



DIGITAL MANUFACTURING COMPANY

CASE STUDY

Your Customized IT Software Solution from Rural America



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OVERVIEW

In 2015, a rapidly growing digital rapid prototype and manufacturing firm was facing a number of IT challenges related to business growth in the digital manufacturing space. This firm had developed a leading edge and market leading technology platform, enabling the creation of manufactured part prototypes. Growing at a 25%+ rate, this firm's rapid part prototype business was propelling the firm to a market leading position, both domestically, but also internationally. Key to this company's ongoing success was their leading-edge digital manufacturing platform, all enabled with software technology. This technology enabled customers to upload a digital 3D image of a desired prototype part, and within as soon as 24 hours later this part would be delivered to the customer.

The IT challenge was straightforward. Technology leaders were continually challenged in attracting IT software development talent in sufficient numbers to sustain increasing software technology demands of the business. In addition, this firm also was experiencing staff turnover, as employees would be recruited by other firms interested in the employee's technical skills. As a result, the technology organization was struggling to keep up with the demands of the business. Key staff members would leave mid project for other opportunities, handcuffing development efforts leading to poor project velocity, project delays and quality challenges. In addition, because software teams were understaffed because of shortfalls in hiring of software developers, the backlog of project requests from business stakeholders was growing, leading to impacts to overall company growth. Furthermore, the firm was facing an ongoing challenge with application support, as shortages in software developers required developers to alternate between support initiatives and project development, leading to support issues lingering and negatively impacting business customers.

To compound the above challenges, many project initiatives were put on hold several times as technical domain knowledge to define and drive business IT initiatives was lost due to turnover in a high demand IT marketplace. This turnover was severely impacting project schedules, as key Subject Matter Experts (SMEs) were leaving the organization at critical stages of project efforts, and the learning curve for replacements was lengthy, and expensive.

This high cost and lengthy technology learning curve was creating another challenge for the business. Because of the nature of the business model, and technology platform, it was estimated that an experienced software development employee would become proficient in developing in the technology platform, and understand the business workflow, after about 3 years with the firm.

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OVERVIEW, CONT.

At this 3-year point, the employee would be able to contribute to project development efforts with good velocity and high quality. With the ongoing staff turnover, this firm was periodically losing software developers at this point, requiring the need to expend valuable staff energy and time retraining new staff hires, instead of using that capacity for project development.

One of the most critical business and IT impacts facing the business was loss of critical and competitive IT knowledge to potential competitors as employees were hired by other firms. Proprietary methods, algorithms, and computing models were housed in the heads of experienced staff developers leaving for other firms, taking that knowledge with them to those other firms.

This organization needed to find a way to strategically increase project development and maintenance capacity, with a firm that could provide a sustainable technology team. Offshore firms were considered, but not chosen because of their poor turnover track record, and the concern that offshore firms would replicate the turnover/retraining problem that the firm had in the first place. The firm recognized with the continuing business growth the project backlog was continuing to increase, and that a tactical project contractor brought onsite to augment development teams and offset staff turnover would not be cost effective in the long run. The firm also recognized due to the sophistication of the business model they desired working with an IT Technology organization that could build a stable IT software development and support team as a partner with a strategic multi-year focus. The goal of this effort was to create an IT project development and support engine with a partnership to create sustainable project capacity and project velocity. To meet these challenges, this company turned to the Gullview Technologies Rural Software Development Center delivery model.

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SOLUTION

The company, needing to develop a strategic IT partner that could build them a dedicated software development team with very low staff turnover, focused on bringing velocity and productivity to their ongoing IT project backlog, partnered with Gullview Technologies. Strategically, the company asked Gullview to staff and build out two software development teams dedicated to their business, an e-Commerce software development team focused on the ongoing e-Commerce backlog of software projects, and a Level 3 Critical IT Software support team focused on high velocity engagement and resolution of production system IT software issues. Both teams have been oriented to Agile development, aligning with the client team members and development approach. These Gullview teams are integrated with the company staff members, participating in daily workload standups with company staff, pairing up with company staff members and sharing work on projects, and utilizing the same technology and software development platforms and IDE that the company staff member use. In essence, Gullview has built a software development team in our Rural Technology center aligned and dedicated to this client but based in our Rural Technology Center in the heart of the Lakes District of Minnesota. This team continues today, over 4 years after we started this relationship with the client, and because of our low turnover and stable workforce, have become some of the most senior development team members on our combined development teams and efforts.



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TEAM SKILLSETS AND JOB FUNCTIONS

- Software Technical Lead
- Software Team Lead
- Senior Software Developer
- Software Developer
- Senior Enterprise Architect
- Database Administrator

TECHNOLOGIES UTILIZED

.NET, .NET Core, Docker, SQL Server 2105, 2018, Microsoft Dynamics AX, Salesforce, Rabbit MQ, Azure Message bus, Powershell, TFS, BitBucket, Slack, Scaled Agile Framework (SAFe)

TYPES OF PROJECT WORK EFFORTS

- Web portal e-commerce UX work
- Supply chain back office work
- Finance and accounting
- Order management
- Pricing and billing
- Data systems management, (Data Lake, Data Warehouse, Financial Reporting, Line of Business KPA performance reporting)

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RESULTS AND BENEFITS

COST SAVINGS

Throughout the life of this relationship, Gullview Technologies lower team operating costs, and full lifecycle development approach has enabled the client to realize significant cost savings compared to use of onsite project-based short term contractors. For this client we have saved an average of 20% per billable hour, compared to project based contractors that would be based onsite.

PROJECT PRODUCTIVITY AND VELOCITY

Addressing the need to increase project velocity for the business, the Gullview Technologies team has been able to complete projects under budget, and ahead of schedule. Because the Gullview team is not released after each project is completed, rather, is assigned to the next project in the backlog, they retain system and business knowledge for the next project. This significantly decreases team knowledge ramp up costs, as well as enabling the team members to leverage their previous system experience, enabling faster development. This has also enabled the client to more quickly get desired capabilities into the hands of their clients, creating more value.





COST EFFECTIVE KNOWLEDGE TRANSFER

Through use of the “train the trainer” approach, our Gullview Rural Center software development team has been able to take on the burden and responsibility of knowledge transfer as the team has grown over the years. Furthermore, as the training is performed by staff members currently working on projects, and who will also be part of the team going forward, training and knowledge growth occurs at a faster pace, enabling new team members to become proficient sooner. This team approach has enabled the fidelity, quality, and productivity of the entire team to grow, and be stronger than any one team member.

QUALITY OF WORK

One of the benefits of our Gullview Rural Development Center model is the ability to build a dedicated workforce for a client for a multi-year engagement, with very low Gullview staff member turnover. Because our Gullview team has great stability, intellectual property builds and remains with the team over time, resulting in a highly experienced team able to deliver high quality work.

CAPABILITY FOR COMPLEX & LARGER SIZED PROJECTS

Because our Gullview Rural Development Center Model has very low turnover, the team has been able to build a strong subject matter expertise on the account. This compounding of knowledge and experience over time has enabled the team to take on, and in many cases, lead projects of greater size and complexity. As opposed to most short term contractors that are brought in to work specific tasks on a project, and then released when the project is completed, our team is capable of completing the complete lifecycle of the development effort, from requirements and design efforts, through coding efforts into testing and delivery into production.