

Software Design Solutions (SDS) provides a full range of services for embedded and Internet of Things (IoT) applications. We provide systems architecture consulting, rapid prototyping, software development, user-interface design, workstation application development, and software process improvement. We are more than just a firm that provides only coders to our clients—we partner with you to add value and expertise.

When you work with SDS, you engage with our entire organization. Whether you need expertise in hardware, firmware, software, or systems design, we provide the most qualified people at the appropriate development stages. We are a full-spectrum provider, working with clients throughout the entire product lifecycle. Point us at a problem, and we will help you solve it.

We keep three key principles in mind when working with clients:

1 Collaboration:

We work closely with you to determine the best solution. Our goal is to create long-term relationships with clients, so you have a “go-to” resource you can trust. Our team members become a part of your team. That’s what makes us different from typical “consultants.” In fact, many of our clients benefit from being able to bring back the same SDS team members on future projects, reducing the ramp-up time and improving overall success rates.

2 Kindness:

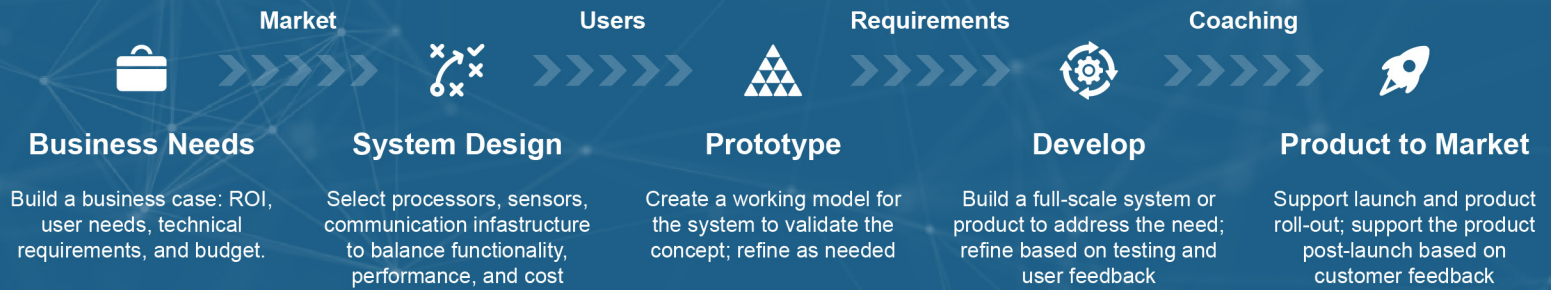
You may be surprised to see us list “kindness” as one of our core principles, but we always make it a point to put our clients’ needs first. If we think a project (or a piece of a project) is unnecessary, we tell you—even if it means less work for us. Your success is our success.

3 Responsibility:

We make sure you’re confident that your money is being well spent. Our honest and transparent approach keeps you in the loop, informed, and constantly aware of the work being done.

“ We needed someone who could function as a team member. Ed played a critical role in the project as a whole. We relied on him for guidance on how to approach certain problems and tackle issues.”

SDS Product Development Lifecycle



Balance cost and functionality throughout the entire lifecycle, from development through maintenance and security updates.

End-To-End Product Lifecycle Services and Support

No matter where you are in your product lifecycle, SDS has the expertise and skill set to guide you towards the best path for market success.

Discovery

There are some big decisions to make even before work begins on a project. Is it technically feasible? What are the economic and functional trade-offs? We can help you build a business case and prove the ROI for your project.

Prototyping

We make sure your prototype is a complete model of your entire system design from start to finish, including ROI and usability. We leverage our years of experience to make the best decisions. The result is a prototype that successfully meets your requirements within the project constraints.

Development

Once a successful prototype has been developed, we work with you to build a full-scale version of the product or system. We make sure the first version functions properly and adds value to the customer using our expertise in embedded sensors, wireless communications infrastructure, programmable chips, and more.

“The issue with IoT business models is that you have to do more than just gather data. You have to collect the right data and make it actionable. That’s not always easy. SDS understands the software and equipment side of IoT. They have the knowledge and big picture perspective to create IoT applications and systems that are low cost without sacrificing value.”

Customer Betas

Feedback is essential during the beta phase. We create iterative releases during beta to test feedback and determine what changes should be implemented. We use our expertise to balance performance and cost.

Productizing

Once in production, customer feedback informs product updates. It's important to know what modifications can and should be made to optimize the product. We provide guidance on easier and less costly ways to manufacture products without sacrificing performance.

Legacy Maintenance

Work does not stop once a product is complete. We provide maintenance services, including updates and security. If your staff needs to focus on a new project, you need someone to take over their current workload. We have the skill set to step in and “mind the store” while your team gets up and running on a new idea.

Technical Capabilities & Experience

Desktop and Web Applications:

- Windows .Net (C#, WinForms, WPF)
- Win32 and WinCE (Win32 API, MFC, ActiveX, and Embedded Visual Studio)
- HTML5, CSS3, Javascript, jQuery, jQuery Mobile, JSON, React, SQL
- Python
- Windows, MacOS, and Linux hosted applications
- Cloud applications
- Microservices

Software Experience:

- User Experience / User Interface design
- Data science, data analysis, and visualization
- Porting and maintenance
- Agile software process consulting
- Continuous Integration and test installation
- Requirements analysis
- Automated unit, system, and GUI testing
- Configuration management consulting

Internet of Things:

- IoT design
- Gateway design
- Machine Learning
- Edge computing
- Wireless communications (Cellular, RFID, Bluetooth)
- Asset tracking and management

Hardware and Software Skills:

- Embedded systems
- Power management / Low power
- Hardware
- Software
- Firmware
- Real-Time Operating Systems (QNX, Wind River, TI, FreeRTOS, Nucleus, RT-Linux)
- PC-to-embedded communication



Ed Kuzemchak is the founder of Software Design Solutions. He has been creating embedded software solutions for over 30 years and has led Software Design Solutions for more than 16 years. Ed regularly speaks on IoT and embedded systems to share his expertise in the field.



Sam Fahnestock is the Engineering Manager and lead security engineer for Software Design Solutions.

As engineering manager, Sam coaches all team members across the company on implementing the Agile mindset, and as the lead security engineer, Sam plays a vital role in incorporating security into projects across SDS. Prior to working for Software Design Solutions, Sam spent 9 years working in cybersecurity for the Air Force.

Speaking & Events

We are very active in our field, attending conferences, delivering speaking engagements, and sharing our expertise on podcasts.

softwaredesignsolutions.com/speaking-events/



IIoT series: Current issues and applications



The Past, Present, and Future of Embedded Software Solutions



Machine learning (ML) is something that really needs to occur at the Edge of the IoT

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