proKarma

INTRODUCTION

Agile development incorporates iteration and continuous feedback to successively refine and deliver a software system. This requires continuous planning, continuous testing, and continuous integration to quickly, effectively, and collaboratively deliver the final product. In comparison to the waterfall or traditional development model, which has clearly defined phases for planning, design, implementation, testing, and deployment, the Agile system does not have a clearly defined phase for testing. Testing strategy in the Agile framework depends on the project needs and the project team, but often occurs throughout the development process.

AGILE DEVELOPMENT

The Agile method was developed in response to the failures of the Waterfall development method, which is rigid, high-risk, and can result in an end product that doesn't match up with the needs of the client. With a focus on constant collaboration, short development and testing phases called sprints, and constant evaluation of the product's function, Agile is meant to deliver quality products quickly and with less financial risk. While the Agile delivery method can save money and increase the quality of the finished project by providing consistent feedback, testing, and adapting to changing parameters and issues, the method is also criticized because of the continuous and costly testing of products which are not complete.

ADAPTING AGILE TESTING

Implementation of a cost-effective testing strategy while still producing high quality software is possible in the Agile system. ProKarma's development team implemented an adaptive testing strategy which improved the quality of the software while reducing the cost of continuously testing the software through successive iterations.

APPROACH

Testing for Agile development requires innovative thinking and the right mix of people. ProKarma deployed a quality assurance (QA) team to join with the business owners, a team of people who represent the clients during the Agile process, focusing on user needs and end results. The business case and requirements to be delivered through the sprints was determined by the business owners and QA team before starting the first two-week sprint. The Agile process does not result in a finished product at end of each sprint, but instead results in a product that can be built upon and improved over multiple sprints. Each sprint has a list of requirements for the product that should be fulfilled during that particular phase.

A Framework for Integrated Tests (FIT) Table was used to keep the team informed on progress and expectations of the QA team and the development team. For example, an entry in the FIT table might be the following: The QA team will be responsible for generating the test fixture, documenting the process and deploying it. In parallel, the development team will write the unit test for the production code and deploy the application. To hasten the development and testing process, the product of the sprint was tested by both QA and the business

owners simultaneously. Once all the requirements were satisfied, they accepted the feature released for that sprint, otherwise they identified a list of issues and documented them in the FIT Table. In the next sprint, the development team fixed issues reported by QA and released the software. In any new sprint, QA and business owners did not need to test and spend time verifying the entire issue. Instead, they focused on verifying that the new feature was added into that release.

The issue is automatically verified by the FIT table generated in the previous sprint. In order to ensure that the same issue was not repeated again, the development team adopted a strategy to develop a unit test for the issue and fix the production code. In this way the development team verified their results in a continuous integration environment and protected leaking of that issue to QA and business owners. The end result was less redundant testing for the QA and business owners, while still creating a quality finished product using the Agile method.

ABOUT PROKARMA

ProKarma delivers integrated technology and business process outsourcing solutions for over 150 global leaders in a wide range of industries and markets. ProKarma is co-headquartered in Portland, Oregon and Omaha, Nebraska, with sales and delivery centers in the United States, India, Argentina and Peru. ProKarma was selected as a Global Services 100 Provider for 2012 and ranked as the fastest growing IT services company in America by Inc. 500.