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Digital
Engineering

Designing Experiences.
Engineering Outcomes.

Foreword

In today's rapidly changing technical and competitive environment, the onus is on organizations to continuously develop digital products, to surge ahead, and truly be an innovative disruptor in an effort to stand out amongst their competition. As a result – companies turn to Cognizant for help.

We're the lucky ones chosen to join them on the journey to achieving innovation and as a true extension of our clients – we form premier partnerships, working alongside their teams of managers, designers, analysts and other masterminds – creating and supporting groundbreaking, innovative digital software products.

At our core, we commit to not only supporting the visions of our partners, but collaborating and elevating our design and engineering teams in a way that can completely transform the process of a digital journey – promoting innovation and improving business outcomes.

Take a look at our work and see how Cognizant designs experiences and engineers outcomes for the modern business.



Andres Angelani
CEO,
Cognizant Softvision



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Financial Services Firm Scales Faster Than Ever and Reduces Costs

The Challenge

Our client's internal software development team is comprised of 77 team members, across eight different locations – one half in the U.S. and the other half in Southeast Asia – with a nine-hour time difference between them. With these significant time zone constraints, there is roughly 1.5 hours of the work day that overlaps between the teams, making productivity and collaboration difficult.

The added complexity of introducing new software features on a continuous three month cadence left little time for the client to dedicate, focus and implement new processes – leaving the company vulnerable to potential disruptions in delivery.

The Solution

Seeing the advantages of the Cognizant Softvision delivery model, the client brought us on to help increase the team's collaboration and quality, without compromising delivery.

By leveraging our global talent, we immediately addressed the client's time constraint issues with a specifically curated pod, aligned much closer to the client's U.S. team, allowing for over six hours of working time zone overlap. This allows the two teams to not only collaborate on upcoming feature updates and define the product roadmap enhancements, but build those features out to where they are completely 100% functional upon delivery.

RESULTS

Drastically reduced time to market

Accelerated team productivity

Increased quality

Lowered overall costs, saving millions in unnecessary spend





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Leading Pawn Retailer Partners to Increase Engagement and Efficiency

The Challenge

This leading pawn retailer required a nimble solution that would rearchitect its legacy point of sale system into not only a scalable, microservices-oriented solution, but one that would flex to meet all necessary requirements set forth by each operating territory. Additionally, it wanted to increase in-store customer engagement.

The Solution

The client desired a new tablet-based point-of-sale solution that not only drives new sales and financial transactions, but improves engagement – moving the associate from behind the counter and onto the sales floor.

The Cognizant Softvision team initiated a cognitive laboratory to observe, document, and truly understand the operational realities of the client's environment and the potential impacts the proposed solution would have. Throughout this discovery, Cognizant Softvision product and design leaders, technical directors, and client executive leadership were all involved, helping to better understand what team associates were looking for in a new solution, validating hypotheses, and incrementally improving the product design with direct feedback from future users. As a result, the team crafted several product strategies and a clear project roadmap for a pilot program of 25 stores starting late 2019.

RESULTS

Increased client engagement

Strengthened in-store customer experience

Drove greater revenue growth

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Global Specialty Retailer Partners to Enable Rapid Growth Plans

The Challenge

This specialty retailer, in business for the past 25 years, has experienced explosive growth over the last three years. Looking to build on this exciting momentum, the company desired to scale on a global level, entering a minimum of five new markets per year. However, its existing IT infrastructure was not flexible and scalable enough to support this bold vision without compromising quality, experience and partnerships.

The Solution

The client originally discussed building new features on its existing online platform. After reviewing our approach, the company president and other executives realized that Cognizant Softvision should play a strategic role in the broader new markets initiative by supporting the deployment of each one.

Immediately, we ramped up the five high-performing teams called pods that would enable a quick delivery and go-to-market solution. One pod was dedicated to the new markets initiative, one to building a new enrollment funnel using ReactJS, one to enhancing the current user experience and one to each new market aspect (e-invoicing and payments). With our help, development cycles for the Costa Rica and Korea new market launches are underway and prepping for launch.

RESULTS

Accelerated time to market

Enhanced user experience



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Metabiota's Application Suite Improves Understanding of Epidemic Outbreaks and Economic Impact

The Challenge

Metabiota has created the largest infectious disease catalog in the industry, including a one million year stochastic event catalog informed by over 20 million simulations. The company wants to provide its customers with data and tools to independently explore and analyze complex epidemiological data.

The Solution

The goal was to create a highly scalable and distributed data management and analytical platform. The system manages everything from aggregating data from various sources and storing it on specific data storage per use case to visualizing historical data based on users' analytical needs.

As part of our partnership with Metabiota, our team embedded into Metabiota's engineering workforce using a highly collaborative and agile approach for co-developing various solutions in the development of the data platform. One solution featured "Ingestion Jobs," a set of tools that support the importing of new epidemic data. The epidemic data is collected, organized, and curated by Metabiota's data analysts and provided to engineering in csv format. The Ingestion Jobs process this data, aggregate it and store it in databases for further analysis on the impact a specific virus would have over preselected geographic regions.



RESULTS

Provided real-time data analysis

Strengthened quality and technical excellence for users

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Intuitive Platform Monitors Diseases and Outbreaks Around the World

The Challenge

Our client identifies epidemics by monitoring diverse reporting sources and capturing data from significant events in a database. Aiming to stay current on which infectious diseases are emerging and to gain insights about them, the client desired an application that could be used publicly to monitor infectious disease threats and current outbreaks around the globe.

