
Software Requirements Specification

for

Publication Management

Version 2.0 approved

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Group 15

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Revision History

Name	Date	Reason For Changes	Version
Publication Management	18/02/2018	First version	1.0
Publication Management	23/04/2018	Adjusted to match code	2.0

1. Introduction

1.1 Purpose

This project is called Publication Management, and this is the documentation for Release 1. It covers the management of records of publication by several authors. There will be two kinds of users – admin and standard user. By using this system, a user can search and view the details of any paper. Additionally, the admin user can also edit the records. This documentation describes the entire system, which is not the part of another system.

1.2 Document Conventions

The fonts and colors used in this documentation do not have any special significance and are only present for aesthetic purposes.

1.3 Intended Audience and Reading Suggestions

This documentation is intended for the consumer. It is suggested to read this documentation in order of index.

1.4 Product Scope

This system provides a simple way of maintaining the records of journals and papers published by various authors. The data will be stored in a file. One can search the records by several methods such as by name, topic, author, date published and publication ID. It is mainly for use on small scale such as intra-institute because it is not designed to handle very large databases.

1.5 References

None

2. Overall Description

2.1 Product Perspective

We are making this project as a part of our course CS223 Software Engineering. It is intended to be completely independent and not part of any other system.

2.2 Product Functions

- Searching the records to find a certain publication
- View the details of any publication present in the records

- Editing records for admin users
- Display recent activity in news
- Analyze the records and generate statistics according to various parameters

2.3 User Classes and Characteristics

There are two types of users:

1. Standard user – can search and view the records, and can get news and statistics
2. Admin user – can edit the records in addition to the functions of a standard user

2.4 Operating Environment

The software will operate on terminal in Windows 10 platform, and must coexist with any antivirus programs. If a machine is powerful enough to run Windows 10 then it can run this software easily. In case any other prerequisites are needed, they will be supplied with the software package.

2.5 Design and Implementation Constraints

Keeping in mind that this product is designed for small scale use, we have not provided facilities for networking etc. The code is written in C++11 and is constrained by it.

2.6 User Documentation

All user manuals and help content will be provided with software package. No online help will be available from the developer.

2.7 Assumptions and Dependencies

We are assuming that all the information used by the software will be in IEEE format, with all papers having unique Digital Object Identifier (DOI). We will not be using any third-party commercial components, and the software only depends on the operating system to be able to create terminal with basic input/output capabilities.

3. External Interface Requirements

3.1 User Interfaces

The entire software will run on terminal with negligible GUI content. Operating instructions and error codes will be documented in a separate user manual.

3.2 Hardware Interfaces

As the entire interface will be terminal, the hardware devices required are only screen and keyboard.

3.3 Software Interfaces

The database source used in this software will be stored in a file in a specific location on the computer. When the program is started, it will load the data from file into the memory. It also depends on the Windows operating system to run the executable file and display terminal.

3.4 Communications Interfaces

This software will not have any interaction with network, so we do not need to deal with communication interface.

4. System Features

Following are the system features of this software:

4.1 Search the database

4.1.1 Description and Priority

With this feature we can search the entire database for a certain publication by using keywords and filters, such as title, author name, topic etc. It has the maximum priority as it is the most essential feature.

4.1.2 Stimulus/Response sequence

When the program is started, the user is presented with two choices - whether to continue as guest user or login as admin. If the user selects guest, then they are directly taken to the next menu, or if they choose to login, they are first prompted to enter the username and password and then taken to the next menu. If the user selects search option, the next menu is presented showing various ways to search. Then the program proceeds accordingly to search the database and search results are displayed. The user may select any search result to view detailed bibliography in IEEE format.

4.1.3 Functional Requirements

Prints number of search results and then the list of titles of matching papers found. Then it allows the user to enter the ID number of any paper to view detailed bibliography.

4.2 Edit the Database

4.2.1 Description and Priority

This feature allows an administrator to edit the publication records, i.e. they can add new entries, change existing entries or delete entries. It has second priority after searching.

4.2.2 Stimulus/Response sequence

The software prompts the admin to enter username and password. If these are correct, it displays the edit option. If the edit option is selected, next menu opens which allows admin to choose whether to add, change or delete entry. For add, the admin enters the bibliography in IEEE format and the data is added to our database. For change, the admin is prompted to enter DOI of the paper, and then enters the new bibliography, which replaces the old entry. For delete, the admin enters the DOI, and the corresponding entry is deleted after confirmation.

4.2.3 Functional Requirements

Prints confirmation of action completed after database is updated.

4.3 Generate Statistics

4.4.1 Description and Priority

This feature allows a user to see statistical data on how many papers were published year-wise or author-wise. It has third priority after search and edit.

4.4.2 Stimulus/Response sequence

To use this feature, select Statistics option on the first menu after user selection. The next menu gives option to analyze by year or author. Then the database is scanned according to the selected option and result is displayed in tabular form. It has third priority after search and edit.

4.4.3 Functional Requirements

Prints the statistics in tabular form.

4.4 Generate News

4.3.1 Description and Priority

Whenever an admin adds a new entry, a log file is updated and thus news is generated by using events from last month.

4.3.2 Stimulus/Response sequence

To use this feature, user simply selects the news option and the system generates and displays the news.

4.3.3 Functional Requirements

Maintains log file for generating news.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Search and analysis functions may take some time to execute because they are using linear search pattern.

5.2 Safety Requirements

Data loss will occur if the database and log files are deleted directly from the source.

5.3 Security Requirements

Because the software does not use any kind of encryption, the database files can be misused if anyone gets access to the files stored on the computer. Therefore, it is responsibility of user to ensure security of their device.

5.4 Software Quality Attributes

The software only operates on windows system and correctness is considerable.

5.5 Business Rules

None









