

A
Summer Internship Report
On
Python Development
(CS446 – Summer Internship - II)

Prepared by
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Under the Supervision of
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Chandubhai S. Patel Institute of Technology (CSPIT)
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At: Changa, Dist: Anand, Pin: 388421.
July 2023



Accredited with Grade A+ by NAAC
Accredited with Grade A by KCG

CERTIFICATE

This is to certify that the report entitled **Python Development** is a bonafied work carried out by **Samirali Mukhi (20CS038)** under the guidance and supervision of **Prof. Mit Dave / Mr. Tanvir Hasan** for the subject **Summer Internship – II (CS446)** of 7th Semester of Bachelor of Technology in **Computer Science & Engineering** at Chandubhai S. Patel Institute of Technology (CSPIT), Faculty of Technology & Engineering (FTE) – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate himself, has duly been completed, and fulfills the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred by the examiners.

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SUMMER INTERNSHIP COMPLETION CERTIFICATE

This is to certify that **Samirali Mukhi**, B.Tech (CSE) student of Chandubhai S. Patel Institute of Technology, CHARUSAT, Changa has done a summer internship on **Python Development** from **1 May '23** to **30 June '23**.

During the period of internship, He had equally worked in different phases of system development.

We wish him all the best for his bright career.

Thanking you.



Tanvir Hasan | Managing Director
AMIVIR INFOTECH

ACKNOWLEDGEMENT

I would like to express my sincere gratitude and appreciation to all the individuals and organizations who have contributed to the successful completion of my Python development internship.

First and foremost, I would like to extend my heartfelt thanks to the management of Amivir Infotech for providing me with the opportunity to be a part of their team and for granting me permission to undergo this internship. I am grateful for the support and guidance I received from the company throughout the internship period. The exposure to real-world projects and the chance to work with experienced professionals have been invaluable in shaping my skills and enhancing my understanding of Python development.

I would like to express my deepest appreciation to my internship supervisor, Prof. Mit Dave, for their constant support, mentorship, and guidance. Their expertise in Python development and their willingness to share knowledge have greatly contributed to my learning experience. I am thankful for their patience and encouragement in helping me overcome challenges and develop my skills in a professional setting.

I am also grateful to the entire team at Amivir Infotech for their collaborative and friendly work environment. The support and cooperation I received from my colleagues have been instrumental in my personal and professional growth. Their valuable insights, feedback, and willingness to share their expertise have been truly inspiring.

Additionally, I would like to acknowledge my college and the faculty members for incorporating internships into the curriculum. The internship has provided me with practical exposure to the concepts and principles learned in the classroom, enabling me to bridge the gap between theory and practice. I am thankful for the opportunity to apply my knowledge and skills in a real-world setting.

Finally, I would like to extend my gratitude to my family and friends for their unwavering support and encouragement throughout my internship journey. Their belief in my abilities and constant motivation have been pivotal in my pursuit of excellence.

ABSTRACT

This internship report provides an overview of my summer internship as a Python developer at Amivir Infotech. The purpose of this internship was to gain practical experience in Python development and enhance my understanding of relevant concepts and frameworks. The scope of the internship encompassed training sessions, practical tasks, and the development of a Library Management System project using the Django framework.

The internship began with intensive training sessions focused on advanced Python concepts and popular libraries. These sessions covered topics such as object-oriented programming, file handling, data structures, and various Python libraries. The training provided a solid foundation for the practical tasks that followed.

During the internship, I was assigned specific tasks related to Python development. These tasks allowed me to apply the knowledge gained from the training sessions and gain hands-on experience in implementing Python solutions. The tasks provided practical exposure to the development process, including requirements analysis, coding, testing, and documentation.

In the fourth week of the internship, I received training on the Django framework, a powerful tool for web application development in Python. Subsequently, I was assigned a project to develop a Library Management System using Django. The project involved designing and implementing a web application that facilitated book issuance and record management. The system had separate panels for students and administrators, allowing for book registration, issuance, and tracking of fine charges. The project showcased my ability to work with Django and implement real-world solutions using Python.

In conclusion, this internship report demonstrates the purpose and scope of my internship as a Python developer. It outlines the training sessions attended, the tasks accomplished, and the development of the Library Management System project.

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DESCRIPTION OF COMPANY

Amivir Infotech is a leading software development company that focuses on providing user-friendly and efficient solutions to businesses. With the belief that quick and accurate information is essential for success, Amivir Infotech offers software solutions that streamline processes, minimize manual work, and transform data into strategic assets.

The company takes pride in using the latest technologies to build scalable software applications that meet the evolving needs of businesses. Their solutions are designed to be simple to use yet comply with standard accounting principles and audit requirements. Built-in internal controls ensure secure and efficient management of business processes from start to finish.

Amivir Infotech understands the importance of user experience and leverages the Windows Graphical User Interface (GUI) to simplify accounting data entry, management inquiries, and financial reporting. Their software solutions support multiple users, multiple companies, and offer add-on modules, allowing businesses to expand and adapt as they grow.