The Solution

A team from our [Cluj-Napoca](#) and [Timisoara Studios](#) in Romania set to work developing the app from scratch. The design phase began in early winter 2018, and the solution was implemented, tested and deployed between January and April 2019. The platform created offers detailed information for over 120 distinct pathogens, including a profile, history and up-to-date disease statistics. The intuitive platform, which is free to the public, allows users to view, analyze and understand events that could impact human and economic health. As the solution was open to the public, more visibility was achieved for our partner, and the company's CEO remarked on his thoughts and experience at the close of the project.

RESULTS

Enhanced user experience

Brought more visibility and awareness to the product and company



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Helping to Modernize the Test Day Experience

The Challenge

The company had a big goal to “Modernize the Test Day Experience.” The company engaged Cognizant Softvision for this challenge, which included building custom digital tools and platforms for all key stakeholders – test administrators and coordinators, students taking the exam, and employees supporting test days from their “command center.”

The Solution

Cognizant Softvision walked our partner through the process to begin defining differentiated digital experiences or tools for each group of stakeholders. It was determined that several new software and technology solutions would be needed. In order to enable these applications, the modernization of back-end systems was required, along with a clear roadmap for how to deliver these experiences.

Softvision curated two dedicated teams, or pods, to develop the software and technology, starting with the web and mobile applications for the test administrators and coordinators.

The custom applications enable administrators to go through the pre-test planning process, manage the test day, and complete the post-test set of processes – all digitally.

RESULTS

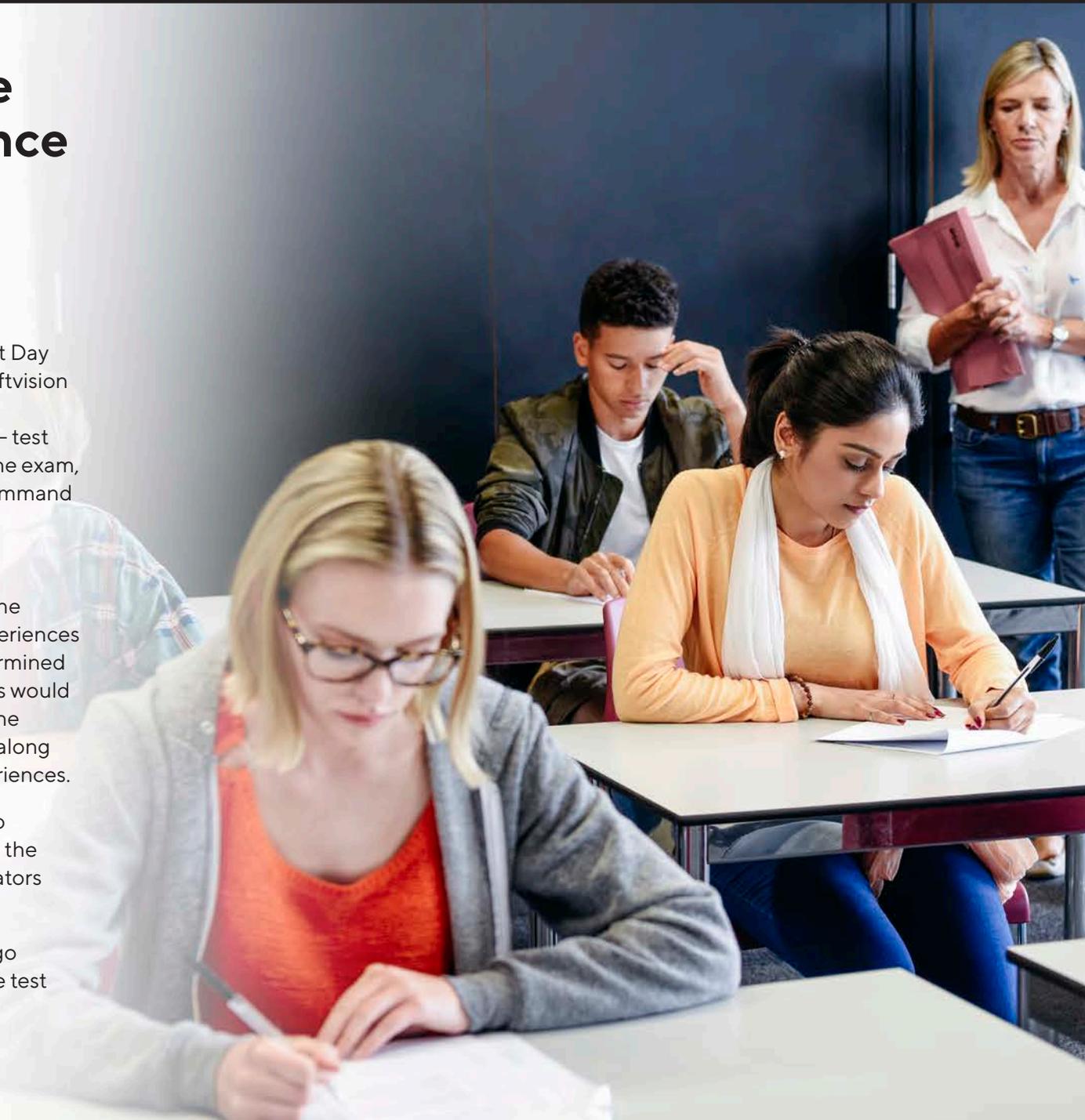
Redefined user experience for a more robust offering

Improved the entire test day experience

Allowed for deeper engagement with students and test administrators

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Severn Trent Water Cuts Costs and Improves the Experience Through a Digital Transformation

The Challenge

Software drives every aspect of STW's business, including real-time metering and management of leaks, water quality and wastewater. Maintaining a large and complex application portfolio left little time for innovation. Of more than 350 applications, almost 60% are heavily customized commercial off-the-shelf applications, including SAP and third-party field management applications integrated with supervisory control and acquisition systems (SCADA) and IBM Operational Decision Manager (ODM). STW desired an Agile transformation that would fast track value delivery to its business and customers.

