A MINI PROJECT REPORT

ON

"E-BOOK SHARING SYSTEM"

Sinhgad College of Engineering

Department of Computer Engineering

SKILL DEVELOPMENT LABORATORY

(TE Computer Engineering)

By

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CERTIFICATE

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Abstract

This project aims to provide an interface between the person having a resource and a person how needs the resource. The resource is in the form of a book or a magazine.

The main purpose of this project is to connect people who are interested in sharing and making the full use of the books or magazines they have with them and lending or selling those to people who need them. This approach will help the lender/seller to get money out of an old book and buyer/borrower to get a book at an affordable price.

LIST OF FIGURES

LIST OF ABBREVIATIONS

OS	Operating systems.
ER	Entity relation.
GUI	Graphical user interface.
UML	Unified Modelling Language.

INTRODUCTION

E-book sharing is an easy, fast and digital way of interaction between users. This is creating a possibility for people to use books instead of keeping them on their bookshelves.

This is a general web based application having a user driven methodology in which user adds book to his profile (including some description) and people can view it. This also has the functionality of search on based of department such as Technical and Non-Technical.

1.1 BACKGROUND AND BASICS.

In daily life we generally study two types of books.
1] Technical Books.
2] Non-Technical Books.

Technical Books

These books are related to the subjects who are studied by students during their technical course such as engineering .These books contain theories and concepts related to the application of sciences and technology. These books are extremely helpful to people who are studying a related subject in any discipline. Examples of these kinds of books are:

- Database System and Concepts by Henry F.Korth.
- Fundamentals of thermodynamics by Claus Borgnakke and Richard E Sonntag.
- Fundamentals of signals and systems by Benoit Boulet.

Non-Technical Books

These books are related to subjects who tend to stay on literature and language side. These books have types like fiction, non-fiction and magazines etc. People generally read these books as a hobby or interest. These books are generally very interesting and are available on uncountable topics. Examples of these kinds of books are:

- Song of Ice and fire by George RR martin.
- Harry potter by J.K Rowling.
- Time magazine.
- Wings of Fire by Dr. A.P.J Abdul Kalam

Web Applications

In computing, a **web application** or **web app** is a client–server computer program in which the client (including the user interface and client-side logic) runs in a web browser. Common web applications include webmail, online retail sales, online auctions, wikis, instant messaging services and many other functions.

Difference between a website and a web –application:

Websites are primarily **informational.** In this sense, http://cnn.com and http://php.net are websites, not web applications.

Web applications primarily allow the user to **perform actions.** Google Analytics, gmail, and jslint are web applications.

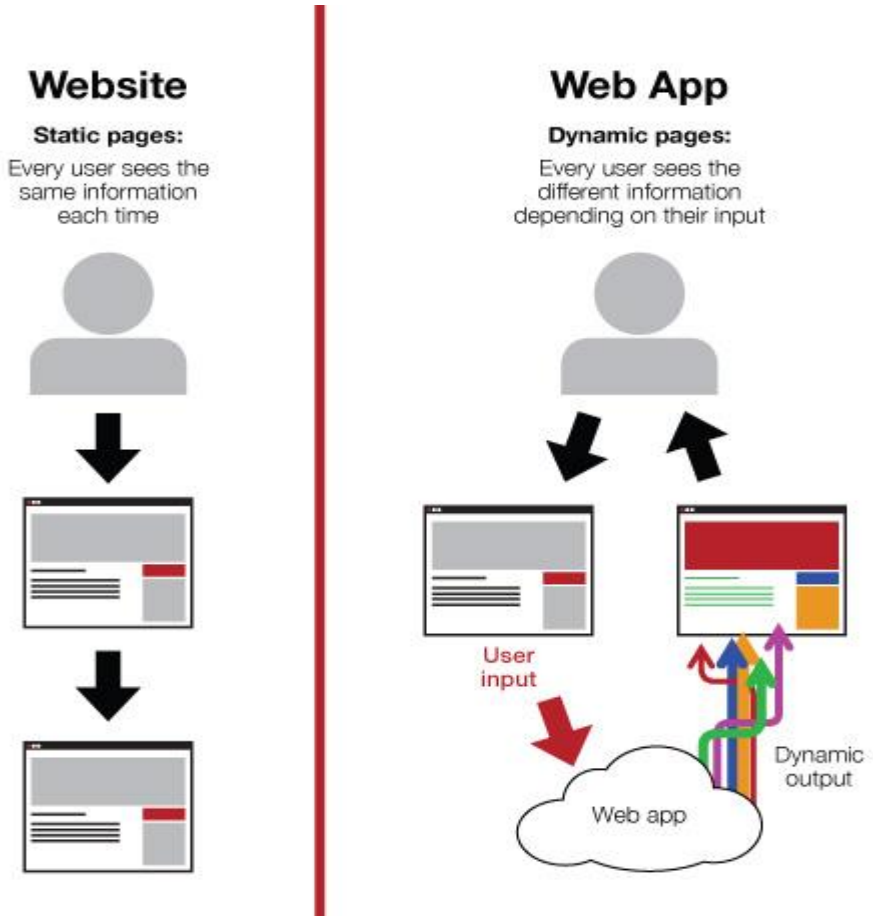

Figure 1.1.1 Difference Between Website And Web App

1.2 PROBLEM STATEMENT

To develop a web application using django(python web framework) to act as a interface between book lender/seller and buyer /borrower. The created application should be able to add user, add books and should be able to perform search on the created database.
The application should also predict some books to user based on his/her interests. The application should contain detailed analysis on the performed searches.

1.2.1 SCOPE STATEMENT

The project is mainly a book sharing website with a vision to make lending and borrowing more convenient .The project basically revolves around a web application which will help people choose various books according to their interests.

PROJECT PLANNING AND MANAGEMENT

2.1 SOFTWARE AND HARDWARE REQUIREMENT

- Python 3.0 or higher version.
- Django 1.11.
- Plotly 1.9.4 or higher.
- MySQL 5.5 or higher version.
- MySQLdb : Python-MySQL connectivity
- Windows or Linux 32 bit/64 bit operating system.
- Any web browser.

2.1.1 Python

Python is a widely used high-level programming language for general-purpose programming, created by Guido van Rossum and first released in 1991. An interpreted language, Python has a design philosophy that emphasizes code readability (notably using whitespace indentation to delimit code blocks rather than curly brackets or keywords), and a syntax that allows programmers to express concepts in fewer lines of code than might be used in languages such as C++ or Java. The language provides constructs intended to enable writing clear programs on both a small and large scale.

