CASE STUDY

TRANSFORMING DISPARATE LEGACY SOFTWARE APPLICATIONS INTO A COMPLEX SAAS PLATFORM

Client Background

Our client is the largest provider of ASC software and therapy software as well as billing services for ambulatory surgery centers, specialty hospitals, and rehabilitation clinics nationwide. With 30 years of real-world experience, more than 5,200 customers, and the confidence of more than 250 consultants and management companies, the company offers the broadest range of solutions and enhancements available to the industry.

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Business Challenge

Our client was using a wide range of legacy healthcare applications with different patterns. All the applications were developed by different people with different design approaches. During many years of usage the applications' functionality expanded and the set of the legacy applications had become an unwieldy, disparate collection of design solutions. In addition, the company`s old system workflows required users to go through many different windows, which was very time-consuming, and presented a high risk of errors.

In order to streamline this process, save costs and improve usability and productivity, our client realized they needed to bring all these programs into one single systemic healthcare solution with different modules and a single principle of interaction. SoftServe and the client have a long and successful history of collaboration as SoftServe developed Patient Portal (a module for patient registration) and EAS (a solution for the management of a library of codes, diagnoses and medical procedures) for the company. After extensive research, the company selected SoftServe for this new project.

The main goals of the project included:

* Developing a solution that would simplify the usage of the legacy products
* Transforming many applications with inconsistencies in their behavior into a single application with many modules
* Ensuring consistent interaction between the application's elements in all modules
* Flawlessly switching the existing company's clients from legacy applications to a new convenient and consistent platform. All information entered into the new system, needed to be accessible from the legacy applications

Project Description

SoftServe's team for this project consisted of 60 people: developers, UX designers, requirements manager, business intelligence manager, architect, quality assurance managers, and project manager. All the necessary domain knowledge was provided by the client's team, and SoftServe's team validated all the decisions with them.

Communication with the client was made through the business intelligence manager, who had good domain knowledge, helped generate ideas, and became a link between the development team and the client, ensuring the product development complied with the customer's requirements, as well as met the customer's needs. A retrospective meeting was held at least bi-weekly to discuss accomplishments and results.

The main project challenges for SoftServe's team included:

- Technical and security restrictions (HIPAA). SoftServe's team had to ensure absolute security of users private and financial data
- Many applications which were not scalable needed to be transformed into one scalable SaaS product
- Vast amounts of user data needed to be arranged in logical format
- The ability for users to effectively interact with 3 entities: Library Codes, Billing, Patient (picture)
- Data structure in the new system needed to be similar to the data structure in the legacy applications
- Consistent pattern interaction had to be ensured
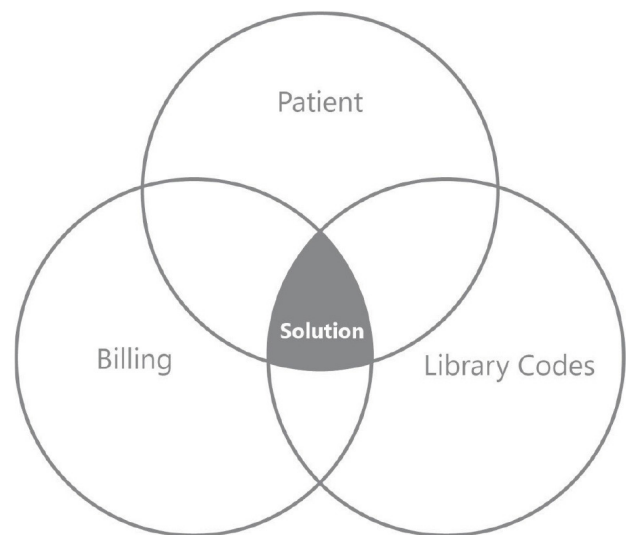
Project stages:
- Dictionaries
- Preferred Codes
- Group Management
- Procedures Management
- Contract Management
- Business Units Management
- User Roles
- Insurances Management
- Audit Log
- Tenant Management

SoftServe's team analyzed the legacy applications, learned how to use them, resolved them into components, and identified their most valuable features to use in the new application. The resulting application uses different modules with a single approach that enhances learnability and usability, and enables consistent pattern interaction. If necessary, new modules can be added to the application.

The complex and functional system allows:

- Accountancy, patient, diagnosis and procedure codes management
- Creation, editing and deletion of procedures
- Business unit management
- Management of patient information and patient registration
- Insurance and billing management
- Detailed audit logging
- Overall system administration
- Role-based interaction with the system

To illustrate use cases for some modules UML diagrams were created. The developed SaaS platform also contains a module for quick prior registration of patients by telephone, enabling them to create appointments – SPR (Single Patient Registration). The team also delivered a solution to save the data that the users enter when they fill in the form online.

Value Delivered

The complex SaaS healthcare platform developed by SoftServe's team helped our client by:

- Eliminating duplicates in their databases due to the quick patient registration
- Unifying the databases of all products
- Rearranging the database
- Reducing human error
- Enhancing usability and learnability
- Improving the user journey
- Enabling backward synchronization
- Increasing productivity due to the consistency of design patterns
- Saving costs for educational support due to enhanced learnability
- Ensuring scalability through the ability to add new modules to the SaaS platform
- Delivering a new, user-friendly look and feel for the UI

"Many healthcare systems are complex, difficult to use, and have an outdated UI. Changing that takes immense effort." said Andrii Rusakov and Nazar Stefyuk, SoftServe's UI/UX Designers. "Our goal was to create consistent modules with different functionality without creating a steep learning curve for existing users. Other tasks were to simplify user workflows and optimize work with large forms."

The client was pleased with the results of the project and plan to collaborate with SoftServe to work on a new release of the application.

ABOUT US

SoftServe is a global digital authority and consulting company, operating at the cutting edge of technology. We reveal, transform, accelerate, and optimise the way large enterprises and software companies do business. With expertise across healthcare, retail, media, financial services, software, and more, we implement end-to-end solutions to deliver the innovation, quality, and speed that our clients' users expect.

SoftServe delivers open innovation – from generating compelling new ideas, to developing and implementing transformational products and services. Our work and client experience is built on a foundation of empathetic, human-focused experience design that ensures continuity from concept to release.

Ultimately, we empower businesses to re-identify their differentiation, accelerate market position, and vigorously compete in today's digital, global economy.

Visit our **website**, **blog**, **Facebook**, **Twitter**, and **LinkedIn** pages.

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