In addition to software development, Amivir Infotech also provides expertise in mobile app development, web development, and networking systems. The company combines cutting-edge technologies with a practical approach to deliver solutions that align with the specific needs of their clients.

Furthermore, Amivir Infotech recognizes the significance of data and hardware security. They offer assistance in selecting and integrating value-added hardware into existing infrastructures, ensuring the protection of crucial data from viruses and spyware.

With a focus on customer satisfaction, Amivir Infotech aims to empower businesses by providing reliable, efficient, and scalable software solutions. Their team of skilled professionals is dedicated to delivering innovative solutions that enable businesses to streamline operations, make informed decisions, and achieve long-term growth.

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CHAPTER 1: INTRODUCTION

1.1 PURPOSE OF INTERNSHIP

The purpose of the internship is to provide practical exposure and hands-on experience in the field of Python development. The internship aims to bridge the gap between theoretical knowledge acquired in academic settings and real-world application in a professional environment. It serves as a platform for interns to apply their skills, gain industry-specific insights, and enhance their understanding of Python programming and related technologies.

The overall goal was to gain hands-on experience, develop problem-solving abilities, and improve overall understanding of Python development practices, preparing for future career opportunities in the field.

1.2 OVERVIEW OF PROJECT

The Library Management System project is a web application developed using Python with the Django web framework. The purpose of this project is to create an efficient and user-friendly system for library. The system is divided into two main categories: The Student Panel and the Admin Panel.

The Student Panel allows students to register and access the system. Once logged in, students can view the books they have issued, along with the expiry dates and total fine charges, if applicable. This panel provides a convenient way for students to keep track of their borrowed books and any associated fines.

The Admin Panel is designed for administrators or library staff members who have additional privileges and responsibilities. In the Admin Panel, administrators can add new book records by entering details such as the book's title, author, ISBN, and category. They can also view all available book records in the library. The system enables administrators to issue books to students by selecting a book and the respective student. It also allows administrators to view all the issued book records, providing an overview of the borrowing activities in the library. Furthermore, the Admin Panel includes a feature to track the total fine charges for each student, which are incurred if a student fails to return a book within a specified time period.

The Library Management System project is built with a user-friendly and visually appealing dashboard, utilizing the Bootstrap CSS framework combined with Vanilla CSS.

The goal is to provide an intuitive and engaging user experience for both students and administrators while navigating the system. The project's database is implemented using SQLite, a lightweight and easy-to-use database management system. This ensures efficient storage and retrieval of data related to books, students, book issuances, and fines.

Overall, the Library Management System project demonstrates the implementation of a practical solution for managing library operations. By leveraging Python with the Django framework, the project showcases the capabilities of these technologies in developing robust and scalable web applications.

1.3 OBJECTIVE

The objective of the Library Management System project is to create an efficient and automated system for managing library operations. The project aims to streamline the process of book management, book issuing, and fine tracking, ultimately enhancing the overall efficiency and effectiveness of the library's operations.

One of the key objectives of the project is to provide a user-friendly interface for both students and administrators. The system should be intuitive and easy to navigate, allowing students to easily search for and issue books, while administrators can efficiently manage the book inventory and monitor student activities. By focusing on usability and user experience, the project aims to improve the overall satisfaction and engagement of users interacting with the library management system.

Another objective is to automate various manual processes involved in library management. The system should minimize manual paperwork, reduce human errors, and provide real-time information on book availability, student book issuances, and fine calculations. By automating these processes, the project aims to save time and effort for both students and library staff, enabling them to focus on other important tasks.

1.4 SCOPE

The scope of the Library Management System project encompasses various aspects of book management and student administration within a library setting. The project aims to provide a comprehensive solution that covers key functionalities such as book registration, book issuing, fine tracking, and user management.

The scope of the project also includes a secure and reliable database system to store and manage book records, student information, and fine-related data. The project will utilize the SQLite database, providing a robust foundation for data storage and retrieval.

Overall, the Library Management System project encompasses a wide range of functionalities aimed at facilitating efficient book management, simplifying student administration, and ensuring accurate tracking of fines. By covering these aspects, the project aims to provide a comprehensive solution that meets the needs of both students and administrators in a library environment.

1.5 ROLES AND RESPONSIBILITIES

Learning and Skill Development: Your primary responsibility will be to actively participate in training sessions and self-learning to enhance your Python programming skills and gain proficiency in relevant libraries and frameworks. This includes studying advanced Python concepts, understanding object-oriented programming, file handling, data structures, and exploring popular Python libraries.

Task Execution: As part of the internship, you will be assigned specific tasks related to Python development. It is my responsibility to diligently work on these tasks, apply the knowledge gained from training sessions, and implement Python solutions effectively. This involves coding, testing, and debugging to ensure the functionality and quality of my code.

Project Contribution: In the later weeks of my internship, you will be involved in a real-world project, specifically the development of a Library Management System. My responsibility will be to actively contribute to the project's development, including planning, coding, and documentation. I will be responsible for the end-to-end development of assigned features or modules of the project, adhering to coding standards and project requirements.

