PIKABOOK

Major Project

Submitted in partial fulfillment of the requirements
for the degree of

BACHELOR OF ENGINEERING

(Computer Science & Engineering)

By

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RAJIV GANDHI PRODYOGIKI VISHWAVIDYALAYA, BHOPAL
(M.P.)

YEAR-2023

Certificate

This is to certify that the Major Project-II report entitled PikaBook(book reading website) submitted by **Shruti Kushwaha** , **Aditi Singh , Konika Saini and Kajal Koshta** has been carried out under my guidance & supervision. The project report is approved for submission towards partial fulfillment of the requirement for the award of degree of **Bachelor of Engineering** in **Computer Science & Engineering** from "**Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal (M.P).**

Prof. Abhishek Singh
Project Guide

Prof. Sourabh Sharma
HOD
Dept of CSE

Certificate

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Internal- **External-**

Abstract

E-books have been launched few years back. It has not become popular just after the launch over traditional paper based books. After the growth of smart phones, tablets and reading apps, e-books have found surge in the market.

So, Here we have PikaBOOK an online book reading website. In Which, we have the collection of e-books. In this website user can read and download the ebook of your Interest. This website have different Genre of Books. User can also read the overview of the book so that they can decide whether the book is interesting for them to read or not.

Our main aim is to design such a book reading website where user can visit our site anytime of the day from anywhere to view the available books, choose any of them and can read online or can download as well. The administrator will regularly add any new books available to them for sale. The administrator will take books from the reputed publishers and vendors only.

Declaration

I / We hereby declare that the project entitled **"Pikabook"** which is being submitted in partial fulfillment of the requirement for award of the Degree of Bachelor of Engineering in Computer Science and Engineering to **"RAJIV GANDHI PROUDYOGIKI VISHWAVIDYALAYA, BHOPAL (M.P.)"** is an authentic record of our own work done under the guidance of **Prof. Abhishek Singh**, Department of Computer Science & Engineering, **GLOBAL ENGINEERING COLLEGE, JABALPUR**..

The matter reported in this Project has not been submitted earlier for the award of any other degree.

Year :2023

Place : Jabalpur

Student(s) Name: Shruti Kushwaha
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Dated :28 November,2021

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1. Introduction

E-books have been launched few years back. It has not become popular just after the launch over traditional paper based books. After the growth of smart phones, tablets and reading apps, e-books have found surge in the market.

It is most popular among students and professionals due to its digital formats and free access. E-books are available in various languages other than English .

So, Here we have PikaBOOK an online book reading website. In Which, we have the collection of e-books. In this website user can read and download the ebook of your Interest. This website have different Genre of Books. User can also read the overview of the book so that they can decide whether the book is interesting for them to read or not.

1.1 Background

There's no doubt that the Library is a wonderful place to visit, but you won't have to go very far to borrow e-books. Once your e-book is available, you can download it 24 hours of the day, any day of the year, all from the comfort of your own home. E-books are Portable, making it easy to carry around , instead of carrying multiple bulky books.

If you enjoy reading on the go, you can take your whole library with you—on the bus, train, or airplane; or even to stand in line at the grocery store. With many e-books, you have ability to search through an entire book in seconds. Easily search for information in an e-book, instead of turning page after page to find what you're looking for.

Say 'goodbye' to the days when you stood in line waiting, and waiting, and waiting some more for a store clerk to finally check out your items. Online Reading Website instantly-save your time to get your other errands done!

1.2 Objective

Our objective is to design such an Website using which one can say 'goodbye' to the days when you stood in line waiting, and waiting some more for a store clerk to finally check out your items. Online book Reading Website instantly-save your time to get your other errands done! Additionally, unlike a store, e-book website has friendly customer service representatives available 24 hours a day, 7 days a week.

Our main aim is to design such a book reading website where user can visit our site anytime of the day from anywhere to view the available books, choose any of them and can read online or can download as well. The administrator will regularly add any

new books available to them for sale. The administrator will take books from the reputed publishers and vendors only.

1.3 Purpose, Scope and Applicability

1. Purpose- Online e-book website would have the following goals.

    - Provide a web user interface to add, view, delete records in different areas.
    - Provide a user interface to enter User details.
    - Provide a user interface to change details of all the computers and accessories.
    - Provide a user interface for users to explore the site and choose books to read.

