Design of a new Sensorial Grading System for Laundry Performance Tests for R&D Household Care at Procter & Gamble in Newcastle

P&G

Thesis in Business IT at the University of Applied Science Regensburg

submitted from
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The HHC R&D IT group in Newcastle designs and implements tailored IT solutions for the Household Care (HHC) Global Business Unit, R&D division and is based in the Technical Centre in Newcastle.

R&D HHC researches new detergent formulations and detergent formula upgrades. Before a new product or upgrade can be launched on the market the product must undergo a series of testing.

Tests are necessary to find out how the new detergent formula performs compared to the existing product/s or competitive product/s. The R&D worker will look for attributes like whiteness, stain removal, softness, etc. Another very important reason to run tests is to avoid a product being launched which causes damage to clothes.

The very high-level work process of performance tests is as follows:

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Design → Run → Grade → Analyse
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Garments/swatches will be washed in different products e.g. A & B. After the wash is finished the R&D worker dries the garments/swatches and then grades the performance of the two formulations compared to each other. Finally the grading data will be analysed by the R&D worker.

The grading process is called Laundry Sensorial Grading and is the subjective comparison of one item or set of items with another, each grader will indicate a preference using a quantifiable scale (Panel Score Unit: PSU Scale).

There are currently 3 systems used in P&G Laundry globally. The project involved the consolidation of the three systems into one new global system. Therefore centralising the support required. The project also gave the chance to standardize and optimize the grading process globally so that R&D worker will save time in the future. Also ensuring that grading is done in the same way everywhere and that tests can be compared across different sites without asking for additional test design information.
The project involved analysis of the existing systems and issues associated with them, additionally understanding of the current process across the 9 Technical Centres for Laundry globally.

To make sure that the new system meets the user’s needs requirement sessions were held at most facilities by using a prototype system design. After gathering the requirements the Use Cases were identified and outlined using the RUP Model from IBM.

The actual coding was done by an offshore vendor; this process starts by creating a RFP (Request for Proposal). The main part includes the new business process, the outlined Use Cases and the future technical architecture.

Other parts are documentation about the existing business process and systems, categorizing of requirements, identify required interfaces and special requirements like e.g. respond time, etc.

Based on this document the offshore vendors wrote their proposals and based on the proposals a company was selected by using project relevant criteria’s like time-lines, suggested technologies (e.g. programming language), Test support and warranty.

After the vendor coding is finished there are additional tasks remaining to be completed and which couldn’t be done within this thesis due to time constraints:

- Testing of the application
  - Unit Test
  - Business Accepting Test
  - User Accepting Test
- Rollout
- Post implementation review