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POODLE - To the core of your data

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Abstract

Motivation: Many life science laboratories are still using Excel files do organize their data. This leads to a huge workload for maintenance as well as a inconvenient access and update routine. POODLE provides an easy-to-use and powerful interface to improve the work of your lab.
Results: POODLE is a Java-based web interface, which allows intuitive access, update and manipulation of data.
Contact: forename.surname@student.uni-tuebingen.de
Supplementary information: Supplementary data are available at *https://github.com/derjedi/BioinformaticsI-Assigments/tree/master/poodle_project* online.

1 Introduction

2 Approach

As already wrote above many life-science laboratories use Excel files for storing and working with data. But Excel files have a few drawbacks, which make working with them inconvenient. On of the biggest problems occurs, if more than one member of the laboratory tries to access the file at the same time. That can lead to inconsistent files. Second, searching in a Excel file is not as easy as it could be. Furthermore, licenses for Excel are expensive and free software is not as powerful as commercial ones. The reason for using Excel rather than a database system is that most life-scientist are not familiar with database systems and therefor chooses the GUI of Excel to work with. We are facing that problem by combining the functionality of a database system with an intuitive and easy-to-learn handling.

3 Methods

POODLE is build as a two-layer software. The first layer consists of the database and routines to automatically build and update that database. The second layer consists of the web service that is used to access, update and manipulate data. This is the front end layer and a user only interacts with that layer. One major aspect of POODLE is the in-build BLAST function.

3.1 Database layer

SQLite [1] is the database system running in the background. We chose this software for several reasons. First, it is free of charge. Second, and more important SQLite is a small and fast database system written in C. So the requirement in space is very low. Since, the whole database is stored just in one file SQLite also has a incredibly good performance. Besides, SQLite guaranties that all transactions are ACID even if a system crash or power failure occurs. So we have a robust storage and access of data as well as a lot of functionality provided by the database system.

Fig. 1. Caption, caption.

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[1] http://www.sqlite.org/

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4 Discussion

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5 Conclusion

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