2.1.2 Django

Django is a high-level Python Web framework that encourages rapid development and clean, pragmatic design. Built by experienced developers, it takes care of much of the hassle of Web development, so developer can focus on writing your app without needing to reinvent the wheel. It’s free and open source.

2.1.3 Plotly

Plotly, also known by its URL, **Plot.ly** is an online data analytics and visualization tool headquartered in Montreal, Quebec. Plotly provides online graphing, analytics, and statistics tools for individuals and collaboration, as well as scientific graphing libraries for Python, R, MATLAB, Perl, Julia, Arduino, and REST.

2.1.4 MySQL

MySQLis an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter,and "SQL", the abbreviation for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company MySQL AB, now owned by Oracle Corporation. For proprietary use, several paid editions are available, and offer additional functionality.

2.1.5 MySQLdb

MySQLdb is a python-mysql connector which establishes the interface between mysql and python.

2.1.6 Windows or Linux

An **operating system** (**OS**) is system software that manages computer hardware and software resources and provides common services for computer programs. All computer programs, excluding firmware, require an operating system to function. The OS mainly used are Windows or Linux. The OS can be 32-bit or 64-bit.

2.1.7 Web browser

A **web browser** (commonly referred to as a **browser**) is a software application for retrieving, presenting and traversing information resources on the World Wide Web. An information resource is identified by a Uniform Resource Identifier (URI/URL) that may be a web page, image, video or other piece of content. Hyperlinks present in resources enable users easily to navigate their browsers to related resources. Although browsers are primarily intended to use the World Wide Web, they can also be used to access information provided by web servers in private networks or files in file systems.

The most popular web browsers are Chrome, Edge (preceded by Internet Explorer), Safari, Opera and Firefox.

2.2 PROCESS MODEL

Process Model Is a description of process at type level.

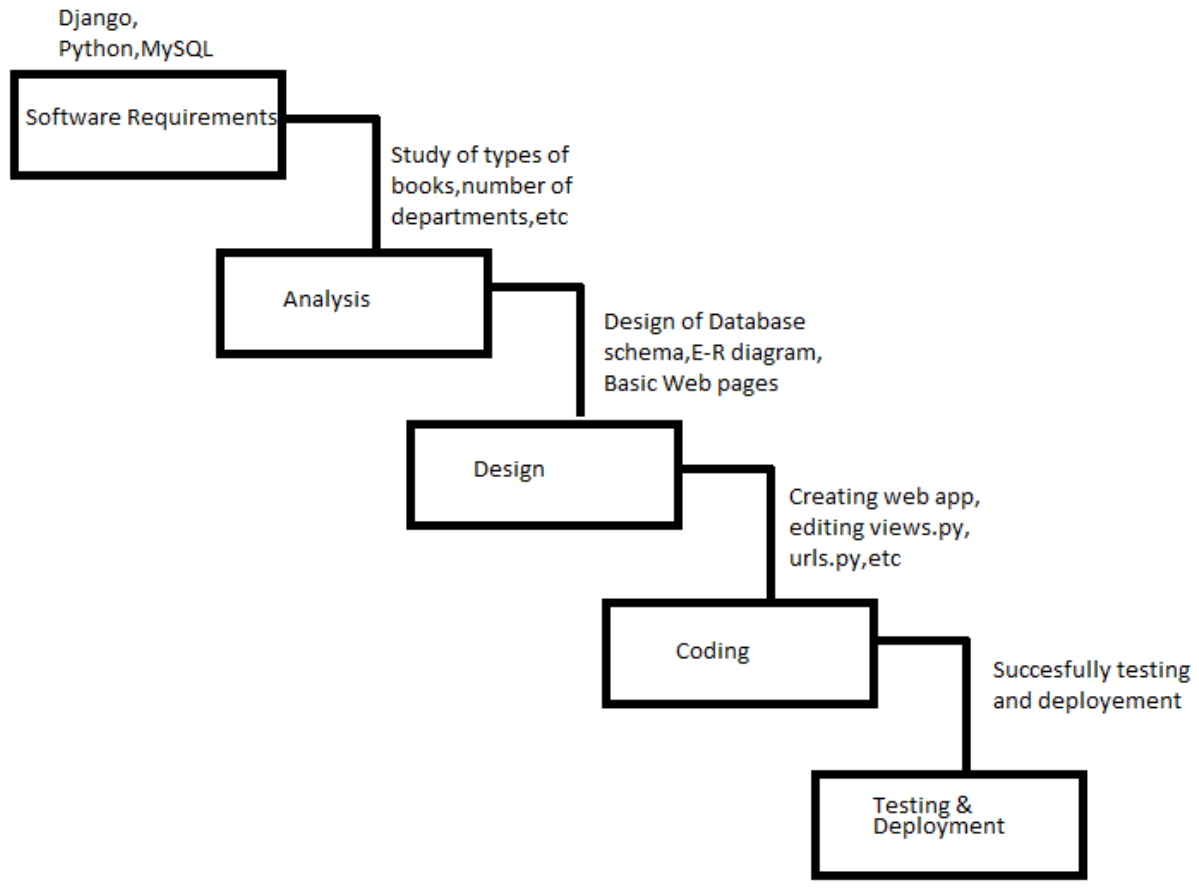

Figure 2.1.1 Process Model

ANALYSIS AND DESIGN

This chapter consists of Use-Case diagram, Sequence Diagram, Methodology, Algorithm