2. Scope- The main scope and deliverables of the project would be to:

    - Understand and prepare detailed requirement and specifications
    - Prepare high level and detailed design specifications of the system
    - Prepare Test Plan and Test cases
    - Develop the system and coding
    - Perform unit testing, integration and system testing
    - Demonstrate a bug free website after suitable modification if needed.

3. Applicability-

    - E-Book reader or eBook apps are mobile software that helps you read books wherever you are, with just your phone screen.
    - The use of e-books already has an impact on student's education and their productivity by improving reading comprehension and by increasing motivation and engagement. Some studies show that e-books have a positive influence on academic achievements

1.4 Achievements

- By successfully implementing the project, a substantial knowledge has been acquired on the implementation of a database system and web technologies.

- This knowledge will be useful in the future in creating any type of web application or online database systems.

2. Survey Of Technologies

This project is created in IDE – Microsoft Visual Studio - also commonly referred to as VS Code, is a source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git. It is a streamlined code editor with support for development operations like debugging, task running, and version control. It aims to provide just the tools a developer needs for a quick code build-debug cycle and leaves more complex workflows to fuller featured IDEs, such as Visual Studio IDE.

1.Operating System – Window 11

2. Front-end Languages –

- HTML - The HyperText Markup Language or HTML is the standard markup language for documents designed to be displayed in a web browser. It is often assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for its appearance.

- CSS - Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML or XML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

- JavaScript - often abbreviated as JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. As of 2022, 98% of websites use JavaScript on the client side for webpage behavior, often incorporating third-party libraries. All major web browsers have a dedicated JavaScript engine to execute the code on users' devices.

3. Database –

- MySQL - is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter My, and "SQL", the acronym for Structured Query Language. A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database.

3. Requirement And Analysis

3.1 Problem Definition

The process of getting information or text from a print format is called traditional reading. Reading books, magazines, newspapers, dictionaries, etc. is all considered to be traditional reading. Traditional readers find it hard to adapt to newer ways of Online Reading. Book collectors and people who regularly visit traditional libraries also stick to their habits of reading printed books.

Traditionally, to read books we purchased books first by visiting our nearest stores and sometimes the books we want are not available. Eventually we wait for it to get restocked or try to get it from other stores. Also it is not possible to carry books everywhere. To find a traditional book involves spending time and money buying it in a bookstore, or ordering it online and waiting for its arrival by traditional delivery services. Thus, the idea af an online book reading website came up where a person can read whenever and wherever he/she wants to.

Research shows that people prefer reading online as it gives them more privacy. It also allows them to access more material online. Online reading is when you take information or text from a digital format. It is also called digital reading. PDF files, E-Books , audiobooks, blogs, etc. are all considered to be online reading, whether it's through a PC or a phone. There are many advantages of online reading which include:

- It's Fast Paced - In today's quick world, online reading makes it easy to look for books. You don't need to plan a whole trip to the bookstore to stock up on your books. You can simply download your book. Even if you're busy with work, you can save the book on a click!

- It is More Versatile - Generally, if you download a book, it would be on your phone. And you take your phone everywhere. It doesn't get easier than that. You can highlight important lines through the tools available on your laptop or even learn meanings of difficult words through the internet just in one click.

- Easy To Understand - Sometimes while reading you get stuck on a word or a phrase you don't really understand. Or sometimes you miss a point and get confused. Online reading provides the readers with hyperlinks which provides ease to the reader and reduces the chances of any confusion.

Our digital experience is enhanced by media-rich content and quick links to other sites, offering convenience, flexibility of approach, and often cheaper costs than print materials. We have instant knowledge of world events and everyone's reaction to them and can, in turn, instantly react and contribute ourselves.

3.2 Identification of Need

An online presence provides your avid readers with a simple and easy option to read online. Through this website, they can browse titles anytime and anywhere, and simply click on that to read when they're ready. The convenience and immediacy of this experience encourage more user, as they won't need to leave the safety and comfort of their homes. No doubt that the Library is a wonderful place to visit, but you won't have to go very far to borrow e-books.

3.3 Feasibility Study

A feasibility study is a high-level capsule version of the entire System analysis and Design Process. The study begins by classifying the problem definition. Feasibility is to determine if it's worth doing. Once an acceptance problem definition has been generated, the analyst develops a logical model of the system. A search for alternatives is analyzed carefully. There are 3 parts in feasibility study.