The Solution

Through more than 60 interviews with business teams, developers, operations staff and end users (customer service agents, field agents and water delivery partners), the STW internal team, alongside Cognizant Digital Engineering, identified the following requirements for sustainable transformation: people, process and technology.

After helping to identify the goals, Cognizant served as STW's partner in the digital transformation journey. Together, we implemented a core transformation team – STW leaders and digital engineering experts from Cognizant – conducting daily scrum meetings to implement the people, processes and tools required to modernize each team.



RESULTS

Accelerated application release cycle by 300%

Reduced lead time needed for infrastructure, security and prioritized backlog

Improved "first time right" ratio by 40%

Freed up 20% more time to innovate

Boosted employee job satisfaction

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Leading Retailer Focuses Aim at Connecting All Readers, Not Just Current Customers

The Challenge

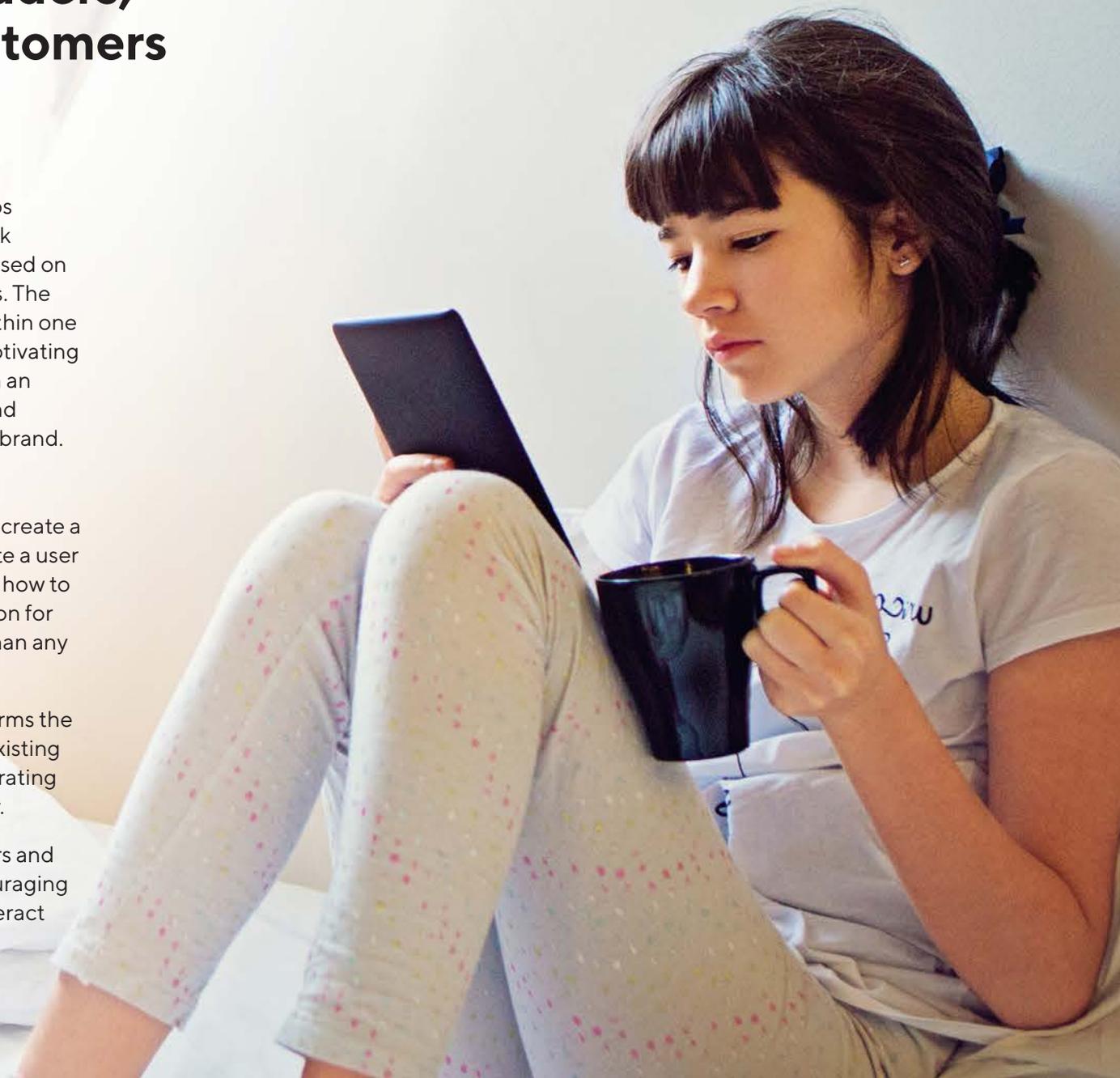
This retail bookseller had a number of different apps on the market, including ecommerce, an audiobook listening app, a digital reading app and an app focused on creating a community with similar reading interests. The company desired to showcase all of its offerings within one application – enhancing the digital experience, motivating users to participate in the community, shifting from an ecommerce-centric app to a reader-centric app and ultimately introducing the entire ecosystem of the brand.

