Abstract

Web Systems are widely used due to their advantages over traditional desktop applications. Modernization of non-Web software towards the Web, however, is a challenging task. Independent Software Vendors struggle to commence Web Migration because of the involved effort and risk. From field research, the problem is further analyzed, requirements representing the effort and risk concerns are derived and used to assess the state of the art. Existing Web Migration research exhibits gaps concerning dedicated approaches for the initial phase and feasibility with limited resources and expertise.

This thesis proposes a solution to address these shortcomings and support Independent Software Vendors to commence Web Migration, focusing on effort and risk, through a methodology and supporting tool-suite. The Agile Web Migration for SMEs (AWSM) approach consists of methods, tools, principles, and formalisms for reverse engineering, risk management, customer impact control, and migration strategy selection.

The thesis describes the research on the devised ideas in the context of a collaboration project with an Independent Software Vendor. Applicability and feasibility of the concepts are demonstrated in several evaluation experiments, integrating empirical user studies and objective measurements. The thesis concludes with an evaluation based on requirements assessment and application of the solutions in the application scenario, and it provides an outlook towards future work.

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Technische Universität Chemnitz
09107 Chemnitz
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Universitätsverlag Chemnitz
ISBN 978-3-96100-125-5
ISSN 2199-5354 / 60,00 €

Sebastian Heil | Web Migration Revisited

TECHNISCHE UNIVERSITÄT
CHEMNITZ

Faculty of Computer Science
Doctoral Dissertations in Web Engineering and
Web Science — Volume 5

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