1.6 INTERNSHIP PLAN (WEEK WISE)

	Date	Day	Name of Module
Week 1	8/5/2023	Monday	Introduction of Company and Internship plan
	9/5/2023	Tuesday	Training: Advanced Python concepts and libraries
	10/5/2023	Wednesday	Training: Advanced Python concepts and libraries
	11/5/2023	Thursday	Training: Advanced Python concepts and libraries
	12/5/2023	Friday	Training: Advanced Python concepts and libraries
Week 2	15/5/2023	Monday	Assigned task: Python development
	16/5/2023	Tuesday	Assigned task: Python development
	17/5/2023	Wednesday	Assigned task: Python development
	18/5/2023	Thursday	Assigned task: Python development
	19/5/2023	Friday	Assigned task: Python development
Week 3	22/5/2023	Monday	Assigned task: Python development
	23/5/2023	Tuesday	Assigned task: Python development
	24/5/2023	Wednesday	Assigned task: Python development
	25/5/2023	Thursday	Training: Django framework with Python
	26/5/2023	Friday	Training: Django framework with Python
Week 4	29/5/2023	Monday	Assigned task: Django framework with Python
	30/5/2023	Tuesday	Assigned task: Django framework with Python
	31/5/2023	Wednesday	Assigned task: Django framework with Python
	1/6/2023	Thursday	Assigned task: Django framework with Python
	2/6/2023	Friday	Work on the Library Management System project (planning)
Week 5	5/6/2023	Monday	Work on the Library Management System project (coding)
	6/6/2023	Tuesday	Work on the Library Management System project (coding)
	7/6/2023	Wednesday	Work on the Library Management System project (coding)
	8/6/2023	Thursday	Work on the Library Management System project (coding)

	9/6/2023	Friday	Work on the Library Management System project (coding)
Week 6	12/6/2023	Monday	Work on the Library Management System project (coding)
	13/6/2023	Tuesday	Work on the Library Management System project (coding)
	14/6/2023	Wednesday	Work on the Library Management System project (coding)
	15/6/2023	Thursday	Finalize the Library Management System project (documentation)
	16/6/2023	Friday	Work on the Library Management System project (documentation)
Week 7	19/6/2023	Monday	Finalize the Library Management System project (documentation, conclusion)
	20/6/2023	Tuesday	Presentation, wrap-up, and feedback
	21/6/2023	Wednesday	Presentation, wrap-up, and feedback
	22/6/2023	Thursday	Additional time for finalizing and presenting the project
	23/6/2023	Friday	Additional time for finalizing and presenting the project

Table 1.1 Internship Plan

CHAPTER 2: SYSTEM ANALYSIS

2.1 STUDY OF EXISTING SYSTEM & ITS LIMITATIONS

The existing system of the library management might involve manual processes, such as maintaining paper records, registers, and logbooks to track book issuances, returns, and student information. These manual processes are time-consuming, prone to errors, and lack real-time data accessibility. Retrieving information or generating reports from paper-based records can be challenging and inefficient.

Furthermore, the existing system may lack a centralized database, making it difficult to manage and update book records, student information, and fine calculations. This can lead to inconsistencies and inaccuracies in data, as well as difficulty in tracking overdue books and fines.

The limitations of the existing system may include:

1. **Inefficiency:** The manual processes involved in book management, student registration, and fine tracking can be inefficient and labor-intensive. This can result in delays and errors in record-keeping and retrieval.
2. **Inadequate Reporting:** Generating reports and analytics from the existing system may be challenging or limited. This restricts the ability to analyze library data, track trends, and make data-driven decisions for improved management.
3. **Limited Accessibility:** The existing system may have limited accessibility, making it difficult for users to search for books and check their borrowing history. This can lead to inconvenience and dissatisfaction among library users.
4. **Lack of Automation:** Manual processes in the existing system do not leverage the benefits of automation, such as automatic fine calculations, reminders for overdue books, or integration with external systems for efficient data management.

Overall, the study of the existing system reveals its limitations in terms of efficiency, real-time information, reporting capabilities, accessibility, and automation. These limitations highlight the need for a new Library Management System that addresses these shortcomings and provides a more streamlined, automated, and user-friendly solution for efficient library operations.

2.2 REQUIREMENT OF NEW SYSTEM

2.2.1 Functional Requirements

The functional requirements of the Library Management System project are the specific features and functionalities that the system should possess to meet the needs of users and achieve its objectives. Here are some key functional requirements for the project:

- **User Registration and Authentication:** Allow students and administrators to register and create user accounts. Implement a secure authentication system to verify user credentials.
- **Book Management:** Provide the ability to add new book records, including details such as title, author, ISBN, and category. Enable searching and filtering of books based on various criteria. Track the availability status of books and update it when books are issued or returned.
- **Book Issuing and Returning:** Allow students to issue books by selecting the desired books from available options. Maintain a record of book issuances, including the issuing date and expected return date. Enable students to return books, update the book status, and calculate any applicable fines.
- **Student Management:** Maintain a database of student information, including enrollment number, name, and contact details. Allow administrators to view and update student records. Provide access restrictions based on user roles, ensuring that students can only view their own information.
- **User-Friendly Interface:** Design an intuitive and easy-to-use interface for both students and administrators. Ensure that the system is responsive and compatible with different devices and screen sizes.