The Solution

The Cognizant Softvision team was approached to create a new app, merging features of existing apps to create a user interface that would bring it all together. Unsure of how to execute, the company selected Cognizant Softvision for our ability to build a human-centered app better than any other partner it met with.

The newly redesigned web app completely transforms the current user experience of accessing each of the existing apps independently, which created not only a frustrating user experience, but one that lacked in brand unity.

The result was an opportunity for current customers and all readers to connect through a community, encouraging them to discover other interesting reads and to interact with other community members.



RESULTS

- Enhanced user experience
- Became a more software-centric company
- Unified brand awareness

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Data Processing Platform Helps Farmers Increase Their Productivity

The Challenge

In 2014, Farmer's Business Network came to Cognizant Softvision to help them develop software, as they had a very small engineering team. The software they were looking for was an important business opportunity for FBN that needed to be implemented and shipped in a short time span and had a large number of required features. However, their leadership was confident in Cognizant Softvision based on the personal recommendations of close associates.

The Solution

A team of experts from our Studios in [Cluj](#), [Bucharest](#), and [Iasi](#) set out to create the initial version of the app. After about one year, the Cognizant Softvision team integrated with a new team of developers at FBN. After much dedication and hard work, the web application, [fbn.com](#), was developed, as well as two mobile FBN apps with much of the site's functionality.

The Cognizant Softvision team understood the importance of these applications and pulled together to deliver the products on time, successfully implementing, testing and deploying the feature on all three tracks – web, iOS and Android.



RESULTS

Increased farmer productivity

Helped to evolve and grow the FBN brand

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Achieving New Business and Revenue Growth for Healthcare Financial Tech Organization

The Challenge

A healthcare financial tech company known for simplified integration and the ability to accelerate time-to-market was on the brink of securing one of its largest clients to date – a leading company in healthcare information technology. In order to achieve this, departments needed to collaborate and define a strategy that would allow for the integration of customer software with the client’s payment solution.