- Operational Feasibility - Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development. The operational feasibility assessment focuses on the degree to which the proposed development projects fits in with the existing business environment and objectives with regard to development schedule, delivery date, corporate culture and existing business processes. To ensure success, desired operational outcomes must be imparted during design and development.

- Technical Feasibility - This involves questions such as whether the technology needed for the system exists, how difficult it will be to build, and whether the firm has enough experience using that technology. The assessment is based on outline design of system requirements in terms of input, processes, output, fields, programs and procedures. This can be qualified in terms of volume of data, trends, frequency of updating in order to give an introduction to the technical system. The application is the fact that it has been developed on windows XP platform and a high configuration of 1GB RAM on Intel Pentium Dual core processor. This is technically feasible .The technical feasibility assessment is focused on gaining an understanding of the present technical resources of the organization and their applicability to the expected needs of the proposed system. It is an evaluation of the hardware and software and how it meets the need of the proposed system.

- Economical Feasibility - Establishing the cost-effectiveness of the proposed system i.e. if the benefits do not outweigh the costs then it is not worth going ahead. In the fast paced world today there is a great need of online social

networking facilities. Thus the benefits of this project in the current scenario make it economically feasible. The purpose of the economic feasibility assessment is to determine the positive economic benefits to the organization that the proposed system will provide. It includes quantification and identification of all the benefits expected. This assessment typically involves a cost/benefits analysis.

3.4 Project Planning& Scheduling using PERT CHART, Gantt Chart

1. **PERT CHART**- The program evaluation and review technique (PERT) is a technique used to visualize the steps towards the completion of a project. PERT charts display all known tasks as a network diagram. This reflects their relationship with each other, such as dependencies. They also indicate expected time frames for the completion of each task.

- It's great for visualizing the project. A PERT diagram is an excellent bird's eye view of a project. You can spot any potential bottlenecks and obstacles in the chart. It's very easy for all involved parties to identify their roles and execute them on time.

- The PERT chart identifies the critical path very well. The critical path method is the central tenet of the PERT technique. The critical path is the minimum time needed to complete an operation. So this organization method is very time focused. This is great for hitting deadlines and delivering the project to clients on time.

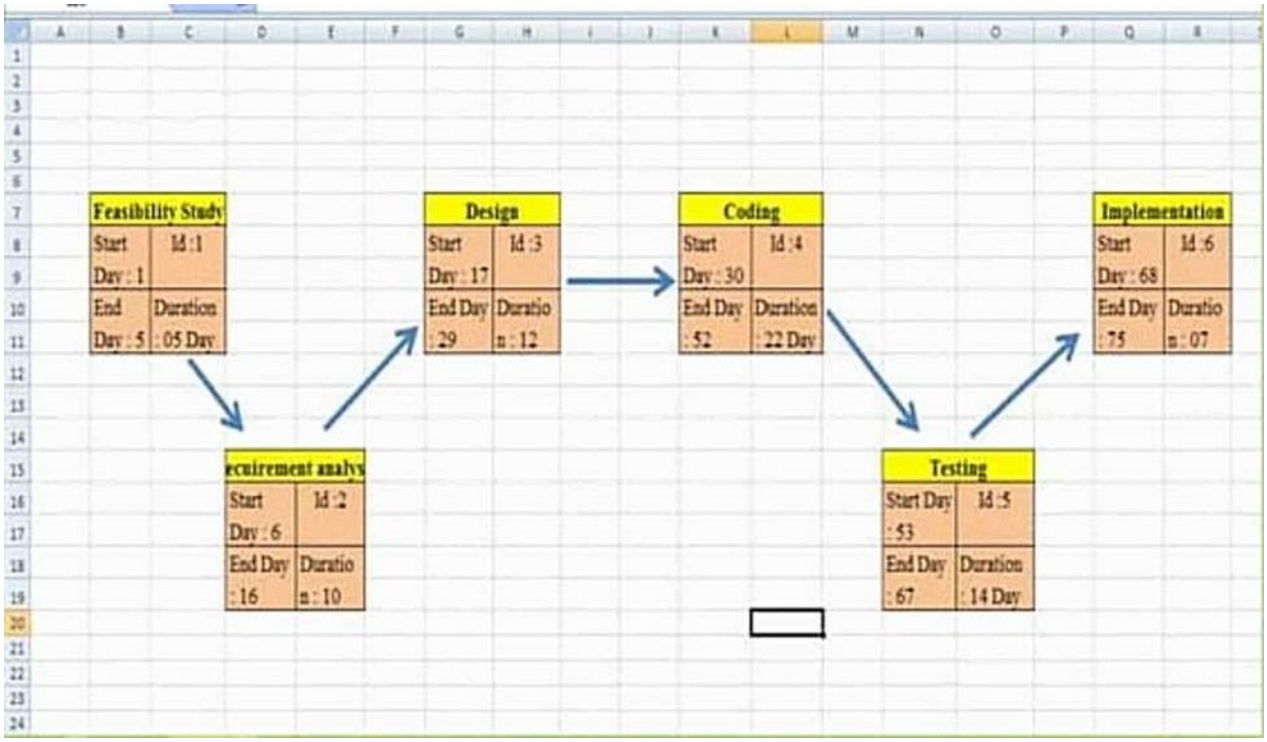
- Allows for individual activity analyses. To do this type of analysis well, you need to study each individual task. What does each individual task on the project timeline need? What prior tasks need to be completed before you can move on to the next task? What resources need to be in place? The PERT chart will display these things clearly so nothing falls through the cracks.