2.2.2 Non-Functional Requirements

Non-functional requirements define the qualities and characteristics of the Library Management System project that are not directly related to its functionality but are essential for its overall performance, usability, and reliability. Here are some non-functional requirements for the project:

- **Usability:** The system should have a user-friendly interface that is intuitive and easy to navigate. It should provide clear instructions and guidance to users for performing various tasks. The system should be accessible to users with different levels of technical expertise.
- **Performance:** The system should be responsive and provide quick response times for user interactions. It should be capable of handling concurrent user requests without significant performance degradation. The system should have efficient database operations to ensure fast data retrieval and updates.

- **Reliability:** The system should be highly reliable and available, minimizing downtime and service interruptions. It should have backup and recovery mechanisms in place to protect data in case of system failures. The system should handle errors and exceptions gracefully, providing informative error messages to users.
- **Scalability:** The system should be scalable to accommodate a growing number of users, books, and data. It should be capable of handling increased system load without performance degradation. The system should support easy integration with additional modules or functionalities in the future.
- **Compatibility:** The system should be compatible with different web browsers and operating systems. It should support multiple devices, including desktops, laptops, tablets, and mobile phones. The system should adhere to web standards to ensure cross-platform compatibility.

These non-functional requirements ensure that the Library Management System is not only functionally rich but also performs well, is secure, reliable, and provides a good user experience. Addressing these non-functional requirements alongside the functional requirements is crucial for the success and effectiveness of the project.

CHAPTER 3: DEVELOPMENT ENVIRONMENT

3.1 HARDWARE REQUIREMENTS

The hardware requirements for the Library Management System project will depend on various factors such as the scale of the system, the expected number of users, and the technology stack chosen for development. Here are some general hardware requirements to consider:

- **Server:** A dedicated server or cloud hosting platform to host the web application. Sufficient processing power, memory, and storage capacity to handle user requests and store data. The server should have a reliable internet connection for uninterrupted access to the system.
- **Database Server:** A database server to store and manage the system's data. The choice of database management system (SQLite) will depend on the project's specific needs and scalability requirements.
- **Client Devices:** Desktop computers, laptops, tablets, or mobile devices for users to access the Library Management System. The system should be compatible with popular web browsers such as Chrome, Firefox, Safari, or Edge.

3.2 SOFTWARE REQUIREMENTS

The software requirements for the Library Management System project involve the necessary software components and tools required for its development, deployment, and usage. Here are some key software requirements to consider:

- **Operating System:** The choice of operating system will depend on the specific technology stack used for development. Common options include Windows, macOS, or Linux distributions such as Ubuntu, CentOS, or Debian.
- **Web Development Framework:** The project is developed using Python with the Django web framework. Therefore, the software requirement includes installing and configuring Django and its dependencies.
- **Database Management System (DBMS):** Select and install a suitable DBMS to manage the project's database. SQLite, with the choice depending on factors such as scalability, performance, and compatibility.
- **Integrated Development Environment (IDE):** An IDE is needed for writing and editing code. Common choices for Python development include PyCharm, Visual Studio Code, or Sublime Text. Choose an IDE that best fits your preferences and supports the Python programming language.
- **Web Server:** A web server software is required to deploy the Django application. Common options include Apache HTTP Server or Nginx, which can be installed and configured to host the project.

CHAPTER 4: SYSTEM DESIGN

4.1 DATA DICTIONARY

A data dictionary provides a comprehensive description of the data elements used in a system or database, including their names, definitions, data types, and other relevant attributes. Here is an example of a data dictionary for a Library Management System project:

1. Table: Books

- book_id (Primary Key): Unique identifier for each book
- book_name: Title of the book
- author: Author of the book
- ISBN: International Standard Book Number for the book
- category: Category or genre of the book

2. Table: Students

- student_id (Primary Key): Unique identifier of the student
- enrollment_number: Unique enrollment number of the student
- name: Name of the student
- branch: Branch or department of the student

3. Table: IssuedBooks

- issue_id (Primary Key): Unique identifier for each book issuance
- book_id (Foreign Key): References the book_id from the Books table
- enrollment_number (Foreign Key): References the enrollment_number from the Students table
- name: Name of the student
- author: Author of the book
- issue_date: Date when the book was issued to the student
- expiry_date: Expected expiry date of the book
- fine: Amount of fine charged for late return of the book

The above data dictionary provides a brief overview of the tables and their associated attributes in the Library Management System. It defines the structure and relationships between the tables, allowing for efficient data storage, retrieval, and management within the system.

