Sqlite Visualiser

A look inside Sqlite.

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Abstract

The Abstract.

1 Introduction

Sqlite unlike many other databases is a small, single file, self-contained database engine often used in embedded systems, storage or as an application file. Sqlite is used in many applications such as Firefox, Android and Windows 10. In addition to its wide adaptation Sqlite is server less, and has zero configuration putting it in a unique place among the other alternative systems. Despite the extensive research and testing performed on Sqlite none have attempted to visualise this data in real time.

This paper will help provide a way to see the Sqlite database in action, providing a useful tool for developers and researchers alike in understanding and debugging the internal structure of their own databases. In order to accomplish this we will:

- Explore in depth the how the file format is put together (section 2). And how to traverse the file (section 2).
- Look at the design and development (section 3) including testing (section 6) of my tool. And how it takes this data and visualises it (section 4). Including the user experience (section 5).
- Evaluation of my tool (section 7) and where this research could be taken beyond this paper (section 8).

2 Background

2.1 The Problem

The Problem..

2.2 Sqlite

2.2.1 What is Sqlite

Sqlite is..

2.2.2 Where is Sqlite used

Sqlite is used...

2.3 The Sqlite file format

2.3.1 The page system

Sqlite is made up of pages..

2.3.2 The Trees and Cells

The Trees and cells...

2.3.3 Encoding of the data

The Data is...

2.4 Similar Programs

2.4.1 Sqlite browser

One Similar program...

3 Design

3.1 System architecture

3.1.1 High level Overview

The Overall design...

3.1.2 Module Overview

The first module..

4 Implementation

4.1 The tools

I used..

4.2 The Modules

4.2.1 Database parser

The Database parser...

4.2.2 Log

The Log...

4.2.3 Live Updater

The Live updater...

5 System Operation

6 Testing

6.1 Code Tests

6.1.1 Unit tests

Unit testing...

6.1.2 Integration tests

Integration tests...

7 Evaluation

7.1 System Performance

The system was...

7.2 Design principles

I followed..

8 Conclusion

9 References

10 Appendix

11 Code

11.1 More code

11.1.1 Even more code

This is some very important code. This is a very long sentance in order to see hoow latex copes with very very long lines of non stop text.

```
1    // main
2    public static void main(String args[]) {
3        System.out.println("Hello World");
4    }
```

And so on..