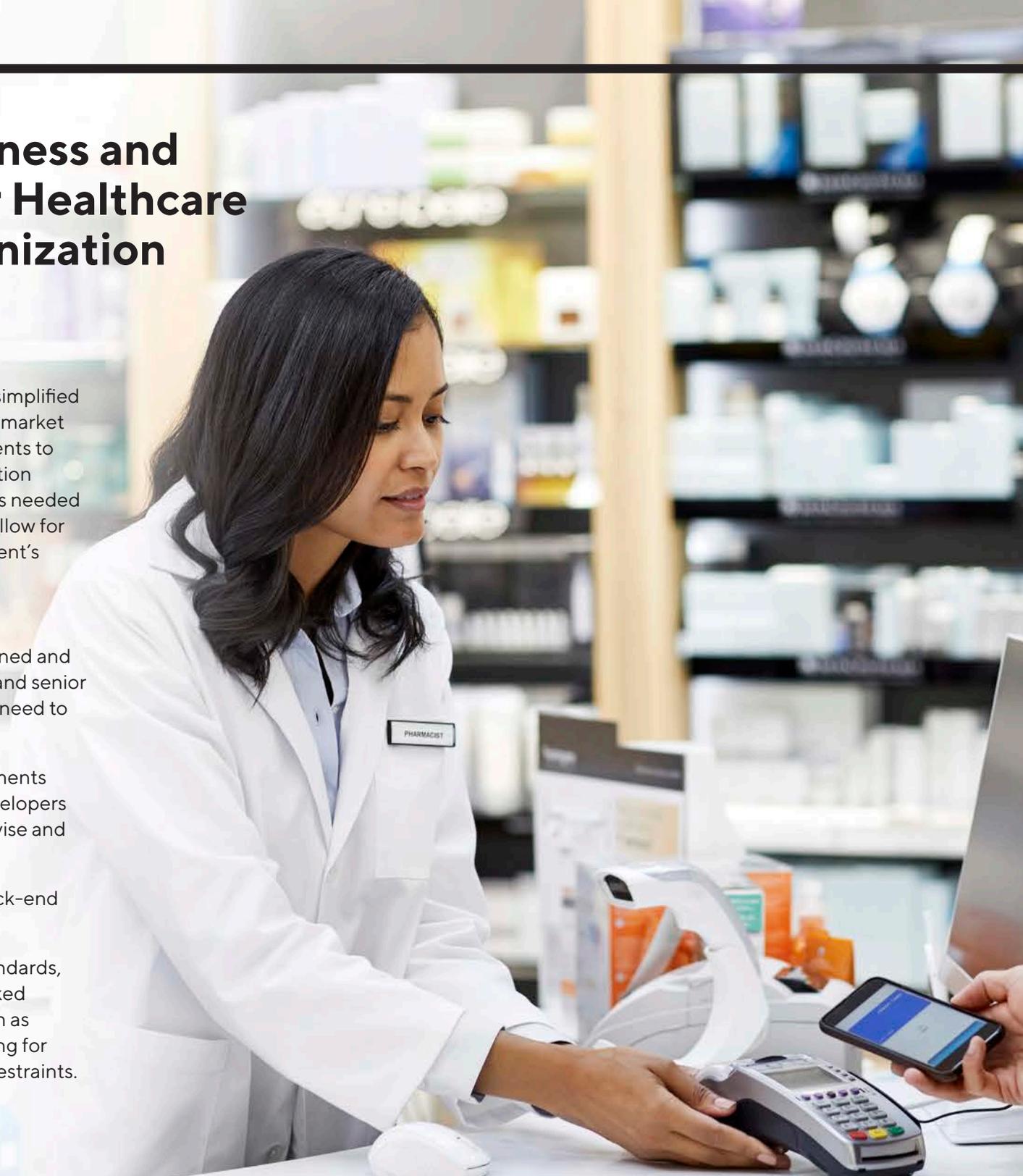
The Solution

The Cognizant Softvision team immediately defined and identified, alongside the client’s product owner and senior engineers, all the necessary changes that would need to be performed for the integration.

The team created Product Requirements Documents (PRD) for each new Feature while the senior developers worked closely with the product engineers to revise and create use cases to identify any potential issues.

The team implemented Ruby on Rails for the back-end changes and Angular for the front-end changes.

In an effort to maintain the highest quality of standards, the QA team and other aspects of the team worked concurrently – parallelizing the features as much as possible between the team members and allowing for continual updating and testing due to the time restraints.



RESULTS

Increased revenue exponentially

Contributed to new business growth

Expanded new client acquisitions

Strengthened product to achieve 99% availability

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Learning Science Company Achieving Digital Transformation

The Challenge

As a leading learning science company and educational publisher, our client has a large, digital delivery organization, engaging on a variety of digital platforms. The company needed to grow both bandwidth and velocity as it continued to transform existing user experiences and features into top-tier solutions.

The Solution

The client has over 60 different agile teams dedicated to the delivery of its digital platforms, but didn't have the complete capacity to scale, specifically on its ability to digital deliver assessment tests to its student customer base.

The Cognizant Softvision team was engaged to assemble a team of talented individuals who provide increased capacity to the assessment platform, addressing any area of work with a backlog or in need of additional resources.

Working alongside the large in-house teams, the Cognizant Softvision team owns a product roadmap dedicated to creating new assessment question types and features on a backlog. This enabled the Cognizant Softvision team to iterate quickly with a full understanding of incoming requests, which in turn allows the client the capability to not only scale in the most efficient manner possible, but to concentrate on adding unique user experiences.

RESULTS

Boosted organizational productivity, allowing for backlog clearance

Empowered organization to introduce new features and capabilities in a timely fashion

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Better Inventory Management Saves Nearly \$500,000 in One Year

The Challenge

Although the company began as a destination for personalized stationery many years ago, the past ten years have been a time of growth. The company made multiple acquisitions and, as a result, the product assortment grew from home accessories to cookware and high-end décor to candy, with over 12,000 different products in all.

As the company prepared for a Microsoft Dynamics AX upgrade, its existing forecasting solution was mainly catalog based and couldn't help enable its growing business in web and digital markets.

The Solution

The company chose Cognizant Softvision's planning and forecasting solution from eight alternatives because it offers much more than a pure statistical modeling tool. It is a business user tool and the best solution to meet the needs of all this client's demand channels, including catalog and web.

The implementation process went smoothly, following the business review. The solution went live after about four months, meeting the company's goal.