4.2 ER DIAGRAM

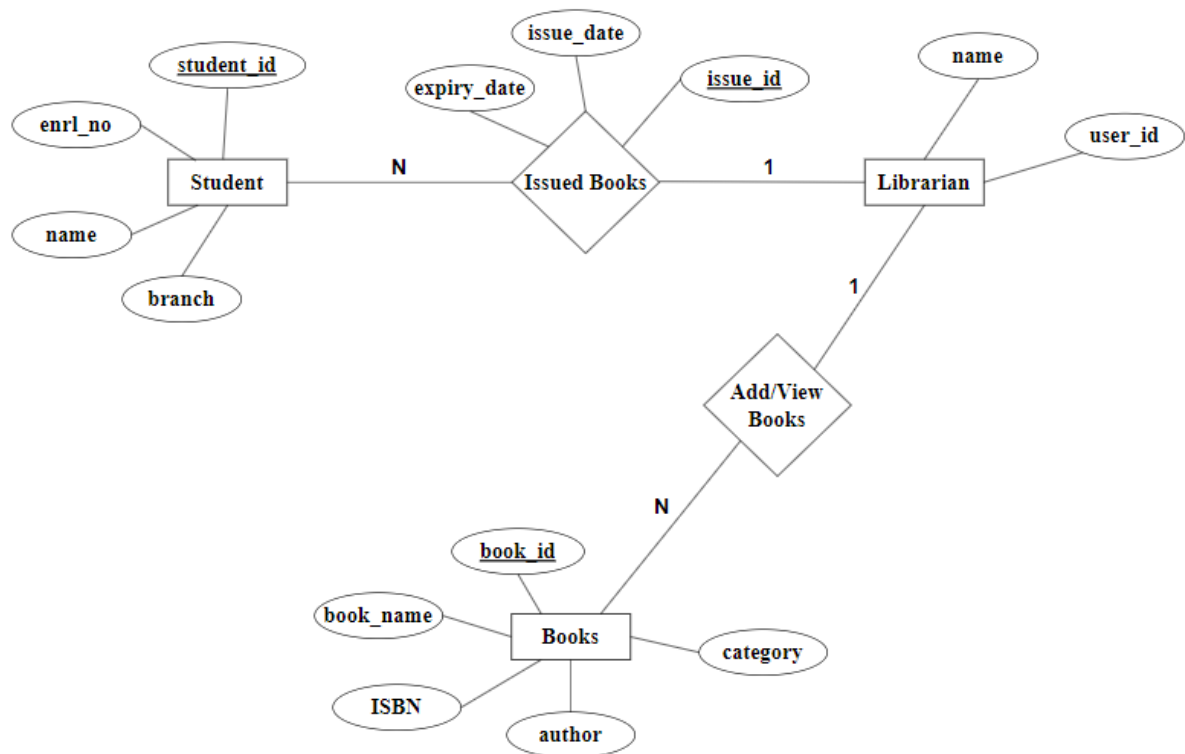


Fig. 4.1 ER Diagram

4.3 CLASS DIAGRAM

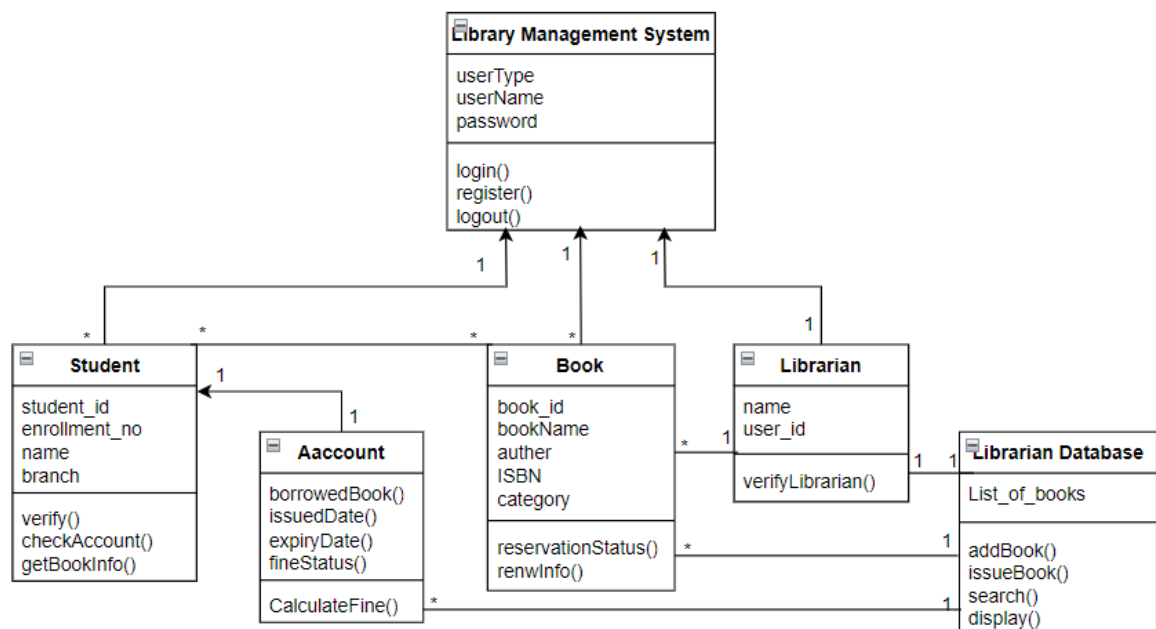
