

Ruprecht Karls University Heidelberg
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Bachelor Thesis
Data Synchronization on Mobile Devices

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Date of Submission: 3. April 2013

I declare that this thesis was composed by myself and that the work contained therein is my own, except where explicitly stated otherwise in the text.

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Abstract

Zusammenfassung

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1 Introduction

This chapter contains an overview of the topic as well as the goals and contributions of your work.

1.1 Motivation

1.2 Goals of the thesis

1.3 Structure of the thesis

Here you describe the structure of the thesis. For example:

In Kapitel 2 werden grundlegende Methoden für diese Arbeit vorgestellt.

2 Background

Here you discuss some basics for your work and outline existing research in the area of your thesis by citing research papers like [1] by Lindholm and [2, 3] Candia.

3 Designing a Synchronization Framework

3.1 Application Scenarios

We describe common synchronization scenarios based on popular mobile applications.

3.2 Requirements

From the common scenarios we derive a set of requirements for a synchronization solution.

3.3 Evaluation of Existing Systems

Here we evaluate solutions like CouchDB, Dropbox, iCloud, git, (Parse.com) based on the requirements.

3.4 Architecture of Synclib

Based on the requirements and the evaluation of existing systems we derive a unique architecture for a practical synchronization solution.

3.5 Implementation

We describe implementation details like the technologies used, code structure and the testing framework to evaluate the system.

4 Evaluation

We evaluate the implementation based on the set of requirements specified in section 3.2.

Literaturverzeichnis

- [1] Tancred Lindholm. XML-aware data synchronization for mobile devices. 2009.
- [2] Giuseppe DeCandia, Deniz Hastorun, Madan Jampani, Gunavardhan Kakulapati, Avinash Lakshman, Alex Pilchin, Swaminathan Sivasubramanian, Peter Voss, and Werner Vogels. Dynamo: amazon's highly available key-value store. 41(6):205–220, 2007.
- [3] David Ratner, Peter Reiher, Gerald J Popek, and Geoffrey H Kuenning. Replication requirements in mobile environments. *Mobile Networks and Applications*, 6(6):525–533, 2001.