Software Design Document

CS308: Large Applications Practicum
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Group 9

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Time Table Assist Tool
Design Document

Revision History

Version	Date	Author(s)	Description
v1.0	15/10/19	Namrata Malkani	Initial version

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1 Introduction

Time-Table Assist Tool is a user interface designed to prevent errors while making time-table. It does not make the time table, it just assists the user by flashing errors. The user interface is connected to a database. The database stores all the information required to evaluate clashes. Each course is to be allotted a slot in the time table, a classroom and instructor(s). The entire decision of allotment lies with the user but the interface blocks him from making clashes. Therefore, data entries violating constraints are not inserted into the time table and user is flashed error so that he/she can resolve it. Our work does not build on any existing softwares. It is an effort to ease the workload of our faculties who design our time table every semester.

1.1 Design Overview

The *BookIt* system is based on the Apache OFBiz ERP platform (Ref. [2]). OFBiz has no license fee. It is an enterprise-grade, full-fledged ERP and hence will cater to most future requirements of *BookIt*. OFBiz has a service-oriented architecture (SOA) so can be customised with minimal programming. It has an easy-to-use Web interface for all users, including the hotel staff and the travelling public.
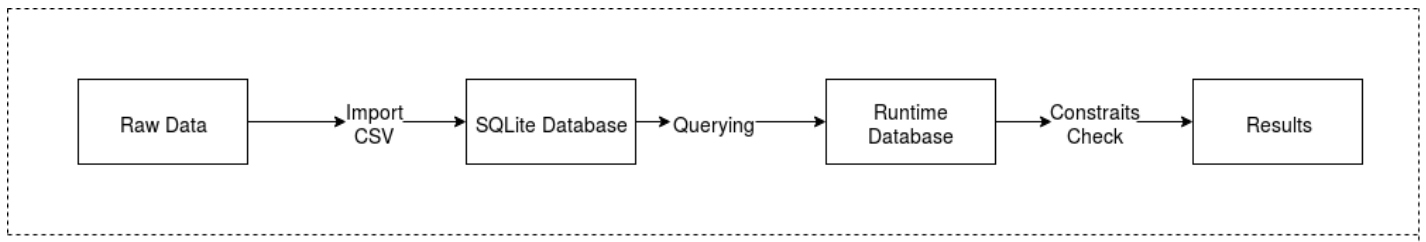
1.2 Intended Audience

This document is intended for the users including the developers who want to learn

1.3 References

[1] *Software Requirements Document, Group 9, 15/10/12*

2 Detailed Design

2.1 Architecture

Components

Raw Data (User Dependent)

- These excel/odt files would specify what are the tables and column fields. These need to be converted to CSV format in order to be imported in SQL Database.
- User will be responsible that the CSV files and Database are compatible.

Database

The Database is mainly divided in two parts.

- One with 3 prepopulated tables that are created in the beginning by the user provided raw data. (test.db)
- Other with 8 tables created at run time in order to practice the constraints and display results, errors and warnings. (runtime.db)

Graphic User Interface (GUI)

This is how the user is able to utilize the tool. The interface is created on tkinter module for version 1 of the software.

Pre Requisites

- *Python 3 (mostly preinstalled, preferably version 3.6 and above)*

- Tkinter Library (sudo apt-get install python3-tk or sudo apt-get install python3.6-tk)
- SQLite3 (sudo apt-get install SQLite3)

2.2 External Data

Databases
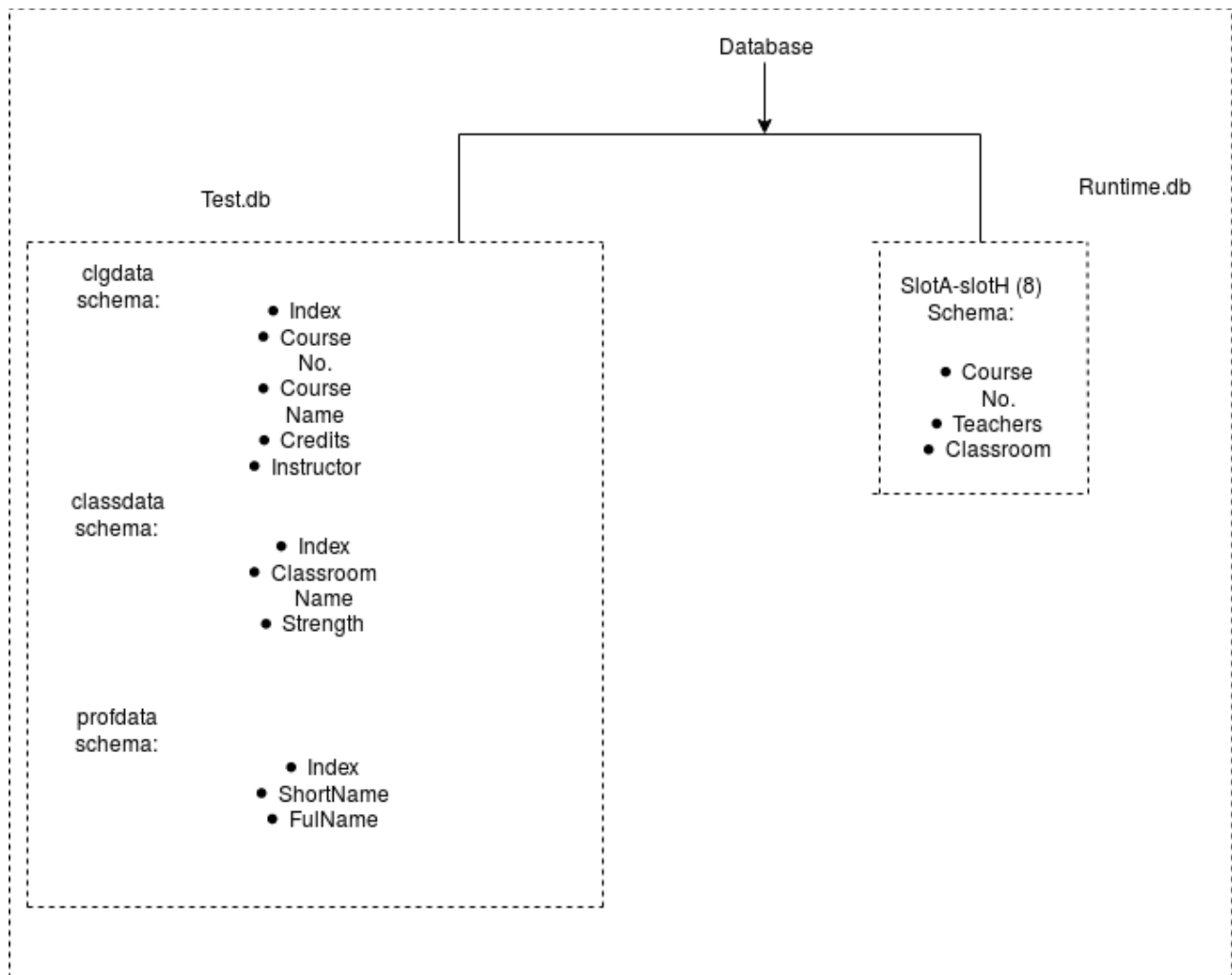
Files

class.csv, data.csv, teachers.csv, test.db, runtime.db.

2.3 Performance

The product is targetted towards use by a single user at a time as was discussed during the meeting with our mentor and the targetted user. It doesn't need a server or network. As such the performance is optimal.

2.4 Test Scripts

The following scripts were used. All scripts are written in Python, unless otherwise noted.

tool.py: populate the database for a slot specified by the user.

Gui.py: A test and GUI script.