- PERT analysis helps coordinate departments, Gathering qualitative and quantitative data from all involved departments makes the PERT chart a collaborative effort. Departments can clearly see their roles and deadlines. All areas of responsibility are visible, which encourages multiple departments to take ownership of their part in the project.

- You can conduct what-if analysis easily. PERT analysis encourages you to look at all of the potential scenarios for completing the project. This is

because of the emphasis on critical and subcritical paths. It's easy to conduct what-if analysis on any path to project completion.

- PERT chart terms :
  1. Float/slack = Amount of time a task can be delayed without delaying the project as a whole.
  2. Lead time = Time that can be allocated to a task without delaying other tasks.
  3. Lag time = The earliest time a task can follow the prior task.
  4. Fast-tracking = Undertaking tasks concurrently.
  5. Crashing critical path = Reducing the amount of time allocated to a critical task.
  6. Critical path activity = A task with no slack.



2. **Gantt CHART-** A Gantt chart is a type of bar chart that illustrates a project schedule and shows the dependency relationships between activities and current schedule status."

- In simpler words, Gantt charts are a visual view of tasks displayed against time. They represent critical information such as who is assigned to what, duration of tasks, and overlapping activities in a project.

- All in all, Gantt charts are the perfect allies for planning, scheduling, and managing a project.

- A Gantt Chart, in its simplest form, is a timeline that illustrates how the project will progress during the project management process. And the timeline view offered by the Gantt Chart app is proven quite useful for planning and scheduling projects. It helps project managers and project teams to assess how long a project should take, determine the resources needed, understand the dependencies between tasks, and plan the order in which each task will be completed if the whole project is to deliver on time.

- As the project moves forward, a Gantt chart adjusts simultaneously, displaying an up-to-date project schedule to keep everyone (teams, clients, and stakeholders) informed of the progress. In addition to this, Gantt charts replace meetings and enhance other status updates. They make it easy for teams to understand task progress and talk about the problems they may encounter.

- In all, using a Gantt chart or a Gantt chart tool is useful during project management because it allows you to picture your project against the time frame it needs to be done in.

- Features of Gantt charts:
    1. DUE DATES: The dates are one of the most essential aspects of a Gantt chart since they show project managers not only when the project will start and end, but also when each job will take place. These are shown at the top of the graph.
    2. TASKS: Major projects always seem to have a lot of sub-tasks. A Gantt chart assists project managers in keeping track of all sub-tasks in a project so that nothing is overlooked or delayed. The tasks are displayed on the left side of the page.
    3. MILESTONES: Milestones are tasks that are critical to the completion and success of a project. Unlike the minor things that must also be completed, completing a milestone provides a sense of accomplishment and progress. At the conclusion of each block on a Gantt chart, milestones are represented by different shapes or icons.
    4. BARS: Bars are used to represent the time frame in which each task should be performed after the subtasks have been stated. This ensures that each sub-task is finished on time, ensuring that the overall project is completed on time.
    5. TASKBARS: While many sub-tasks can be accomplished pretty quickly, there will be occasions when you want to know how your project is progressing at a glance. The taskbars are shaded to represent the portion of each task that has previously been performed, indicating progress.
    6. DEPENDENCIES: In a project, there are some tasks and subtasks that are dependent on one another for success. For instance, a task must be completed before another task can begin or terminate. On a Gantt chart, task dependencies represent this type of relationship. Small arrows between the taskbars are generally used to show these relationships.