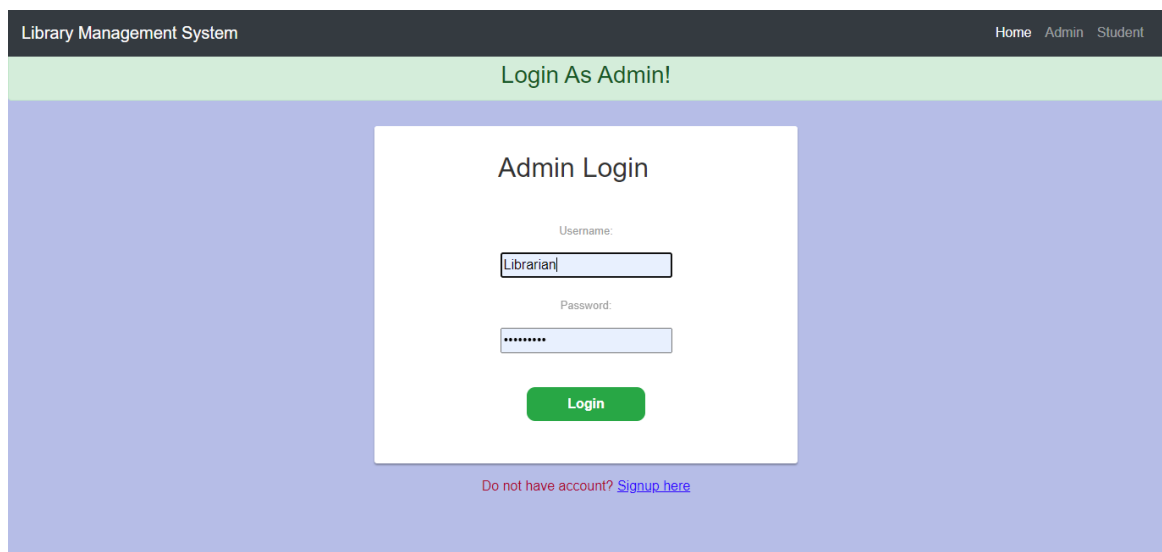
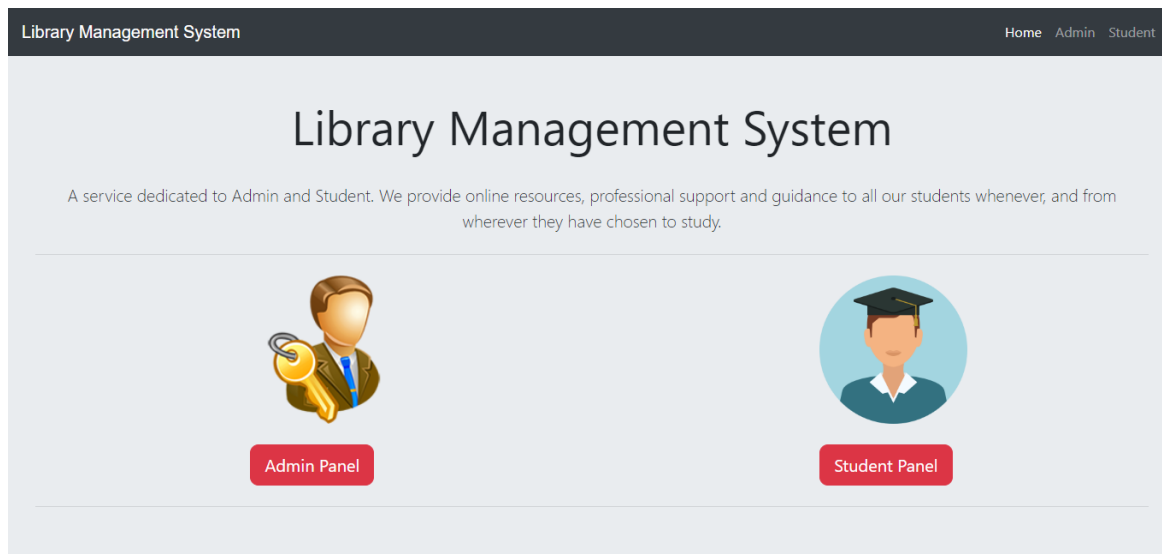
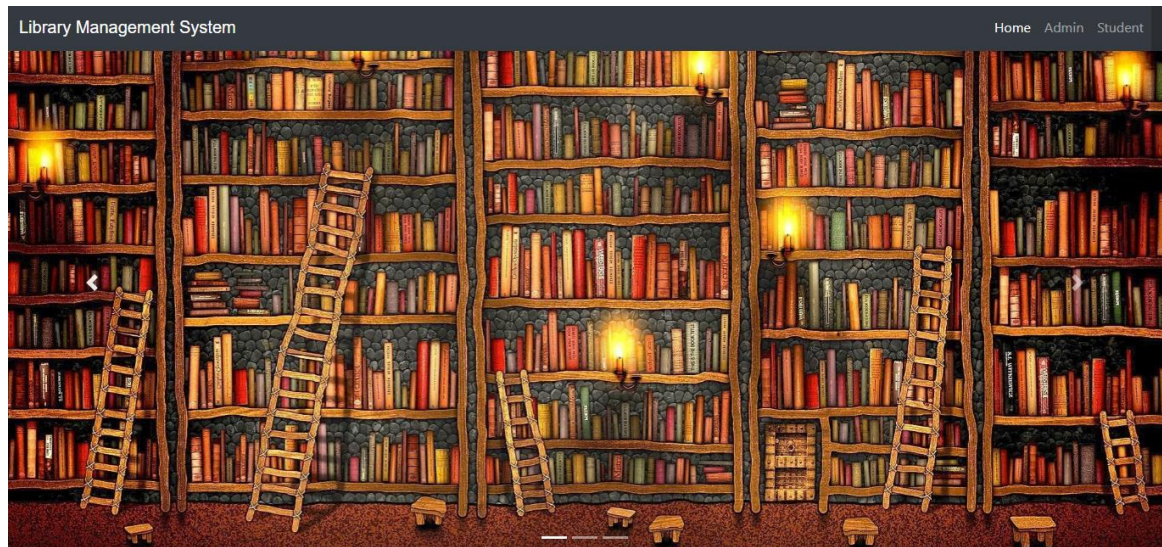