3.1 USE-CASE DIAGRAM

This Diagram Describes the User's Interaction with the System

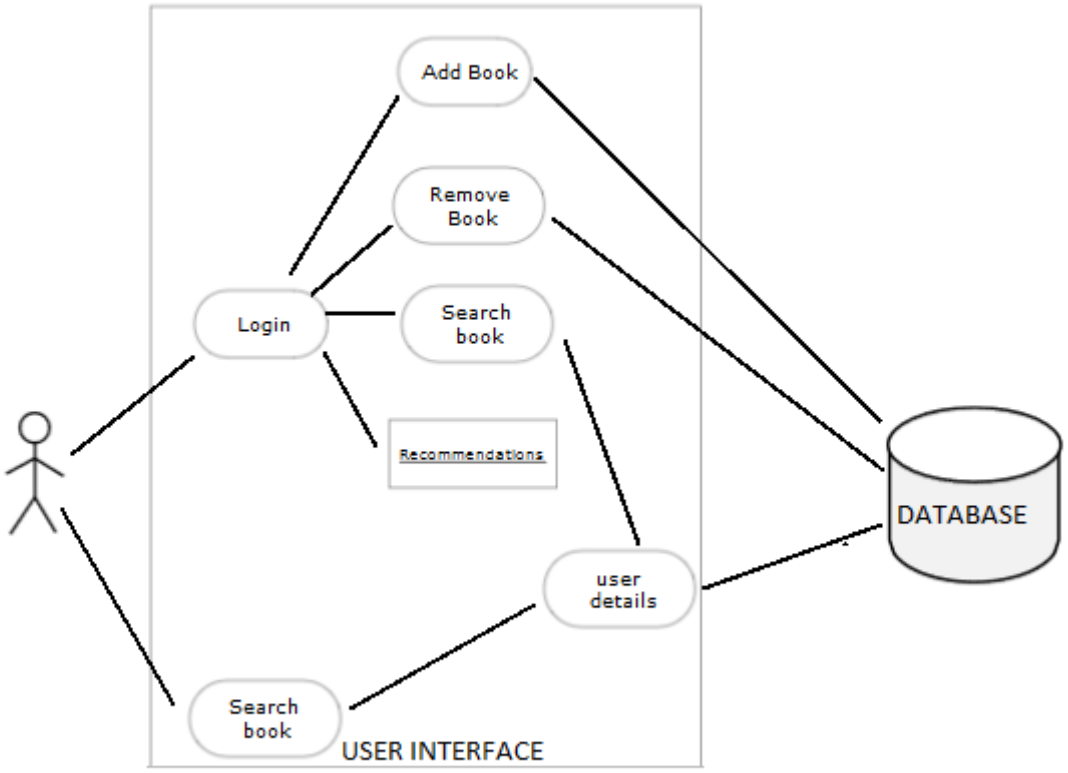

Figure 3.1.1 Use Case Diagram

3.2 CLASS DIAGRAM

A class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's cla**sses**, their attributes, operations (or methods), and the relationships among objects.

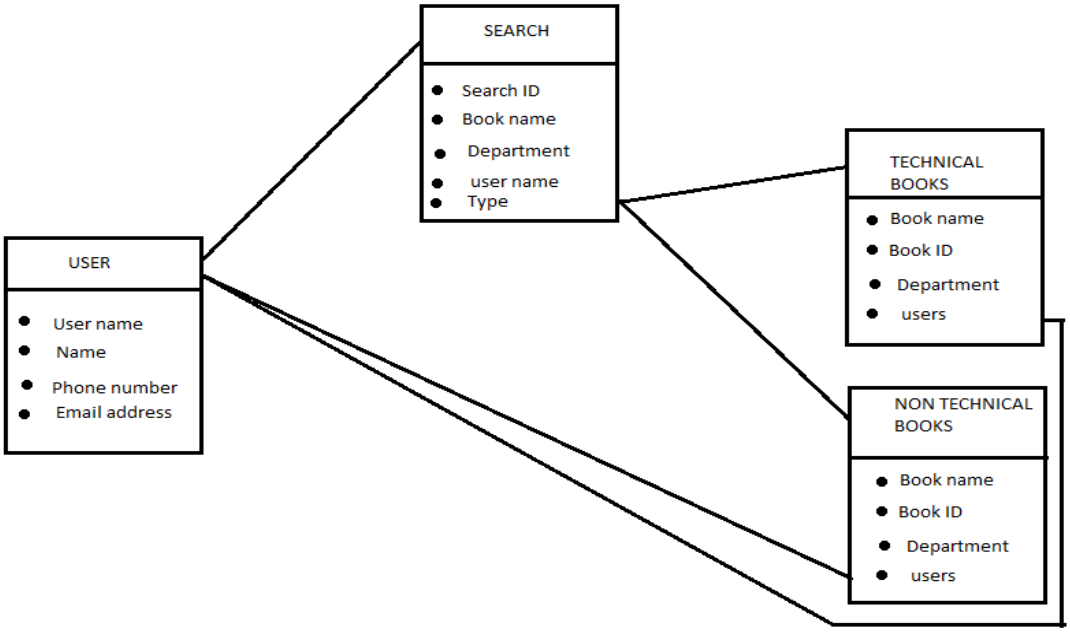

Figure 3.2.1 Class Diagram

3.3 SEQUENCE DIAGRAM

Sequence diagram shows how objects operate with one another according to the time.

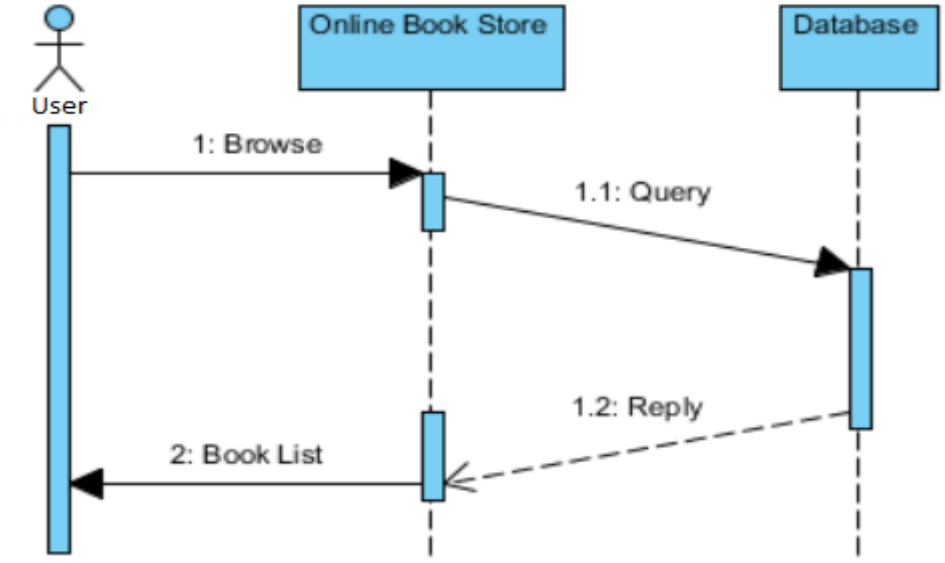

Figure 3.3 Sequence Diagram

3.4ACTIVITY DIAGRAM

Activity Diagram is a Graphical representation of Workflows of Stepwise activities and actions with support for Choice, Iteration and Concurrency