7. TASK ID: You probably have numerous tasks going on at the same time in today 's hyper work world. The task ID is included on the Gantt chart to help everyone involved readily identify the task you're discussing.

3.5 Software Requirement Specification

System requirements are expressed in a software requirement document. The Software requirement specification (SRS) is the official statement of what is required of the system developers. This requirement document includes the requirements definition and the requirement specification. The software requirement document is not a design document. It should set out what the system should do without specifying how it should be done. The requirement set out in this document is complete and consistent.

The software specification document satisfies the following:-

- It specifies the external system behaviours .
- It specifies constraints on the implementation.
- It is easy to change.
- It serves as reference tool for system maintainers.
- It record forethought about the life cycle of the system.
- It characterizes acceptable response to undesired events.

3.4.1 User class and characteristics

- General public
- Users
- Administrator
- General public can use the system to read books.
- Non registered user cannot read the books.
- users are using for viewing the books.
- user can also write feedbacks for books and services
- Administrators can add, edit & delete books and provide services to the user.
- Administrator can see the daily sell. Can also see the feedback given by the user.

3.4.2 Functional Requirements

The System must provide following functionalities—

- Keeping records of registration of User.
- Keeping the records of books.
- Storing the feedback given by the user.
- Storing the items selected by the user in the temporary storage

3.4.3 Non_ Functional Requirements

- Secure access of confidential data (customer's details).
- 24 X 7 availability.
- Better component design to get better performance at peak time.

3.4.3 External Interface Requirements

- User Interface - User of the system will be provided with the Graphical user interface, there is no command line interface for any functions of the product.

- Hardware Interface - Hardware requirements for running this project are as follows:

  1. Processor: - Pentium I or above.
  2. RAM: - 128 MB or above.
  3. HD: - 20 GB or above.

- Software Interface -Software required to make working of product is:-
  1. Front end- HTML, CSS, Javascript
  2. Back end- My SQL

3.5 Software Engineering Paradigm Applied

This Iterative and Incremental SDLC model essentially brings together an iterative design with an incremental development model which makes it amongst the best SDLC methodology for business. In such a model, the teams working on the project work on the product in cycles by working on parts. The process of development in such a model begins with the simple implementation of basic product requirements. As and when the product keeps building, the product is worked on and enhanced to a more complete version of itself. One of the most prominent features of this model is the fact that one can begin the development process without really knowing the requirements. The iterative and incremental SDLC model, in other words, looks like a set of Mini Waterfall/V-Shaped models.

1. Benefits:
   - Produces quick value for the business.
   - Need limited resources.
   - Flexible model.
   - Facilitates early bug detection.
   - Easy.

2. Best For:
   - Complicated projects like ERP systems.
   - Development Projects with strict requirements.
   - Projects with well-defined requirements.
   - Development Projects where the required technology is new.
   - Products with high-risk features.

4. System Design

System design is the solution of a “how to approach to the creation of the new system. It is composed of several steps. It facilitates the understanding and provides the procedural details necessary for implementation of the system recommended in the feasibility study. Emphasis is given on translating the performance requirements into design specification. Design goes through logical and physical stages of development. System design is a highly creative process that can be greatly facilitated by the following:-

- Strong Problem Definition
- Pictorial description of the Existing System
- Set of Requirements of the new system

4.1 Basic Modules

- Registration: User can register their account here to continue Reading.
- Admin: Admin can add books, check Users details , add updates and make sure to full fill Users requests .
- Users: User can login , read or download books , add notes and give feedback.

4.2 Data Design

Data design is the first design activity, which results in less complex, modular and efficient program structure. The information domain model developed during analysis phase is transformed into data structures needed for implementing the software.

4.2.1 DATABASE DESIGN

The general theme behind a database is to handle information as an integrated whole. A database is a collection of inter-related data stored with minimum redundancy to serve single users quickly and efficiently. The general objective is to make information necessary, quick, inexpensive and flexible for the user.

