LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

INSTITUT FÜR INFORMATIK
LEHRSTUHL FÜR MOBILE UND VERTEILTE SYSTEME

MASTERARBEIT

Titel der Arbeit

Judith Greif

Entwurf vom 23. November 2015

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Aufgabensteller:	Prof. Dr. Claudia Linnhoff-Popien
Betreuer:	Mirco Schönfeld
Abgabetermin:	1. Januar 2099

Hiermit versichere ich, dass ich die vorliegende Masterarbeit selbständig verfasst und keine anderen als die angegebenen Quellen und Hilfsmittel verwendet habe.

München, den 1. Januar 2099

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(Unterschrift des Kandidaten)

Abstract

Hier kommt der Abstract hin. Hier kommt der Abstract hin.

Inhaltsverzeichnis

1 Einleitung

Wir zitieren hier die Quellen [AT06], [ADI+12], [BMS07], [BM04], [BCM02], [DWM10], [HP94], [LC86], [Mit02], [Naf05], [QLC14], [RK14], [SS11], [SBE+12], [Sch13], [SW14], [STT+09], [WDS15], [YL02], [Zha12], [ZJW04], die in der Datei `bibliography.bib` stehen.

2 Background

2.1 Bloom Filter Operations and Variants

2.1.1 Attenuated Bloom Filter

[SS11]: 316 u. 318.

2.2 Mathematic Principles

2.3 Query Processing and Index Structures in Database Systems

To support query processing and operations in an efficient manner the internal layer of a database system relies on certain data strucures and memory methods. These are called *index structures*. They organize the data to support the required operations using its *indices*.

An *index* (also called *directory*) holds information about the structure of a file. A *file* in this context refers to an entire data structure, i.e. an array, a search tree etc..

One can differentiate between three classes of index structures depending on the manner in which the data is organized:

- *Data-organizing index structures* are used to organize the actual amount of data. They heavily rely on *search trees*.
- *Space-organizing index structures* are used to organize the space that holds the data. They use *dynamic hashing*.
- *Hybrid index structures* are a combination of both classes.

[OW12]

2.3.1 B-Trees

[Knu98]

2.3.2 R-Trees

2.3.3 R*-Trees

2.3.4 Heaps

2.4 AMBIENCE

[WDS15].

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