Fig. 4.2 Class Diagram

CHAPTER 5: IMPLIMENTATION SCREENSHOTS



Library Management System Home Book ▾ Issue Book ▾ Student ▾ LOGOUT

Welcome to Library Management System

Hello Librarian !

As you are Admin, you can add a book to library, view available book in library, Issue books to students, View issued book to students and many more ... !

Option Available For You

Add Book To Library

View Available Book

Issue New Book

View Issued Book

View Student

Library Management System Home Book ▾ Issue Book ▾ Student ▾ LOGOUT

ADD BOOK IN LIBRARY

Name:

Isbn:

Author:

Category:

ADD

[View Available Book In Library](#)

Library Management System Home Book ▾ Issue Book ▾ Student ▾ LOGOUT

Available Book in Library

Book Name	ISBN	Author	Category
Computer Concepts	9780760054499	Dan Oja	education
Adventures of Shikari Shambhu	9788189999018	Luis M. Fernandes	comics
Steve Jobs	9781451648546	Walter Isaacson	biography
Sapiens	9781448190690	Yuval Noah Harari	history

Library Management System
Home Book Issue Book Student LOGOUT

ISSUE BOOK TO STUDENT

Name and isbn:

Name and enrollment:

ISSUE

View Issued Book to Student [Click here](#)

Library Management System
Home Book Issue Book Student LOGOUT

Issued books to Student

Student Name	Enrollment	Book Name	Author	Issued	Expiry Date	Fine
Harsh	1254	Computer Concepts	Dan Oja	21-6-2023	6-7-2023	90
Ankit	1264	Steve Jobs	Walter Isaacson	21-6-2023	6-7-2023	90
Sahil	1294	Sapiens	Yuval Noah Harari	25-6-2023	10-7-2023	50
MohammedJafar	4040	Adventures of Shikari Shambhu	Luis M. Fernandes	14-7-2023	29-7-2023	0
SamirAli	2038	Steve Jobs	Walter Isaacson	15-7-2023	30-7-2023	0

Library Management System
Home Book Issue Book Student LOGOUT

Registered Students

Name	Enrollment	Branch
Harsh	1254	CSE
Ankit	1264	Civil
Sahil	1294	EC
MohammedJafar	4040	MCA
SamirAli	2038	CSE

Library Management System Home Admin Student

Signup As Student!

Student Signup

First name:

Last name:

Username:

Password:

Enrollment:

Branch:

[Sign Up](#)

Library Management System Home Issue Book LOGOUT

Welcome to Library Management System

Hello SamirAli !

As you are Student, you can see how many book you have taken from library with fine and many more ...!

Option Available For You

[View issued book to you](#)

Library Management System Home Issue Book LOGOUT

Book Issued To You

Name	Enrollment	Branch	Book Name	Author	Issue Date	Expiry Date	Fine
SamirAli	2038	CSE	Steve Jobs	Walter Isaacson	15-7-2023	30-7-2023	0

CHAPTER 6: TEST CASES

Test case scenarios	Test case Name	Pre-condition	Testing Steps	Testing Data	Expected Result	Post Condition	Status(Pass /Fail)
Verify Login	Valid username Valid Password	User should be registered	1. Enter Username 2. Enter Password 3. Click on Login	<valid username> <valid password>	Logged in Successfully	Show Dashboard	Pass
Issue Book	Valid Book Valid Student	Book and student exist in system	1. Select a book from the available books list 2. Select a student from the available list 3. Click on "Issue" button	<valid book> <valid student>	Book is successfully issued	Show Issue New Book, View Issued Book	Pass
Add Book	Valid Book	None	1. Fill Book Details 2. Click on "Add" button	<Valid Book Details> Name, ISBN, Author, Category	Book is successfully added	Show Add Book, View Book	Pass
Add Book	Invalid Book	None	1. Fill Book Details 2. Click on "Add" button	<Invalid Book Details> Missing: Name or ISBN or Author or Category	Error Message Displayed: Please fill out this field	No changes	Fail