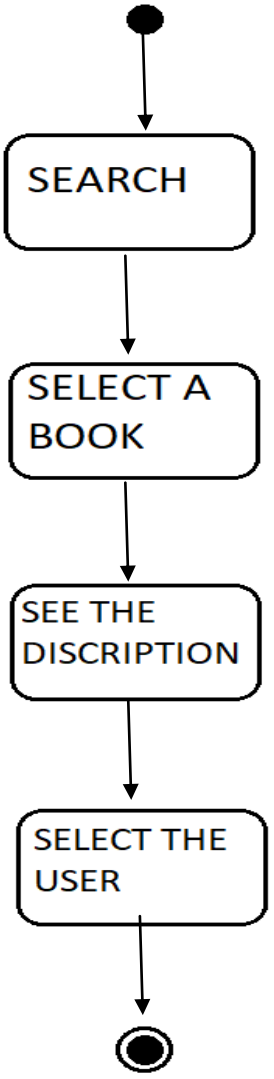

Figure 3.4.1 Activity Diagram

3.5 ER DIAGRAM

Entity Relational model gives the relation between different Entities.

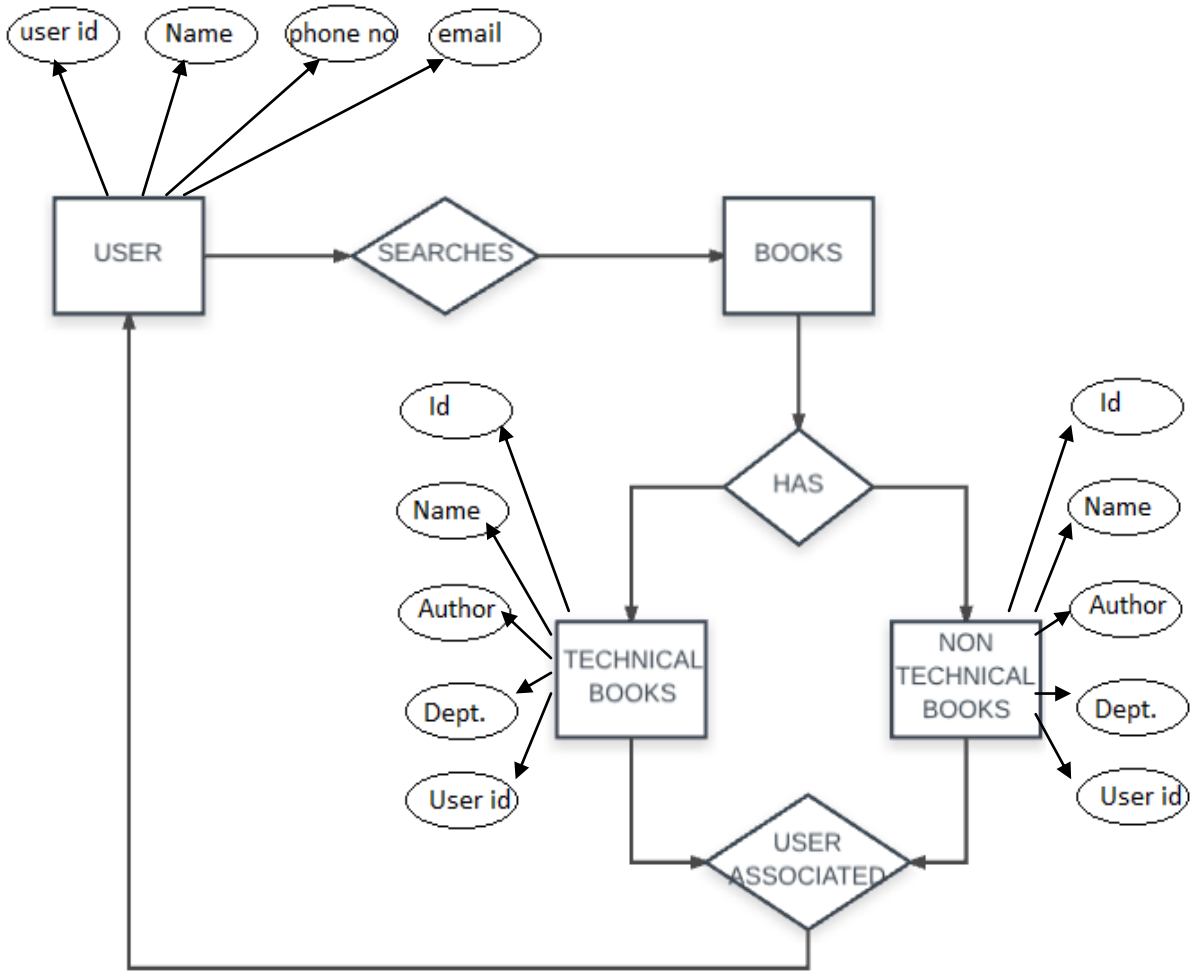

Figure 3.5.1 ER Diagram

IMPLEMENTATION AND CODING

This Chapter consists of Basic Methodology, Algorithm, Steps to Execute the Project and Graphical User Interface (GUI) Screenshots.

4.1 METHODOLOGY

Since we are using django for developing our book sharing application therefore a proper web development methodology is used with additional lean and crystal development methods which are more based on interaction purposes. Hence following phases are followed for creation of the web application

4.1.1Requirements Analysis

a) The decision of including number of departments according to the user needs is an important part of the Requirement analysis.

4.1.2 Formulate digital Strategy

A) Looking At the needs analysis, we determine the factors that serves our website Such as keeping track of searches which are performed.

B) To Enhance it we use latest technology, components, and elements.(Django Framework)

4.1.3 Web-Page Conceptualization

A) Django makes it easy to conceptualize the WebPages and various web development languages can be clubbed such as HTML, CSS, BOOTSTRAP and so on.

B) Various models are created in models.py file in django project.

C) Every app is associated with various models.

D) Hence web-page can be conceptualized .

4.1.4 Web-Development

A)For actual development we use a python web framework called Django for processing.

B) In this various Apps are created for various important web pages and Models .Url linking, handling views all is to be done in django.

