcone
- **DATA ANALYTICS**
- Athena
- Cloud Search
- Data Exchange
- Data Pipeline
- Glue
- Kinesis
- Lake Formation
- Managed Streaming for Apache Kafka
- OpenSearch Service
- Quick Sight

Herff Jones lacked a stable and scalable platform to grow their business. The system CleanSlate built solved this problem through the development of a multi-tenant SaaS solution to simplify deployments and reduce overhead. This multi-tenancy allowed their many clients to leverage the same system while still allowing for tenant isolation to ensure that each tenant is separate while sharing the same infrastructure. Under this tenant isolation, all data and users could have individualized work being done in a collaborative environment. This new platform also ensured that the work of each client would not impact the performance of other clients and used automatic deployment to create a workspace where all updates and analytics are constantly monitored to ensure a seamless customer experience.

Another problem that CleanSlate engineers focused on solving was the inability to launch new features without affecting current users. This was solved using Product Roadmaps and SaaS DevOps. The Product Roadmaps allowed Herff Jones to strategically plan, communicate, and coordinate the launch of new features. It also helped the company to align product development efforts with business objectives and enabled Herff Jones to adapt to changing market conditions.

CSTG also leveraged SaaS DevOps practices to innovate and launch new features while minimizing disruptions and ensuring a smooth experience for current users. The DevOps approach utilized Continuous Integration and Continuous Deployment (CI/CD) to allow for frequent and incremental updates to the eDesign platform. Along with CI/CD, CSTG also used A/B testing to assess the impact of new features and current users to ensure minimal hindrance for current users of their platform with new updates. These solutions helped to ensure Herff Jones modernized without losing its current clients.

> Multi-tenancy allowed their many clients to leverage the same system while still allowing for tenant isolation to ensure that each tenant is separate while sharing the same infrastructure

The greatest shift that needed to happen within this project was the shift from a Yearbook printing mindset to a SaaS product mindset for Herff Jones. To start this, CleanSlate focused on making every change centered around improving the customer experience. This involved using an MVP method. To implement this, engineers used agile development to break down the transformation process into small, manageable tasks and prioritize them based on customer needs.

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This focus on user-centric designs was useful to conduct user research, gather feedback, and better understand pain points to validate design decisions. In addition to the use of product roadmaps to innovate new features, these were also used to align the launch of new products and updates with the needs of clients to prioritize features and embrace development for customers. These methods ensured that the transition from a yearbook printing mindset to a SaaS product mindset was smooth not only for Herff Jones but for customers as well. With these new implementations, customers could now benefit from a product that evolves with their needs, provides seamless performance and incorporates their feedback into ongoing product enhancements.

The new SaaS app far surpassed the competition with more than 200 unique features implemented, increased release frequency from 6 months to daily and dramatically reduced downtime.

The biggest objective throughout CleanSlate's work with Herff Jones was to enhance the overall experience from customer onboarding, scalability, and the ability to effectively produce a yearbook. The SaaS solution created involved the innovation of an improved onboarding and SaaS identification process. This allowed clients to onboard new users to their system while remaining within their isolated environment. This design also integrated scalable infrastructure with automation and auto-scaling based on usage. Users of the newly updated system benefit from a highly available, responsive, and elastic system that works efficiently to maintain consistently high performance.

The SaaS mindset used allowed the creation of a product that could scale seamlessly to meet user demand while optimizing costs and maintaining reliability. To help ensure this reliability, the deployment method was changed to automatic deployment from the previous 6-month practice. This allowed for a more frictionless user experience through continuous updates. Using tools such as CloudWatch, New Relic, and others allowed CSTG to ensure that this constantly updating system had a monitoring system that collects analytics and scalable profiling of users. This monitoring helped to increase the effectiveness of the application and allowed Herff Jones to detect needed updates and enhance user experience based on current usage. These SaaS implementations made the platform for Heff Jones more user-friendly for both present and future users.

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SUCCESS **METRICS**

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KEY METRICS **AT A GLANCE**

30%
INCREASE

MARKET
SHARE

100K
USERS

CONCURRENT
USERS

ON DEMAND

FEATURE
RELEASES

SUCCESS **METRICS**

Our partnership delivered tremendous value through technology implementations. CleanSlate was able to design and build a solution that creates value, resulting in improved business growth, customer retention, and operational efficiencies.

- Increasing support for customers including the ability to support over 8,000 school systems with multiple users per school enabled collaboration isolating customer information.

- Improved customer satisfaction and retention rates with agile and dynamic process development and release cycles that fixed issues faster and catered to their customers' wish lists.

- Far surpassed the competition with more than 200 unique features implemented.

- Increased release frequency from 6 months to daily and dramatically reduced downtime.

- Enabled more than 100 developers to work on SaaS modernization efforts with continual deployments and multiple AWS environments deploying to non-production environments in less than 1 hour.

PASSIONATE PARTNERS
INSPIRED INNOVATION

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SaaS Services
Competency

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Competency

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