Table 6.1 Test Cases

CHAPTER 7: LIMITATIONS AND FUTURE WORK

Limitations:

1. **Limited Functionality:** The current version of the Library Management System has a basic set of features that cater to the core requirements of book issuance, student records, and fine management. However, it may lack advanced functionalities such as advanced search options, integration with external systems, or advanced reporting capabilities.
2. **Scalability:** The system is designed to handle a moderate number of books, students, and transactions. As the number of books and users increases significantly, the system's performance and response time may be affected. Further optimization and scalability enhancements would be required to handle a larger scale of operations.
3. **User Interface:** Although the system aims to provide a clean and simple user interface, it may lack advanced user experience features. The current design may not be fully optimized for usability and may require improvements to enhance user interaction and navigation.

Future Work:

1. **Enhanced Reporting:** Implementing advanced reporting capabilities can provide meaningful insights into the library's operations, such as popular book categories, most borrowed books, and fine analysis. Generating comprehensive reports can assist in making data-driven decisions for optimizing library resources and services.
2. **Advanced Search Functionality:** Adding advanced search options, such as searching books by author, category, or publication, can improve user convenience and retrieval of specific books from a large collection. Implementing filters and sorting options can enhance the search experience for users.
3. **Integration with External Systems:** Integrating the Library Management System with external systems, such as online book databases or library consortiums, can provide access to a wider range of books and enhance the borrowing process. Integration with barcode scanners or RFID technology can streamline the book checkout and return process.
4. **Mobile Application:** Developing a mobile application for the Library Management System can provide convenience for students and staff to access the system from

their smartphones. Mobile apps can enable features like push notifications for due dates, easy book search, and quick access to account information.

5. **User Feedback and Ratings:** Implementing a feedback system or rating mechanism can allow users to provide feedback on books, recommend books to others, and rate the overall library experience. This feedback can be valuable in improving the library's offerings and services.
6. **Fine Management Enhancements:** Enhancing the fine management module by integrating with payment gateways can enable online fine payment options for students. Additionally, implementing automated reminders for overdue books and fines can help in better tracking and management of fines.

These future enhancements can expand the functionality, usability, and performance of the Library Management System, providing an improved experience for users and addressing the identified limitations.

CHAPTER 8: CONCLUSION

In conclusion, my internship as a Python Developer at Amivir Infotech has been a valuable and enriching experience. Over the course of seven weeks, I received comprehensive training in advanced Python concepts and relevant libraries, which laid a strong foundation for my development skills. This training equipped me with knowledge in object-oriented programming, file handling, data structures, and popular Python libraries.

During the internship, I had the opportunity to work on various tasks and projects that allowed me to apply my learning and gain practical experience in Python development. I was assigned tasks related to Python development, including the implementation of specific functionalities and features. These hands-on tasks helped reinforce my understanding of the concepts learned during the training sessions.

One of the major highlights of my internship was the development of a Library Management System using the Django framework. This real-world project allowed me to demonstrate my skills in designing and implementing a web application from start to finish. I was responsible for planning, coding, and documentation, which gave me a holistic view of the software development lifecycle.

Through this internship, I not only enhanced my technical skills but also gained valuable insights into the professional work environment. I had the opportunity to collaborate with a team of experienced developers, learn from their expertise, and contribute to the project's success.

Overall, my internship at Amivir Infotech has been a rewarding experience that has further solidified my passion for Python development. I am grateful for the guidance and support I received throughout the internship, and I am confident that the skills and knowledge gained during this period will greatly contribute to my future endeavors in the field of software development.

REFERENCES

- [1] Django Documentation: The official documentation for Django is an excellent resource for understanding the framework's features, APIs, and best practices. It provides detailed explanations, tutorials, and examples that can assist me in developing my project using Django.
- [2] Python.org: The official Python website (python.org) offers a wealth of resources, including tutorials, documentation, and a vast library reference. It is a valuable source for understanding the core Python language, standard libraries, and community resources.
- [3] Stack Overflow: As a popular question and answer platform for programmers, Stack Overflow can be a valuable resource for troubleshooting coding issues, seeking advice, and learning from experienced developers. Search for relevant Python and Django topics to find solutions to common problems or seek guidance from the programming community.
- [4] GitHub: Explore open-source projects on GitHub related to Python and Django to gain insights into code structures, implementation patterns, and best practices. Reviewing and analyzing existing projects can provide inspiration and guidance for my own project development.
- [5] Online tutorials and blogs: There are numerous online tutorials and blogs dedicated to Python and Django development. Websites such as Real Python, Django Girls, and Medium offer a wide range of articles, tutorials, and tips that can help me expand my knowledge and find solutions to specific challenges.