BibTeX Management System

Software Design Specification

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Table of Contents

1. Introduction ... 3

1.1. Purpose ... 3

1.2. Scope ... 3

1.3. Intended audience ... 3

1.4. Glossary ... 3

1.5. Document Overview ... 4

2. Architectural Design ... 4

2.1. High level component and their interaction ... 4

2.1.1. Components ... 4

2.1.2. Interfaces ... 5

2.2. Design decision applied to whole application ... 6

2.2.1. Object-oriented software development method ... 6

3. Component and Detail Design ... 7

3.1. Class diagram ... 7

3.2. User interface design ... 7

Revision History

Date	Version	Description	Author
26-10-2015	0.1	First draft	Paulina Mibenge
08-11-2015	0.2	Added description of architectural design and class diagram	Paulina Mibenge

1. Introduction

1.1. Purpose

The purpose of this document is to outline software architecture and design of BibTeX Management System. It is targeted at developers to help them meet the client's requirements in an efficient and effective way.

1.2. Scope

In this document, it will be specified how the requirements—both functional and non-functional—will be met. Needs of client are listed in the Analysis and Requirements Document. This specification will introduce developers to high level components and interfaces of the system, as well as algorithms.

1.3. Intended audience

This document is prepared mainly for the developers of the BibTex Management System.

1.4. Glossary

Term	**Description**
Bibliography entry	Bibliography item containing specified parameters. Each entry has a type and a style. It also has a unique identification number.
File	File with extension '.tex' or '.bib'. Those files are handled by the BibTeX Management System.
Style	Abbreviation style(trend) defining how an entry should look like. Each bibliography item can have different style and also appear as multiple variations considering its trend.

1.5. Document Overview

The next chapter describes architectural design of the BibTex Management System. It lists the high-level components of the system and specifies their main tasks. It also describes the interfaces of these components, as well as the design decisions applied in the development process of the application.

2. Architectural Design

2.1. High level component and their interaction

2.1.1. Components

- BibTeX Interpreter

  Component responsible for interpreting the content of files with *bib* extension.

- LaTeX Interpreter

  Component responsible for interpreting the content of files with *tex* extension.

- File Manager

  Component which opens and reads all the content of selected file. It also has the ability to save the file.

- GUI

  The key component in user interaction process. This is the user interface—it manages windows, their subcomponents, and results of actions performed on them.

- BibTex entry content

  This component stores all the data of one bibliography entry. It has information about styles of each parameter as well as whether it is enabled in the compilation of bibliography.

- Style Interpreter

  This component interprets a style file.

2.1.2. Interfaces

- BibTeX Interpreter

  getAllBibtexRecords

  The interpreter returns all the records that are present in the bibliography file.

- LaTeX Interpreter

  getAllBibtexReferences

  The interpreter returns all the references of bibliography entries in the analyzed text—content of open tex file.

- File Manager

  openTexFile

  The manager opens the file which is pointed by the path a user has specified. This method also reads all the content of the file.

  getContentOfTexFile

  The manager returns the content of the opened file.

  saveBibFile

  The manager saves specified data to a file with a specified path.

- BibTeX entry content

  addEntryContent

  Adds records to the entry.

  getEnabled

  It returns a collection of enable parameter for records.

setEnabled	It sets enable value for a specified record of the entry.
getStyle	It returns a collection of styles for records.
setStyle	It sets a specified style to a record.

- Style Interpreter

loadStyleCollection	Reads the style file and collects all available styles.
getStyledText	Returns the text in a specified style.

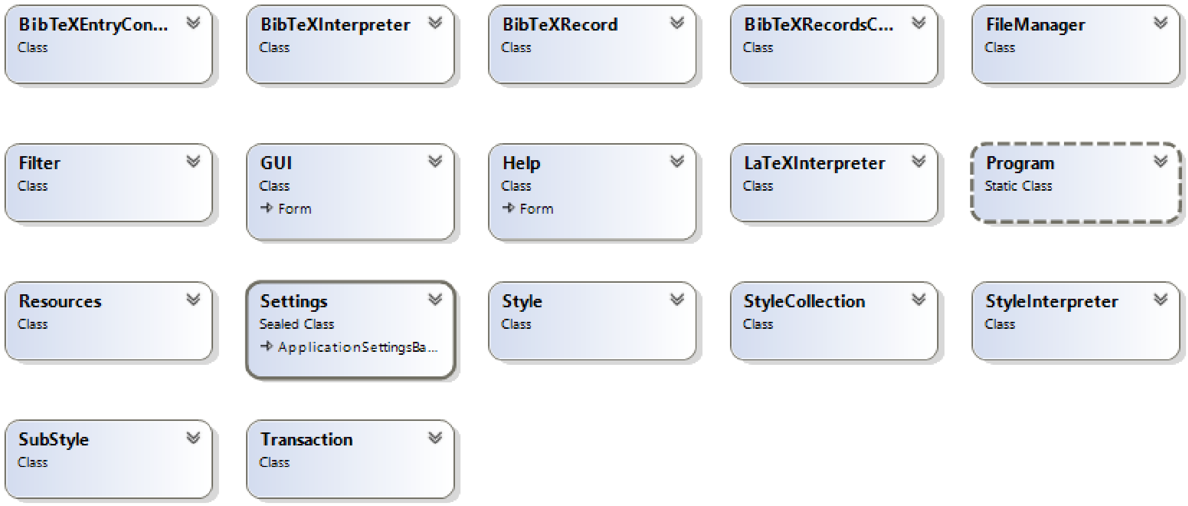
2.2. Design decision applied to whole application

2.2.1. Object-oriented software development method

This method has been chosen to deliver a system which can be relatively fast further developed and easily maintained in case of requirement changes and add-ons.

3. Component and Detail Design

3.1. Class diagram



3.2. User interface design

The user interface design is explicitly described in the GUI design document.