

## Software Development

### Desktop Applications

Users often require tools and applications that go beyond the functionality of the standard tools included with GIS or FMIS product suites. Spatial Systems can work with you to understand your application and development needs in order to provide you with applications that will automate tasks and simplify your workflows.

All of our custom desktop applications can be integrated with both Esri's ArcGIS Suite of products and Microsoft SQL Server and Oracle enterprise databases. Our developers are experienced in many different coding languages, including .NET (Visual Basic and C#), and Python, in order to provide you with the functionality you need.

Spatial Systems recognizes the varying level of skills of users in the corporate environment. As a result, our applications are developed with the end user skill level in mind, by providing an easy to use Graphical User Interface (GUI). Users of our applications will not need to rely on complex queries and strings of code to get the end result they desire.

Application features that can be developed to improve your organizations workflow include:

- Complex attribute modifications
- Complex SQL searches
- Data quality reports
- Error inspection
- Geometry verification

Spatial Systems applications are not limited to use within the office. We also design customized applications for use in the field. With your input of the data collection or verification process workflow, applications we build for you can be used to enhance field work. Our applications can be used with mobile units including Tablet PCs (i.e. Windows-based, iOS-based, or Android-based), SmartPhones, and handheld GPS-integrated units.

### Web Applications

GIS technology has been available for delivery via the internet since the late 1990's. As the use of the internet has matured, we have all become more dependent upon it for access to all kinds of information. Esri has responded to the desire for GIS and FMIS functionality via the internet by providing ever more sophisticated tools for use by developers to offer data and spatial functionality.

Many organizations now make access to their data via the internet extremely convenient. Federal and state government



agencies are making their data accessible via the internet, and Esri GIS technology has the ability to take advantage of these often free data sources.

GIS and FMIS customers are recognizing that the internet provides a convenient, recognizable, and most often easy to use interface for web-based applications. Spatial Systems Associates has, for ten years, been developing and deploying web-based GIS functionality for our customers. We have been providing access to FMIS technology via the web since 2009. Whether hosted by Spatial Systems on our own servers, deployed on our customer's in-house servers, or hosted by a commercial provider in the "cloud," Spatial programming and system administration staff can offer complete website development, enterprise server GIS interface development, and customized web-based application development and support services. Many of our customers are amazed by the ease with which non-GIS staff can take advantage of the functionality of GIS-based web applications. Our programmers are able to use a variety of web-based programming tools, including Microsoft Silverlight, Adobe Flex, and ASP.NET.

Please take a few minutes to review some of our project examples for web-based applications in use today by our customer base. Then contact us to discuss how we may be of service to you in your efforts to similarly make your data available to both office and field staff utilizing web-based technology.

## Code Conversion

Many organizations use legacy applications that were created and written with what is now considered to be a legacy programming language. Some of the tools and applications written in older forms of code are still considered to be vital to many businesses and end users, however, as the technologies they are built upon are no longer supported by software vendors, the code and application becomes unsupported.

Spatial Systems uses the most up to date programming languages for developing geospatial tools for your organization. These include .NET (Visual Basic and C#), Python, ASP.NET, Adobe Flex, Microsoft Silverlight, JavaScript, and HTML5. Depending on what standards may have been adopted by your organization, rest assured that Spatial Systems' programming staff can use current programming technology to convert existing applications for use in a new environment. Working with these newer languages also provides the ability to enhance your applications in the process, providing new tasks and functionality to improve workflows while maintaining the purpose of the original application.

Several of our programming staff have been providing services to our clients for well over a decade, which means they likely have experience in developing applications in older technologies that may now need to be converted. Our staff has over fifteen years of programming experience with a history in Visual Basic, ArcIMS, ASP(classic), and ColdFusion. While these technologies may no longer be in vogue and may not be supported for long by their manufacturers, the fact that our programmers have experience in development in these languages and in conversion of applications to newer technologies means that our efficiencies are high during the conversion process.