4.1.5 Data Migration Phase

A)All the changes in the database Schema can be done in Django using simple commands

$**Python manage.py makemigrations**

$**Python manage.py migrate.**

B) Any new model created in models.py file gets updated in database schema using above commands.

C) For user perspective backend handling there is super user command which lets u handle all the database schema.

$Python manage.py createsuperuser

4.2 DATABASE SCHEMA

The following section consist of the database schema used in the backend. The database management system used in the backend is MySql 5.5. The connectivity from python to mysql is done by MysSQLdb.

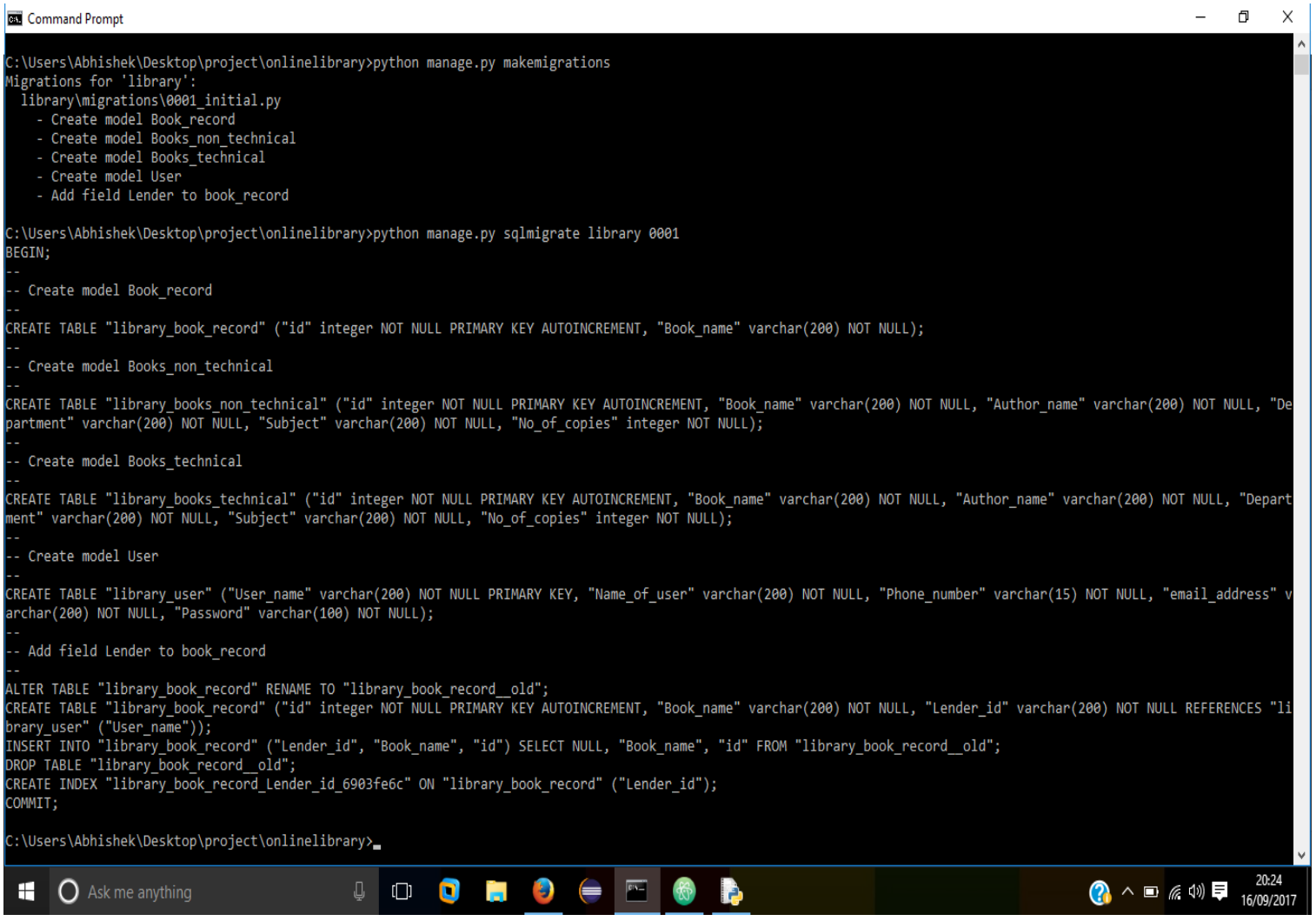

Figure 4.2.1 Database Schema

4.3 FLOWCHART

Flow chart gives the basic idea of the flow of the coding and implementation of the Project