RESULTS

Saved \$500,000 in one year

Decreased inventory investments by over \$4 million

Significant decrease of backorders by over 50%

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USER EXPERIENCE

Leading Airline Partners to Overhaul Miles Program App

The Challenge

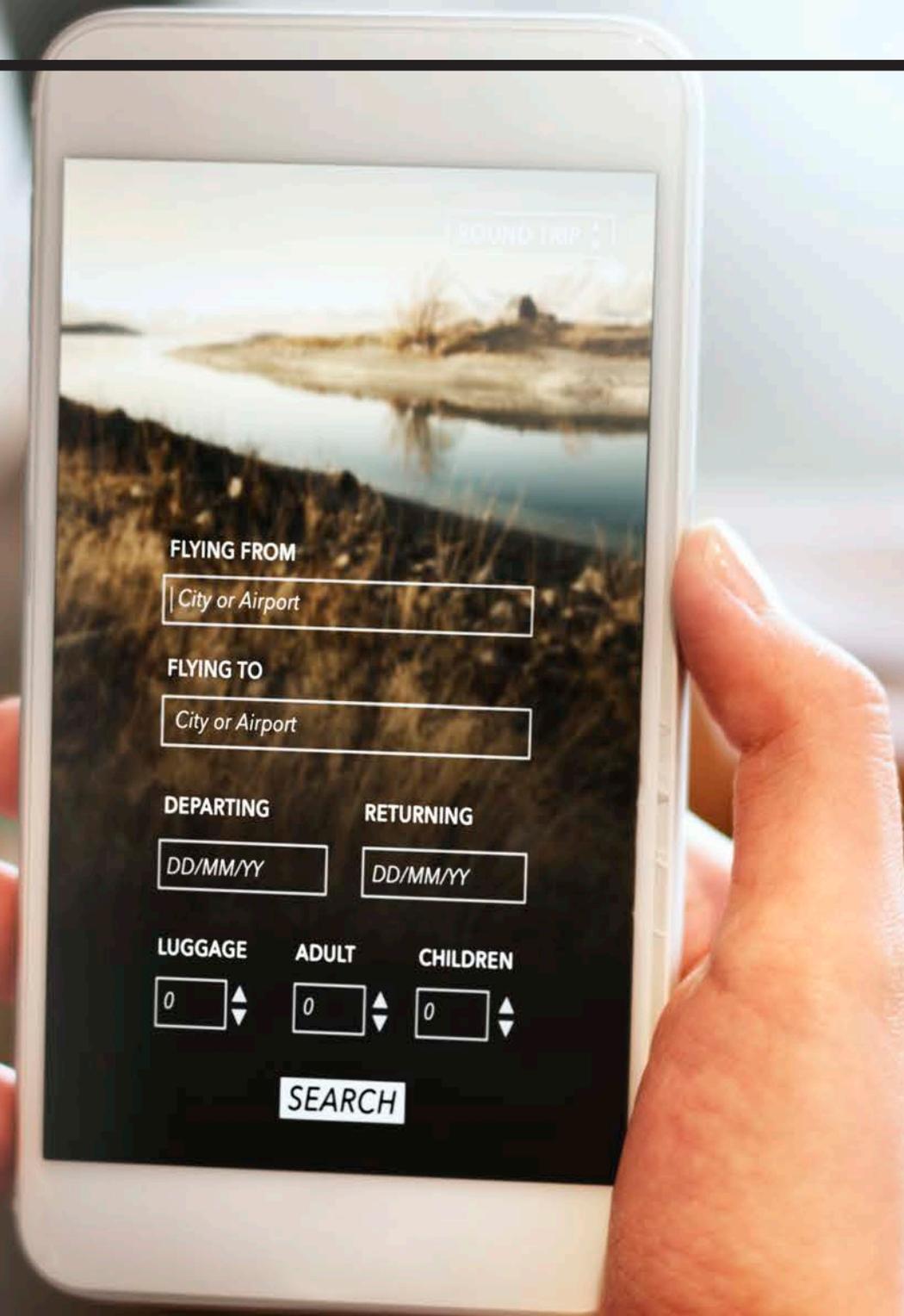
Our leading airline client has established a loyalty program to reward its loyal customer base for choosing its airlines when they travel.

Miles are earned by flying, through purchases made using the integrated credit card program or by purchasing, sharing or being gifted miles from another passenger – bringing in over \$200 million in company revenue each year. The client desired to bring the product development in-house, removing the outside developer, and allowing for a complete overhaul that could easily adapt future design and aesthetics of the brand – without compromising customer experience.

The Solution

The client expressed a big desire to move away from a project model (utilizing the third party) and transition to a product model, where it would be able to build products in an iterative fashion.

The Cognizant Softvision team was engaged to create the new app with an approach that would incorporate feedback, testing and pivots in a very agile manner. Previously, the client was used to at least a two-day turnaround to see requested changes take place, which ultimately became the driving factor to take the product in-house.



RESULTS

- Enhanced user experience
- Positioned airline as a leader in software development
- Empowered internal team to build out features and capabilities





MODERNIZING CORE TECHNOLOGY

Leading Spirits Retailer Controls Entire Shopping Experience

The Challenge

In early 2017, Binny's launched "Buy Online, Pickup in Store" (BOPIS) functionality. Initially, the processing of orders within the stores was quite manual. Associates printed the orders at a centralized register and walked throughout the store with the printed checklist to pick the order. Given the manual process, there was limited ability to notify shoppers that their bag was ready, and limited ability for store managers to have a broad view of orders in queue and their status for pickup.

Despite the early manual nature, Binny's experienced significant growth in Instacart orders for home delivery. The store Ops, IT and Marketing teams partnered with Cognizant Softvision to automate and "own" both BOPIS and direct-to-home delivery.

The Solution

The Cognizant Softvision team started by spending time in stores with associates to understand and map the manual process. With the information compiled, the team designed a digital experience that would allow associates to fulfill online orders quickly and efficiently.

Using our pod delivery team and an agile development process, we built the "picker" app – a product that allowed in-store usability testing throughout development.

RESULTS

- Increased productivity amongst employees
- Provided complete visibility for managers and employees
- Enhanced the entire shopping experience for customers





MODERNIZING CORE TECHNOLOGY

Modern Digital Foundation Empowers Freight Leader to Quickly Adapt to Changing Market Conditions

The Challenge

A leading North American transportation company needed to modernize its core operational systems and infrastructure in an effort to keep up with the massive change happening in the freight shipping industry. To rapidly build digital solutions increasing operational efficiency and creating an appealing experience for shippers and truckers, the company needed to replace on-premises infrastructure and waterfall development with scalable, cloud-based infrastructure, a modern technology stack and Agile ways of working.

The Solution

The company engaged us to collaboratively build a modern cloud platform and introduce Agile methodology to its developers. We built a microservices-based platform on Microsoft Azure with modules for Order Management, Pricing, Rating, Compensation, Assets and Yards, Compensation and more. Over the course of the engagement we deployed more than 400 developers who worked in pods – self-contained teams containing 6-8 developers, testers and architects – in three U.S. locations and India. The new digital platform significantly improves operational efficiency, providing the opportunity for 80% more electronic orders accepted automatically, 40% more carrier payments processed automatically, and up to 10 days advance visibility for account representatives to improve supply chain collaboration.



