



Laurel Hill GIS

Geodatabase Integrity SolutionsSM

Agile Practices: Helping to Reduce Slipped Deadlines and Buggy Software

Laurel Hill has adopted Agile Practices to better adapt to our customer's needs and remove the communication gap that so often causes software projects to fail. Agile Practices such as Scrum emphasize continuous collaboration and feedback, both internally and externally to improve the quality and value of software as well as to provide continuous improvement of the development process itself.

At the planning level, Laurel Hill's projects are planned and implemented using the Scrum Methodology and developers incorporate Agile Coding Practices such as Test Driven Development (TDD), Domain Driven Development (DDD), Continuous Integration, and Design Patterns to deliver applications with fewer bugs, usable interfaces, and decoupled code.

Scrum: An agile software development framework

Scrum allows customers to see into the project and voice any concerns or changes throughout the development lifecycle. The Development Team collaborates with the Customer Team creating a backlog of user stories (customer requirements) which define the customer's needs of the application. The backlog is then prioritized by the Customer Team so that the features that are developed first are of the highest value to the customer and implemented in iterations called sprints.

Each sprint (2-4 weeks) contains customer prioritized backlog items that can be completed within the sprint. At the end of each sprint a Sprint Review will be conducted, where the completed backlog items will be demonstrated to the Customer Team allowing the customer to accept as well as communicate to the development team any need for change. At the end of each sprint, there should be **working** code, allowing the customers to continually see their needs being met as well as voice concerns early on.

The cycle will then continue starting with a Sprint Planning meeting to prioritize the backlog and plan the next Sprint until the application is completed.

Success: Collaboration and Transparency

Early customer feedback is the key to success in application development. By allowing the customer to continually prioritize the backlog and demo working code throughout the lifecycle of the application, we create a transparency into the project that allows customers and developers to understand and deliver a more stable and responsive application.

Laurel Hill has Certified Scrum Masters on staff to help facilitate the Scrum Process. See <http://www.scrumalliance.org/> for more details on Scrum.



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Technologies and Expertise

ArcGIS Engine Applications
ArcGIS Desktop Applications
ArcGIS Server Applications

.NET WinForms/WPF Development
ASP.NET/MVC Development
Database Design
Agile Planning and Development
Migration of ArcView to ArcGIS