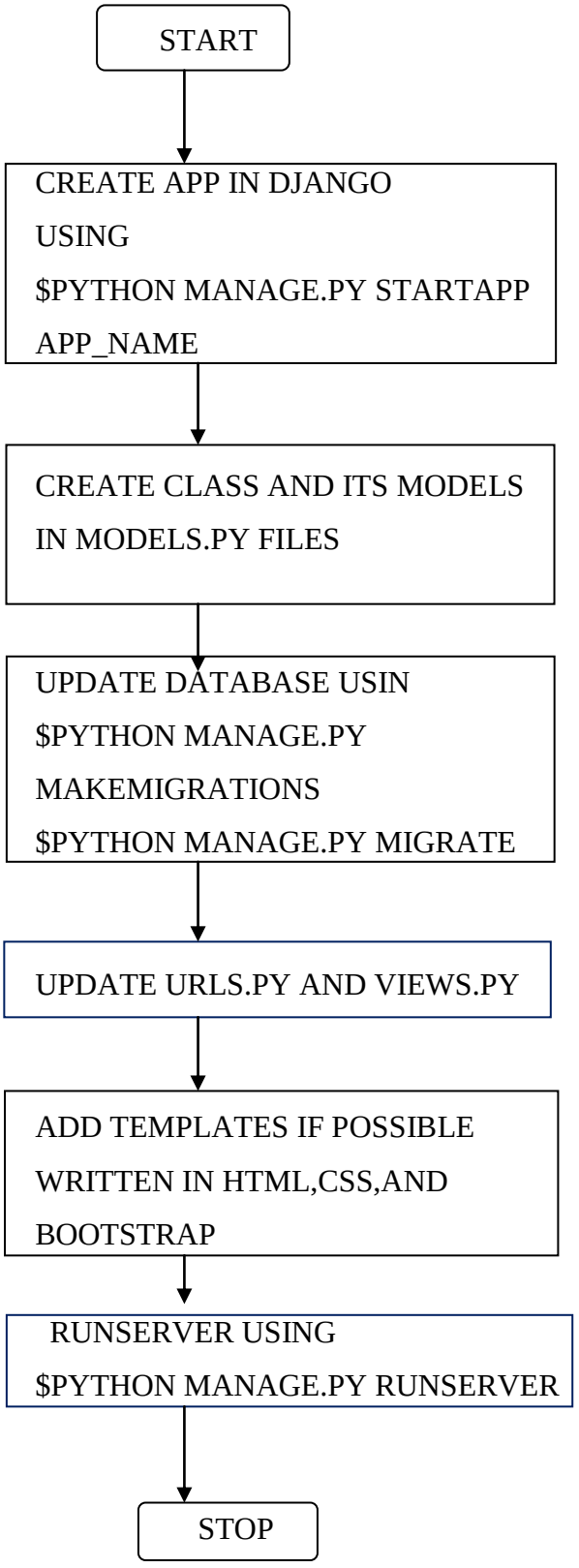

Figure 4.3.1 Flow Chart

4.4 GUI design

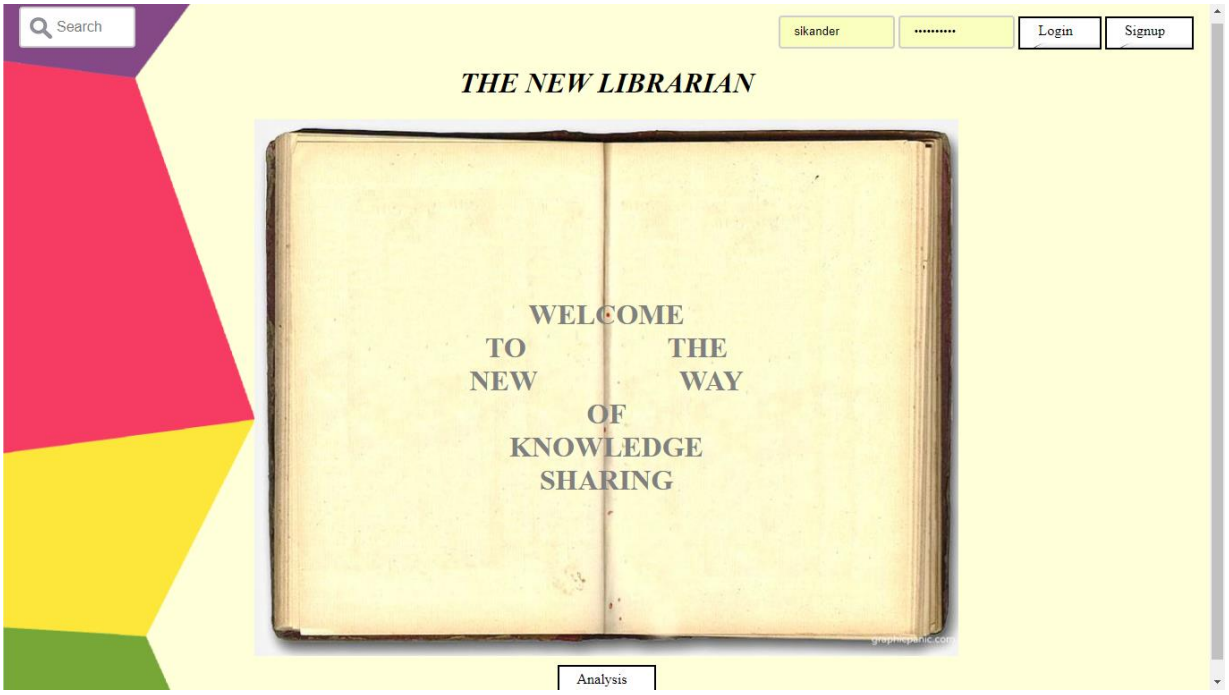

Figure 4.4.1 Home page

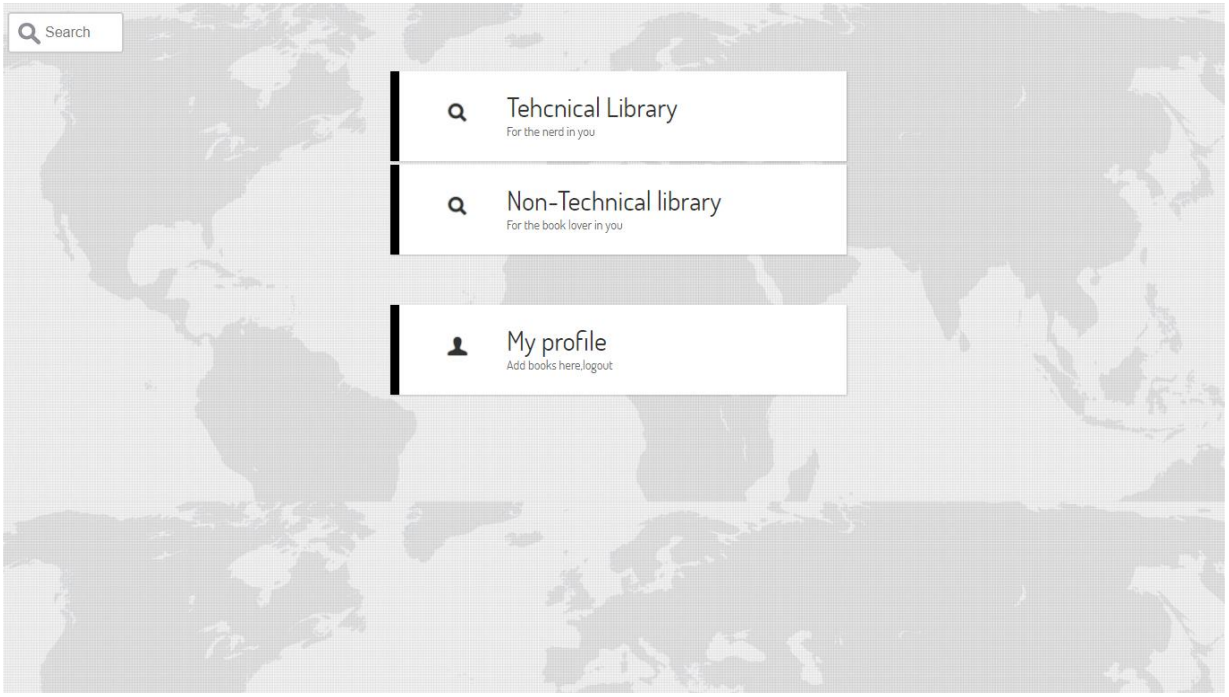

Figure 4.4.2 Page after successful login

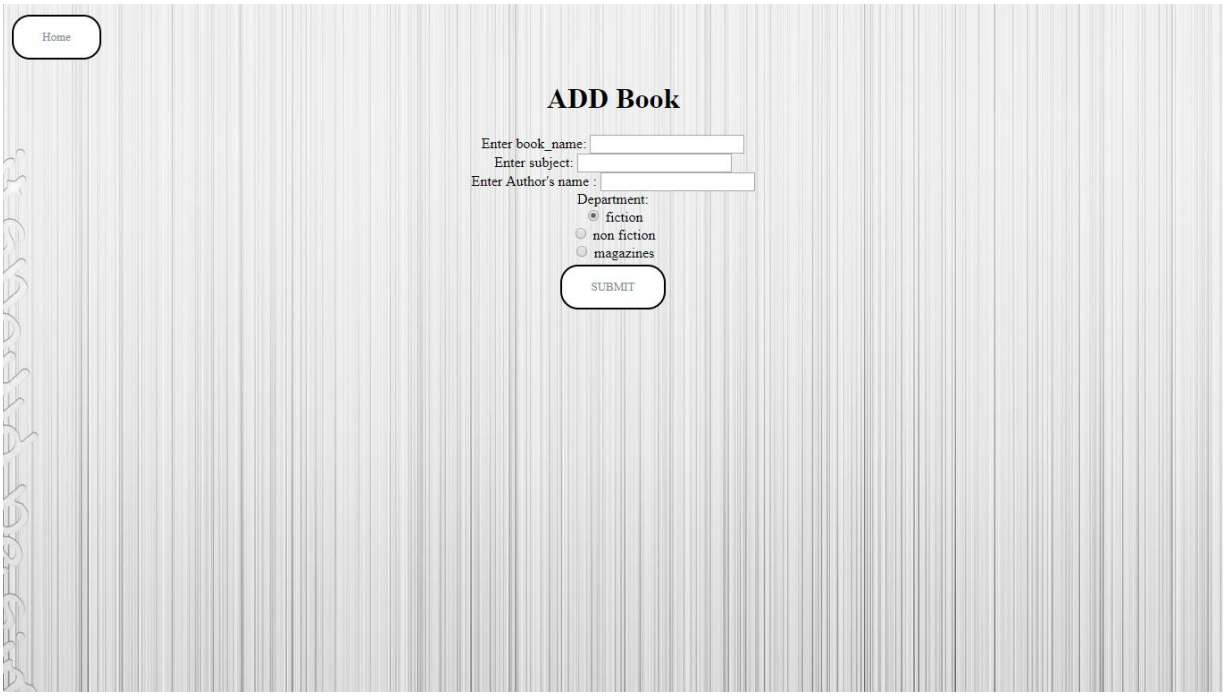

Figure 4.4.3 Add book page

Figure 4.4.4 Search page

RESULT AND DISCUSSION

