



Software Development Using Agile with an Adaptive Approach

A research and development sector of the military blended Waterfall and Agile methodologies to deliver customized metrics to stakeholders across the base.

How RG Assisted the Army Improve Data Analytics

A software development team with the United States Army Armament Research, Development, and Engineering Center (ARDEC) was tasked with developing a new application that would provide soldiers with improved capability on the battlefield. ARDEC was directed to use the Agile methodology for the development effort. The Waterfall methodology has been traditionally used for software development projects, so the development team had to adapt their approach while delivering results on this new project.

RG was selected to develop and maintain the Integrated Master Schedule and an organic Earned Value Management system to report progress which evolved into customized reports that incorporated Agile center metrics.

Multiple stakeholders and contributors were involved in the development of the new application including Army civilians, contractors, and outside government agencies. They had varying levels of experience with the Agile methodology and required different information to make key decisions on the project.

Adapting Deliverables to Provide Useful Data

Because the Waterfall methodology was more commonly used, the software development team completed Scaled Agile Framework (SAFe) training and earned individual certifications to become more well versed in the Agile methodology. The training, provided by RG, prepared them to provide more robust program progress and led to a new series of metrics that addressed product readiness and maturity concerns.

Another part of the transition from Waterfall to Agile was the suite of tools being used. JIRA, a software development tool for Agile teams, was implemented for its reporting capability, but the metrics weren't satisfying stakeholder needs. Time was spent trying to understand the data rather than using the data to determine project progress. The team reevaluated stakeholder requests and developed custom reports using JIRA and the Microsoft Office Suite to display data in a way that continued to use the Agile approach but reported metrics that felt familiar and easily understandable to those who were used to the Waterfall approach.

Setting the Standard for Future Projects

The custom reports that blended Waterfall and Agile methodologies were adapted into reusable templates that the team could use for future product releases. As stakeholders and contributors continue to adapt to Agile, metrics and progress are displayed with more granularity enhancing the team's ability to provide key project status updates, proving that introducing a new approach to software development can be successful with an adaptive mindset and collaboration.

Outcomes Delivered

- Blended Agile and Waterfall methodology components to deliver custom reports
- Reduced costs by using existing tools for customer reports
- Developed interactive display of Daily Metric Briefs
- Created a reusable template for data reports
- Established new processes to maintain CMMI Level 5 status



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