RESULTS

Improved operational efficiency – allowing for more orders and payments to be processed automatically

Provided increased visibility for account representatives for up to 10 days

Empowered supply chain collaboration with trading partners

Reduced operational costs across the value chain





MODERNIZING CORE TECHNOLOGY

Next-Gen Prepaid Card Platform Creates New Revenue Opportunities

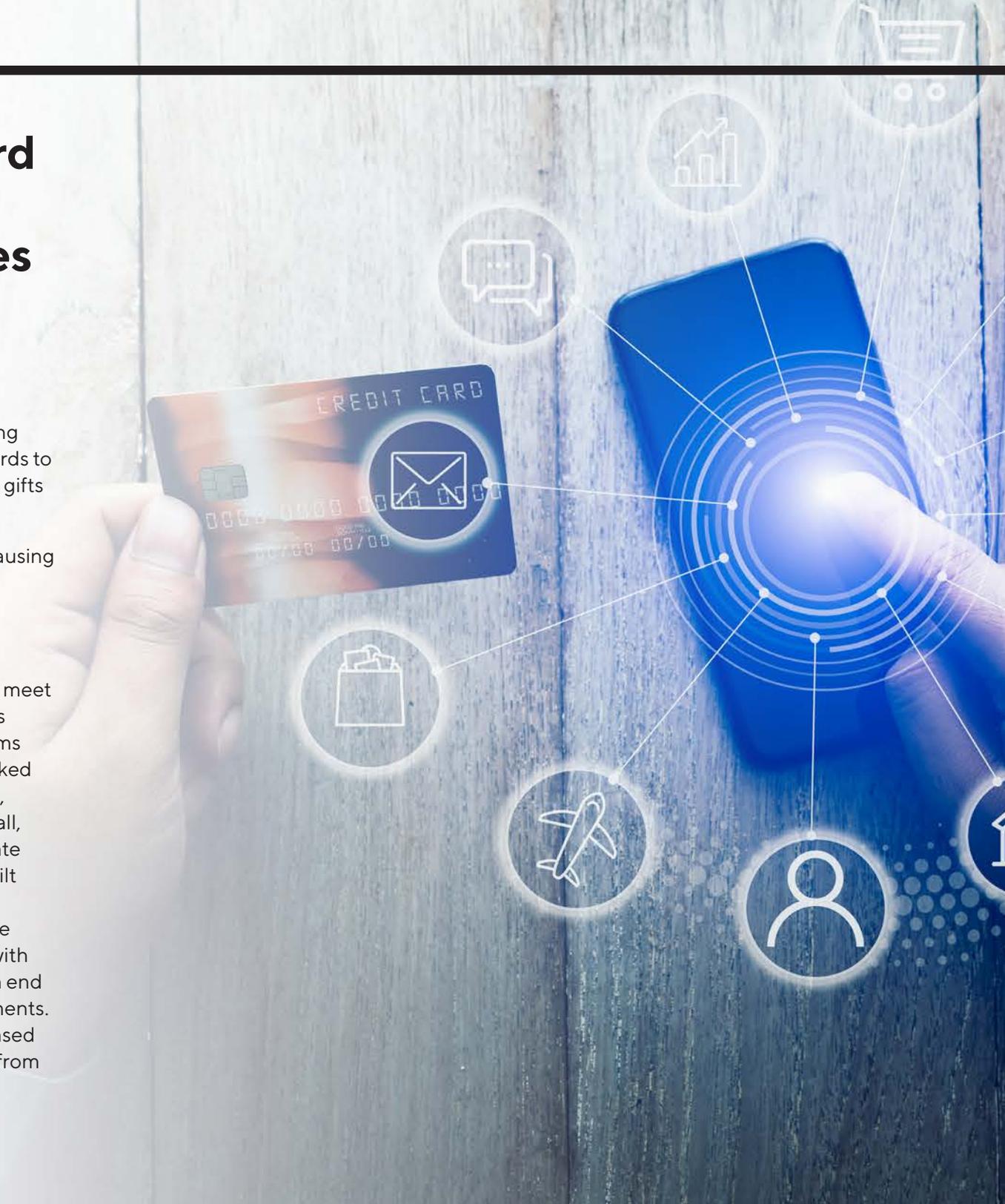
The Challenge

To remain a leader in the prepaid payments market, a leading payment processor needed to replace its aging platform. The company had originally marketed its cards to people without bank accounts and later expanded to gifts and travel.

Growing transaction volume strained the platform, causing slow performance during peak times, and upgrading hardware or software would not solve the problem.

The Solution

The client engaged us to design the new platform. To meet the client's ambitious timeline, we formed seven pods (agile delivery teams) in the U.K. and India. Some teams worked while others slept. The engineering pods worked from the business requirements to build the platform, which consists of more than 300 microservices – small, modular components that are easier to test and update than one very large application. The big data pods built a data lake containing transaction history – the basis for services like budgeting and cashflow planning. The integration and testing pod integrated the platform with more than 10 other systems, testing the solution from end to end and verifying that it met the business requirements. After an incremental rollout, the client expects increased business agility, scalability and new revenue streams from its platform as a service.