In this chapter the detailed analysis based upon the searches performed at runtime is given. The results are explained via different types of charts and graphs.

5.1 Visualization of results (Graphs, Charts, etc.)

Figure 5.1.1 Search analysis report.

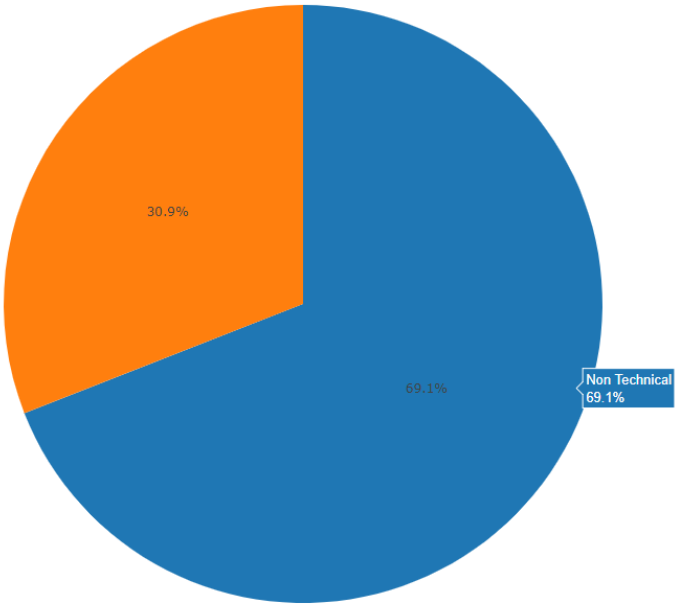

Figure 5.1.2 Pie chart showing Book-type wise searches .

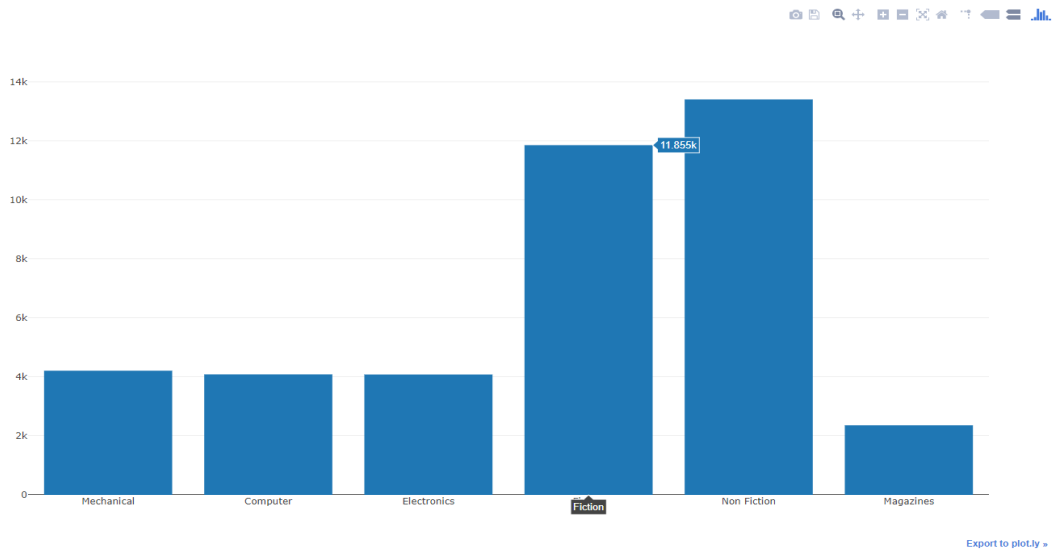

Figure 5.1.3 Bar chart showing department-wise searches.

