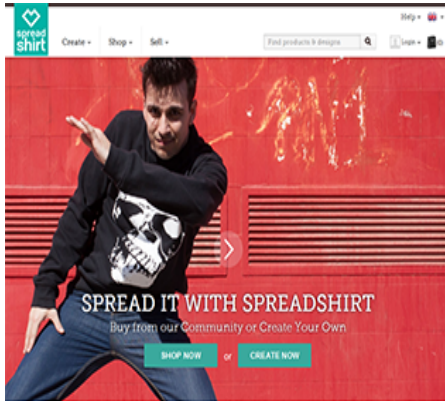


PRINTING PROCESS ENHANCEMENT



CHALLENGE

Client:

Spreadshirt GmbH is a micro-merchandising service specializing in online-marketing. The company has been one of the most successful Internet start-ups in Germany in the last years.

Initially, Spreadshirt wanted Intetics to improve their printing technology process. Since the company's aim was to speed up the whole process and save layer material, the project involved finding solutions to two problems: auto-nesting of SVG (scalable vector graphics) and auto-nesting of pixel images. The nesting was to be produced so that the non-used area in printout as well as calculation time and load would be minimal. Another project involved developing functionality that would make it possible to automatically detect artworks that could not be processed, perform complexity measurement to estimate the processing time, and simplify the input artworks to make them compatible with processing requirements. A mandatory condition for both projects was that only open source tools and technologies could be used in implementation.

SOLUTION

To solve the problems adequately, Intetics created two

new applications for Spreadshirt. The first one performs auto-nesting most efficiently and with maximum material economy. It can arrange a set of irregular shaped patterns on a sheet of material with non-overlapping configuration and with minimum cut wastes. We also optimized image representation, which made it possible to reduce the number of operations in the process of inscribing the image into a regular figure. The second application performs image processing of uploaded designs to check and classify them, and then make them plotter-ready. The application is actually a set of independent programs that work cooperatively on a common data structure, each program solving a particular part of the overall complexity evaluation task. A central control component evaluates the current state of processing and coordinates the specialized programs.

After both applications were successfully delivered, Spreadshirt started using an Offshore Dedicated Team (ODT) comprised of Intetics's software engineers and a project manager who work along with Spreadshirt's in-house specialists on creating unit tests, editing and refactoring the code, and other tasks provided by Spreadshirt. Since the ODT model allows for continuous feedback, Spreadshirt's management has direct control

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over its offshore operations and receives increased resource, time, and cost efficiency. In the meantime, the software engineers who were involved in the initial projects work on the second version of the image processing application.

RESULTS

The solutions that we have implemented enable Spreadshirt GmbH to make the printing

process fast and efficient. The auto-nesting application saves layer material by providing tightest fit of images in a printout and reducing the non-used area to the minimum. The application that handles images has made the processing of images uploaded by the company's customers about 500 times faster. Increased printing speed and significant material economy result in the output growth and profit rise for the company.

The ODT provided to Spreadshirt by Intetics retains knowledge for the benefit of Spreadshirt. The team specialists accumulate solid understanding of Spreadshirt's expertise and way of work, becoming a smooth extension to the company's in-house team. The team's experience has ultimately grown into a valuable asset that helps Spreadshirt optimize the work of the entire company and achieve the best outcome.