



Software Services

Overview

Mustard Seed Software, LLC is a small, award-winning software development company in Charlottesville, Virginia. We partner with clients in engineering, research, and academic fields to transform innovative technology into useful software tools that solve meaningful problems.

Our collaborations efficiently and effectively bring our clients' sophisticated computational models out of the laboratory and into the marketplace, where their full impact can be realized.

Our clients find our agility and flexibility an invaluable asset, and our passion for quality and rigor through software engineering methodologies maximizes the value of our services. At Mustard Seed Software, LLC we thrive on tackling new challenges and delving into new technical domains.

History

Since 2000, Mustard Seed Software, LLC has specialized in working side-by-side with experts in technologically complicated disciplines, making positive impacts in diverse engineering domains such as Engineering Design Reliability, Probabilistic Analysis, Material Fatigue, Finite Element Model (FEM) Methods, Fluid Mechanics, Computational Geometry, Non-Destructive Evaluation, Perceptual Psychology, and others.

Two of our collaborations have been recognized as technologically significant by industry with R&D 100 awards (2000 & 2005), dubbed the "Oscars of Invention."

Client Relationships

At Mustard Seed Software, LLC, we invite the client to participate in all phases of software development. Through frequent communication and continual availability, we ensure that we are meeting the needs and expectations

of the client. Our development process incorporates client feedback throughout, ensuring optimal use of resources.

While it is part of our mission to help determine the best course of action on behalf of the client, we believe in taking a collaborative approach that leads to a shared vision for the project.

Competencies

At Mustard Seed Software, LLC we are continually developing our skills, experimenting with new tools and languages, and refining our proficiencies with the "tried-and-true". We attempt to strike an efficient balance between early-adopter idealism and pragmatic skepticism when it comes to new methodologies and technologies.

Our current specialties include:

- Graphical User Interface Design and Development
- Computational Geometry, 2-D & 3-D Rendering, CAD model processing
- Genetic Algorithms and Neural Networks
- Object-Oriented Software Design with UML
- Functional Requirements Analysis
- Use Case and User Story Development
- Cross-Platform Development Solutions for MacOS X, Linux, and Windows XP, Vista, and 7

We are adept in the use of many programming languages and software tools and frameworks. If a client has a particular software constraint or preference, we will probably be able to satisfy it with little to no spin-up time. For a more detailed list of items in which we have expertise, and a portfolio of select projects, please visit our website (<http://mseedsoft.com>).

Methodology

Mustard Seed Software, LLC develops software using an iterative development model. This method fits our clients' needs for an evolutionary approach to solution develop-

ment, particularly when working with complicated technologies involving multiple components.

For new projects, we begin with a variation of the iterative development process model, where the initial drive is to implement a "thread" through the system. This thread is a path of integration through the major subsystem interfaces, where the gross infrastructure is put in place around the points of communication (i.e. from user interface to simulation), much like framing during house construction. After this initial thread is in place, development shifts to a more standard iterative model. Work on each of the project subsystems (taking place in parallel if practicable) builds up functionality layer upon layer.

This approach helps mitigate risk, as it identifies the primary subsystem interfaces early in development, as well as any technical issues concerning subsystem integration. It also provides an early prototype for demonstration purposes and for evaluating the need for small course corrections.

Software Quality Assurance

Mustard Seed Software, LLC takes a comprehensive and automated approach to software quality assurance. From basic version control to testing to deployment, we take care during any project to establish systems and practices that will reduce error and improve efficiency for the long term. We believe in quality achieved through careful source code management, documentation, and bug tracking, comprehensive test suites, continuous integration with regression testing, and automated packaging and deployment.

Growing Great Ideas

It is our mission to assist our clients in reaching the full potential and impact of their innovations. We believe that transformative technologies are realized by making them available to a larger user base, where their true societal impact can be achieved. By applying robust software methods in a collaborative client relationship, we deliver the expertise, experience, and vision to grow laboratory-grade software into commercial-grade applications.

If you have a software development challenge, of any domain, size, or complexity, please contact us at Mustard Seed Software, LLC to see how we can solve this problem together. We look forward to the challenge!