Karlsruhe University of Applied Sciences

Department of Computer Science and Business Information Systems
Business Information Systems

MASTER´S THESIS

Evaluating methods of avoiding redundant libraries in a mirco-frontend based landscape

Author	Mr. Viktor Sperling
Matriculation number	71197
Workplace	SAP Hybris GmbH, München
First Advisor	Prof. Dr. Udo Müller
Second Advisor	Prof. Dr. Rainer Neumann
Closing Date	31 March, 2022

31 March, 2022

Chairman of the Examination Board

Eidesstattliche Erklärung

Ich erkläre an Eides statt, dass ich die hier vorgelegte Master-Thesis selbstständig und ausschließlich unter Verwendung der angegebenen Literatur und sonstigen Hilfsmittel verfasst habe. Die Arbeit wurde in gleicher oder ähnlicher Form keiner anderen Prüfungsbehörde zur Erlangung eines akademischen Grades vorgelegt.

Karlsruhe, den 26. November 2021

Master Thesis Confidentiality Agreement

Not required yet.

Abstract

This is an amazing Abstract!

Contents

1. Introduction

This chapter will explain the problem, motivation and goals of this transcript. It will also narrow down the thesis scope.

1.1 Motivation

1.2 Goals

1.3 Scope of Work

2. Solutions

In this chapter the possible solution will be refered. The focus will be on the implemented and evaluated once. Also the section will contain information about the Luigi Framwork, with which the implementation was done. This section will explain key features of the framework.

2.1 Luigi

2.2 Content Delivery Networks

2.3 Web Components

2.4 Webpack Module Fedaration

3. Content Delivery Networks

This chapter will contain information about the first implemted solution option. The Content Delivery Network, a central repositiory from which the resources can be pulled.

3.1 CDN in general

3.2 Implementation

3.3 Hosting your own CDN

4. Web Components

This chapter will contain information about how to solve the problem by using Web Components.

4.1 Web Components in general

4.2 Implementation

5. Webpack Module Federation

This chapter will contain a conceptional explanation of how to use the Webpack Module Federation to solve the issue. Due to certain restrictions of this technologie, there will be no prototypical implementation of this solution.

5.1 Basic Concepts of WMF

5.2 How it should/could be usedfor the given context

6. Presentation of the results

This chapter will present the results of the executed experiments for each implementation and compare them with each other.

6.1 Web Component Implementation

6.2 CDN Implementation

6.3 Comparison

7. Conclusion

Quite self explaining I´d say.

7.1 Evaluation of the results

7.2 Result/Recommendation

8. Prospect

"If I had more time I´d have looked into following things...."

Bibliography

List of Figures

Glossary

API **A**pplication **P**rogramming **I**nterface

A. Appendix 1

B. Appendix 2

C. Appendix 3