The CoCoME Platform for Collaborative Empirical Research on Information System Evolution

Institute for Program Structures and Data Organization

Table of Contents

1 Introduction

2 CoCoME Plattform Overview

3 Evolution Subject

In this paper, we use CoCoME as evolution subject. CoCoME has been further evolved in various projects, using the existing Hybrid Cloud-based Variant and a new approach called Microservice-based Variant. The former is sufficiently presented in the official Technical Report of CoCoME. See [Hein16] for any information and implementation details.

3.1 Hybrid Cloud-based Variant

The hybrid cloud-based variant of CoCoME was developed in the DFG Priority Programme Design For Future - Managed Software Evolution (SPP 1593) [GRGH+15]. This variant of CoCoME is using Java EE technologies for both the frontend and the backend. The hybrid cloud-based variant used in this report is completely identical to the variant described in [Hein16].

3.2 Microservice-based Variant

vgl zu 2016,2 Since.. various research projects ggf aendern? mit 3.1, 3.2, 3.3 gemeint ->?

4 Evolution Scenarios

We implemented distinct evolution scenarios covering the categories adaptive and perfective evolution. Corrective evolution is not considered in the scenarios as this merely refers to fixing design or implementation issues.

4.1 Evolution Scenarios of the Hybrid Cloud-based Variant

4.1.1 Setting up a Docker environment

4.1.2 Adding a Mobile App was war das genaue szenario? keines im paper, einfach ausdenken?

4.2 Evolution Scenarios of the Microservice-based Variant

4.2.1 Defining different Microservices

5 Design Details for Evolution Scenarios

5.1 Design Decisions for the Mobile App

5.2 Setting up a Docker environment

5.3 Microservices

- je microservice absatz mit entsprechenden Sequenzendiagram
- frontend? muss dazu auch das gemacht werden?
- ein blocktext zu mehereren diagrammen oder diagramme zwischen text?
- je die einzelnen module und szenarien erlaeutern in dem diese sinnvoll sind

5.3.1 **Products** abstrahieren der Produktinformationen

5.3.2 **Stores** einzelne Laeden alleinstehend abbilden um nach bedarf neue microservices alias laeden starten zu kÃ¶nnen

5.3.3 **Enterprise** aehnlich zu stroes

5.3.4 **Reports** stellt alleinigen aufgaben bereich dar, entsprechen undabhaengig darzustellen von anderem.

(grafik/Tabelle -> oben oder unten caption)

6 Life-Cycle

was genau ist hiermit gemeint

7 Implementation of Evolution Scenarios

gemeint die abh. zwischen den einzelnen klassen? - bei mobile app angegeben, alt. wo ist der quellcode?
- docker den techstack (nocheinmal?) angeben? - microservices hierzu komplett fertig? oder nur die einzelnen mittelstÃ¼cke? ohne entsprechende anbindung an frontend/backend?

8 Conclusion

References

GRGH+15. Ursula Goltz, Ralf H. Reussner, Michael Goedicke, Wilhelm Hasselbring, Lukas Märtin und Birgit Vogel-Heuser. Design for future: managed software evolution. *Computer Science - Research and Development*, 30(3), Aug 2015, S. 321–331.

Hein16. Robert [VerfasserIn] Heinrich. The CoCoME platform for collaborative empirical research on information system evolution, [2016].