

The case company description for the BLOEM paper published at the ICSOB 2012 conference.

The case company is a global company with approximately 5,000 employees currently undergoing a transition from a waterfall-based methodology to an agile methodology. As a part of the transformation to the agile methodology the company introduced the following innovations: continuous release planning flow, cross-functional development teams, iterative detailing of requirements and integrated requirements engineering. The company uses software product line (SPL) management in the embedded systems domain and there are more than 20,000 feature and system requirements defined across all the product lines. New projects on the product line typically add 80 to 150 new features with an average of 12 new system requirements per feature. Approximately 20 to 25 different development teams (with 40 to 80 developers per team) work on implementing these features. At the same time as undergoing this methodology transformation, the company started using an open source solution as a base for software products. The open source solution, referred to here as the platform, is the base for the software product line projects and derived products.

The software product being released is an embedded system that contains both hardware and software components as well as a possibility to add applications after the product is released to the market. The analysis of each feature proposal starts with checking the business viability and ensuring that the feature proposal has a strong supporter among the customers or is justified by the product portfolio decisions. The features are then receive an estimated market value ($V(t)$ in this case) and are send to the prioritization based on that criteria. When the features are prioritized they are also assigned to the releases of the products based on the customer requests for the delivery dates and the current development load. Next, the development team takes the list of prioritized features and starts software architecture and impact analysis as well as implementation. After the implementation is done, the features are integrated with other software that forms the final product.

The process of prioritization of features is continuous and often requires alternations of priorities based on updates from the customers and marketing. It is not unlikely that a highly prioritized features after one or two months becomes low priority or even unnecessary feature and vice versa.