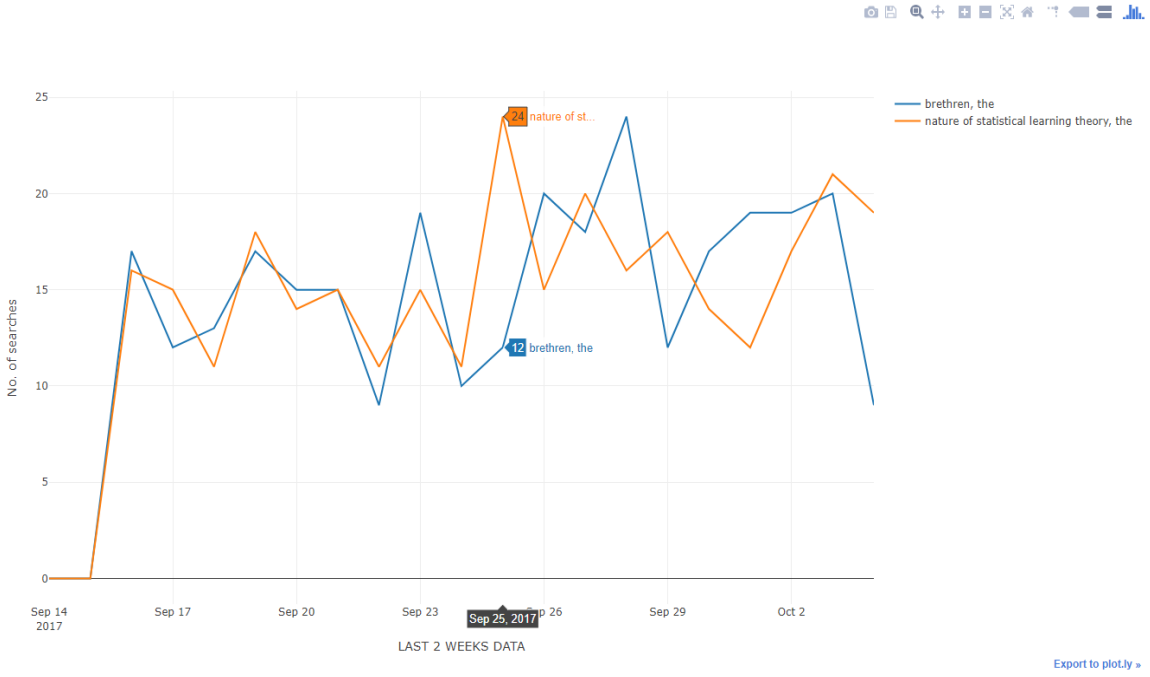

Figure 5.1.4 Line graph showing daily book searches for last 20 days of top two books

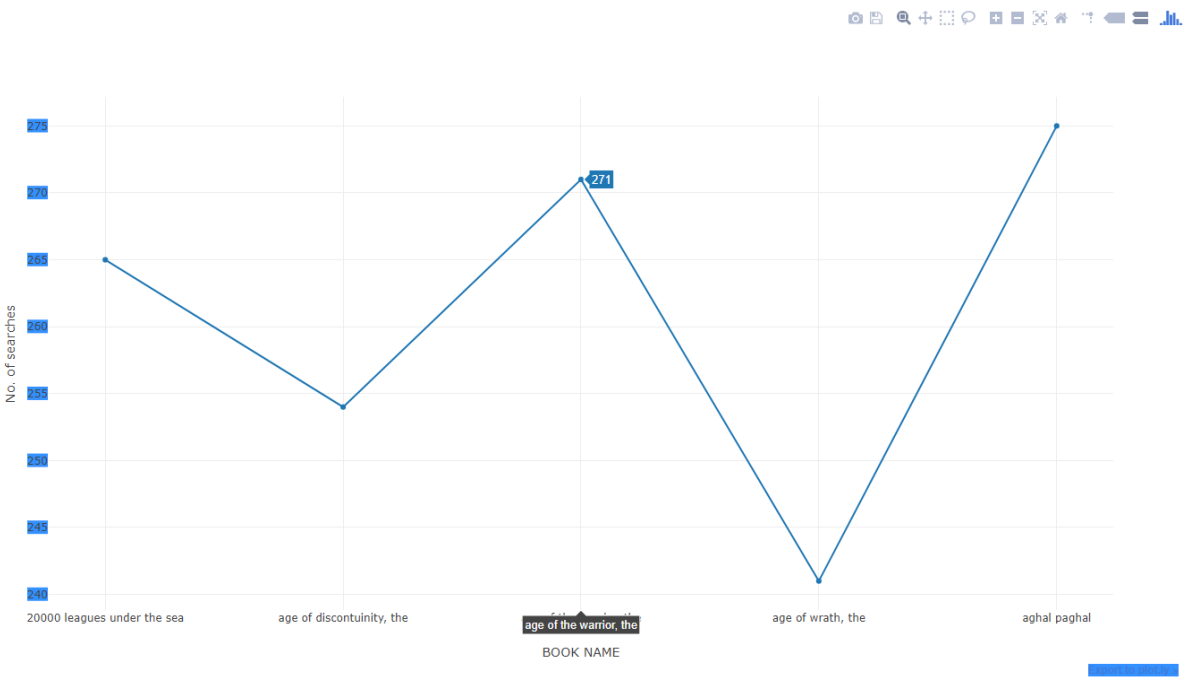

Figure 5.1.5 Line graph showing top 5 books searched.

CONCLUSION

The easy way of buying and sharing books is now created. The users can connect to each other very easily and can share their books with each other.

This application is beneficial for borrowing books from other users by directly contacting them with just a click , with easy to use interface and seamlessly fast access and see the most searched books of all time and to choose what is best for reading

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