RESULTS

Increased business agility

Expanded opportunities to scale

Enabled client to offer big data analytics

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MODERNIZING CORE TECHNOLOGY

Cloud-native Card Payment Platform Adapts Easily to New Payment Methods and Standards

The Challenge

To stay out in front of the changing payments landscape, our client, a multinational financial services company, launched a multi-year program to modernize its payment network. The old mainframe application had reached capacity, and made it very difficult to add country-specific features. To become more nimble, the client needed a cloud-native payment platform that would take the existing legacy platform and modernize it into a reactive microservices architecture.

The Solution

The client engaged us to support the efforts to design and build the platform. To start, we formed three pods (self-contained teams with 6-8 people) in the U.S. and India — later scaling to 14 pods. Some pods focus on platform build out; others focus on technical framework development as well as non-functional requirements. New capabilities and features are ongoing, and the platform offers the ability to expand to new market geographies while being flexible to adapt to each unique set of regulatory and compliance requirements for each respective territory. In a series of run tests, the platform experienced several positive outcomes, including improved user experience, high availability, faster pace of innovation, and value-added services based on analytics.

RESULTS

- Improved user experience
- Delivered high availability
- Increased the pace of innovation



MODERNIZING CORE TECHNOLOGY

From Old-fashioned to Innovative – Biopharmaceutical Company Transforms

The Challenge

For over 30 years, the client has been an innovator in the biopharmaceutical industry, specifically dedicated to its work in HIV advances. The company needed to transform its existing, old-fashioned internal web application into a mobile digital application that would allow for better user experience, matching the high-caliber of standards it has set as a leading innovator.

The Solution

Working alongside the client, we gathered a robust team of experts to ensure that the desired mobile application was built in an agile manner, allowing for speed and iteration. The team, comprised of various mobile engineers, scrum masters and mobile hybrid developers, would sit alongside the client within the company. Using .NET with Xamarin framework, the team was able to quickly and efficiently create mobile applications for both iOS and Android. It used Selenium for QA automated testing, Azure Cloud for DevOps and Google Apigee APIs based on Javascript. A major benefit of transforming a legacy application into a more robust application now accessible from mobile – not only does the revitalized app make an impact on the speed of transactions and information, but it makes an impact on overall employee productivity.

RESULTS

- Revitalized the overall experience
- Increased the speed of transaction and information
- Escalated employee productivity





ROBOTIC PROCESS AUTOMATION

Financial Services Company Saves \$8M Annually

The Challenge

Our global financial services client wanted to enable innovation without having to take on a large-scale technological uplift.

The Solution

Together in the discovery phase, we created a roadmap tied to business outcomes. We gathered a cross-functional team of IT and business user stakeholders to determine key workflows that we wanted to automate. Then we did an analysis of the top robotic process automation (RPA) software vendors and determined the vendor(s) that best suited our target outcomes.

Utilizing our RPA maturity curve model as the foundation of our strategic plan, we laid out the key objectives that we wanted to accomplish.

Working with our client's leadership and technology team, we set our sights on decoupling a key impediment from its dependencies. Together we developed a solution using RPA to reduce and remove quality and risk management efforts for repetitive error-prone tasks. In the end, the client saves nearly \$8 million annually, reduced risk and increased overall quality.

RESULTS

Removed the need for over 6,000 manual labor costs, saving millions of dollars

Increased overall accuracy with less errors

Expanded quality with reduced risk

Index

2 Foreword

AGILE | WEB | DEVOPS

- 3 Financial Services Firm Scales Faster Than Ever and Reduces Costs
- 4 Leading Pawn Retailer Partners to Increase Engagement and Efficiency
- 5 Global Specialty Leader Partners to Enable Rapid Growth Plans
- 6 Metabiota's Application Suite Improves Understanding of Epidemic Outbreaks and Economic Impact
- 7 Intuitive Platform Monitors Diseases and Outbreaks Around the World
- 8 Helping to Modernize the Test Day Experience

- 9 Severn Trent Water Cuts Costs and Improves the Experience Through a Digital Transformation
- 10 Leading Retailer Focuses Aim at Connecting All Readers, Not Just Current Customers
- 11 Data Processing Platform Helps Farmers Increase Their Productivity
- 12 Achieving New Business and Revenue Growth for Healthcare Financial Tech Organization
- 13 Learning Science Company Achieving Digital Transformation
- 14 Better Inventory Management Saves Nearly \$500,000 in One Year

USER EXPERIENCE

- 15 Leading Airline Partners to Overhaul Miles Program App

MODERNIZING CORE TECHNOLOGY

- 16 Leading Spirits Retailer Controls Entire Shopping Experience
- 17 Modern Digital Foundation Empowers Freight Leader to Quickly Adapt to Changing Market Conditions
- 18 Next-Gen Prepaid Card Platform Creates New Revenue Opportunities
- 19 Cloud-native Card Payment Platform Adapts Easily to New Payment Methods and Standards
- 20 From Old-fashioned to Innovative – Biopharmaceutical Company Transforms

ROBOTIC PROCESS AUTOMATION

- 21 Financial Services Company Saves \$8M Annually



About Cognizant Softvision

Cognizant Softvision creates impactful end-to-end digital products and solutions that result in relevant, memorable and rewarding interactions between brands and consumers. With a unique approach, we deliver sustainable innovation and business transformation for the world's leading brands, improving their digital maturity. We work at the intersection of engineering, design, and strategy, and help our customers create game-changing digital experiences with our client-dedicated teams called pods.

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