Database Table

- **User Table**

Field Name	Data Type	Size	Allow Null	Constrain
u_id	int	4	No	PK
u_unm	varchar	25	No	
u_pwd	varchar	20	No	
u_email	varchar	35	No	
u_contact	varchar	12	No	

- **Category Table**

Field Name	Data Type	Size	Allow Null	Constrain
cat_id	int	4	No	PK
cat_nm	varchar	30	No	

- **Contact Table**

Field Name	Data Type	Size	Allow Null	Constrain
con_id	int	4	No	PK
con_nm	varchar	40	No	
con_email	varchar	40	No	
con_query	longtext	0	No	

- **Book Table**

Field Name	Data Type	Size	Allow Null	Constrain
b_id	int	4	No	PK
b_nm	varchar	60	No	
b_desc	longtext	0	No	
b_publisher	varchar	40	No	
b_edition	varchar	20	No	
b_page	int	5	No	
b_pdf	longtext	0	No	

4.3Diagrams

4.3.1 Use Case Diagram –What is a use case diagram? Why Use case diagram? or simply, Why use cases?. Some people don't know what use case is, while the rest under-estimated the usefulness of use cases in developing a good software product. Is use case diagram underrated? I hope you will find the answer when finished reading this article.

- So what is a use case diagram? A UML use case diagram is the primary form of system/software requirements for a new software program underdeveloped. Use cases specify the expected behavior (what), and not the exact method of making it happen (how). Use cases once specified can be denoted both textual and visual representation (i.e. use case diagram). A key concept of use case modeling is that it helps us design a system from the end user's perspective. It is an effective technique for communicating system behavior in the user's terms by specifying all externally visible system behavior.

- Purpose of Use Case Diagram: Use case diagrams are typically developed in the early stage of development and people often apply use case modeling for the following purposes:
  1. Specify the context of a system
  2. Capture the requirements of a system
  3. Validate a systems architecture
  4. Drive implementation and generate test cases
  5. Developed by analysts together with domain experts

- a use case itself might drill into a lot of detail about every possibility, a use-case diagram can help provide a higher-level view of the system. It has been said before that "Use case diagrams are the blueprints for your system".

- Due to their simplistic nature, use case diagrams can be a good communication tool for stakeholders. The drawings attempt to mimic the real world and provide a view for the stakeholder to understand how the system is going to be designed. Siau and Lee conducted research to determine if there was a valid situation for use case diagrams at all or if they were unnecessary. What was found was that the use case diagrams conveyed the intent of the system in a more simplified manner to stakeholders and that they were "interpreted more completely than class diagrams".

- The E-Book use cases in our system are:

  1. Login
  2. Register
  3. Search book
  4. Download
  5. Publisher

6. Update

Actor –
1. Register user
2. Visitor
3. Administrator

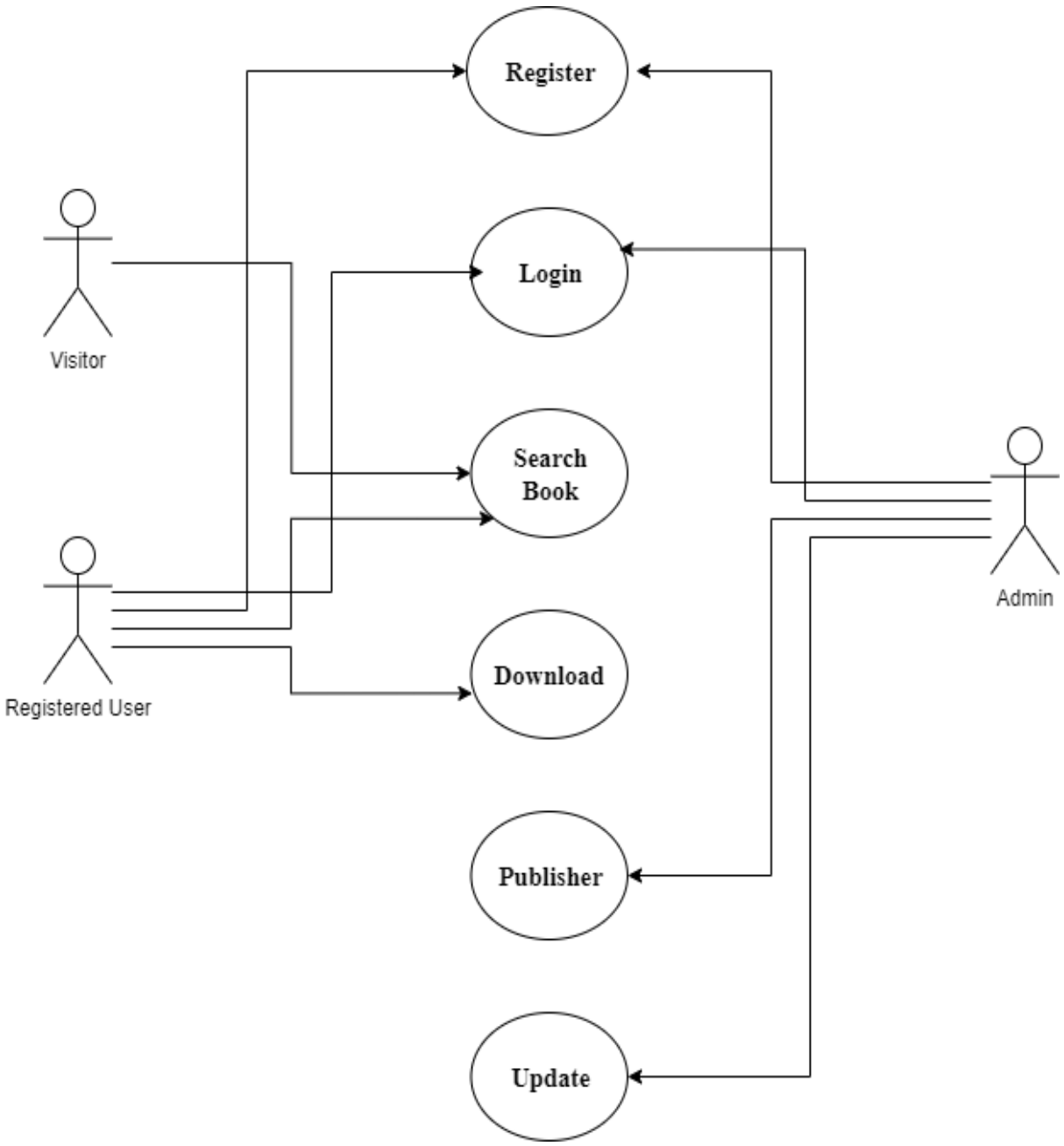


Fig: Use Case Diagram

4.3.2 Class Diagram - The class diagram, also referred to as object modeling is the main static analysis diagram. The main task of object modeling is to graphically show what each object will do in the problem domain. The problem domain describes the structure and the relationships among objects .

- In UML, class diagrams are one of six types of structural diagram. Class diagrams are fundamental to the object modeling process and model the static structure of a system. Depending on the complexity of a system, you can use a single class diagram to model an entire system, or you can use several class diagrams to model the components of a system.

- Class diagrams are the blueprints of your system or subsystem. You can use class diagrams to model the objects that make up the system, to display the relationships between the objects, and to describe what those objects do and the services that they provide.

- Class diagrams are useful in many stages of system design. In the analysis stage, a class diagram can help you to understand the requirements of your problem domain and to identify its components. In an object-oriented software project, the class diagrams that you create during the early stages of the project contain classes that often translate into actual software classes and objects when you write code. Later, you can refine your earlier analysis and conceptual models into class diagrams that show the specific parts of your system, user interfaces, logical implementations, and so on. Your class diagrams then become a snapshot that describes exactly how your system works, the relationships between system components at many levels, and how you plan to implement those components.

- You can use class diagrams to visualize, specify, and document structural features in your models. For example, during the analysis and design phases of the development cycle, you can create class diagrams to perform the following functions:
  1. Capture and define the structure of classes and other classifiers
  2. Define relationships between classes and classifiers
  3. Illustrate the structure of a model by using attributes, operations, and signals
  4. Show the common classifier roles and responsibilities that define the behavior of the system
  5. Show the implementation classes in a package
  6. Show the structure and behavior of one or more classes
  7. Show an inheritance hierarchy among classes and classifiers
  8. Show the workers and entities as business object models

- The E-book Management system class diagram consists of five classes:

  1. Login

2. Registered User
3. Administrator
4. Book
5. Visitor
6. download
7. Logout

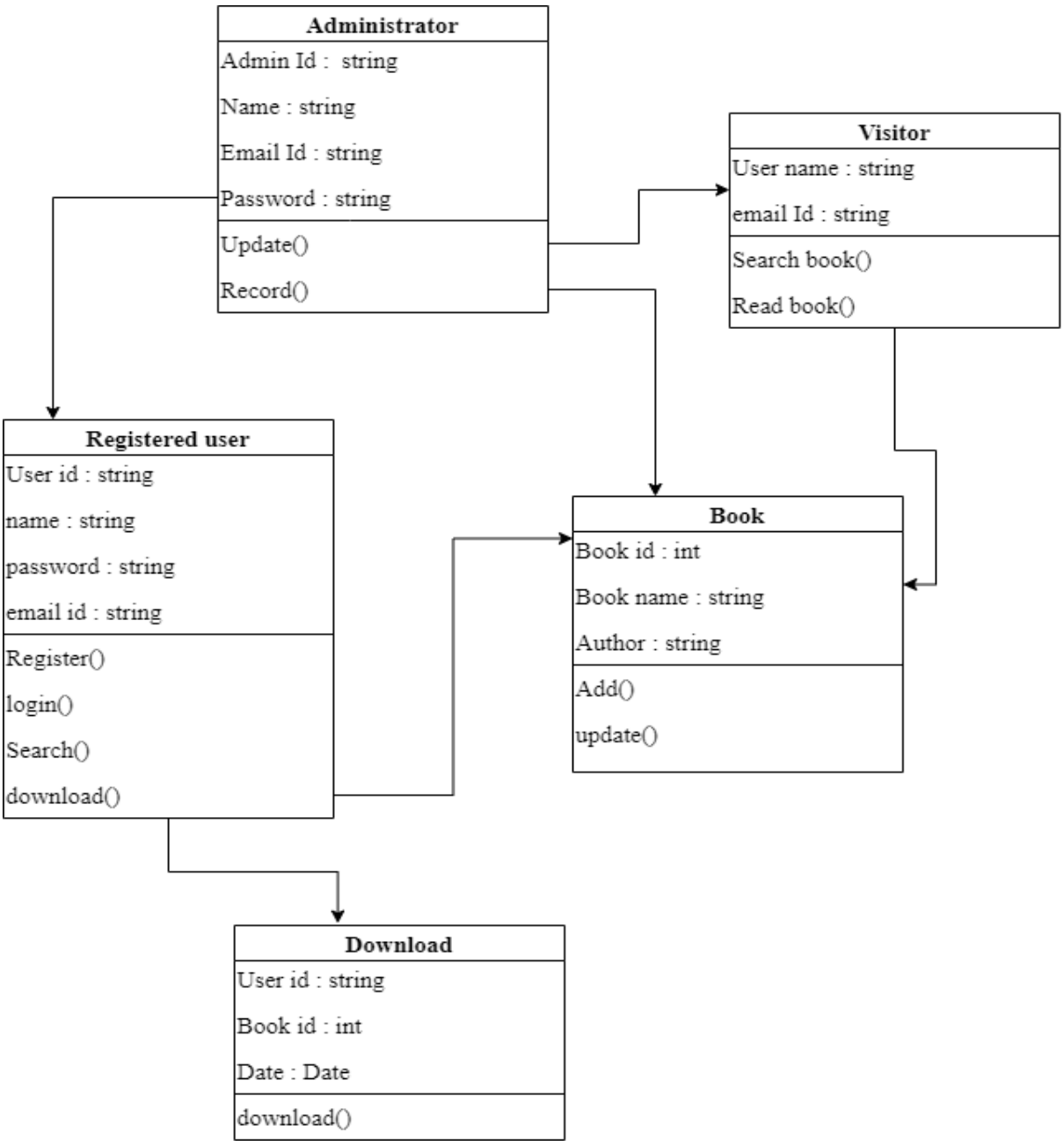


Fig: Class Diagram

4.3.3 Entity- Relationship Diagram - An entity relationship diagram (ERD), also known as an entity relationship model, is a graphical representation that depicts relationships among people, objects, places, concepts or events within an information technology (IT) system. An ERD uses data modeling techniques that can help define business processes and serve as the foundation for a relational database.

- Simply stated the ER model is a conceptual data model that views the real world as entities and relationships. A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects. Since Chen wrote his paper the model has been extended and today it is commonly used for database.

- Importance of ERDs and their uses:
  Entity relationship diagrams provide a visual starting point for database design that can also be used to help determine information system requirements throughout an organization. After a relational database is rolled out, an ERD can still serve as a reference point, should any debugging or business process re-engineering be needed later.

- However, while an ERD can be useful for organizing data that can be represented by a relational structure, it can't sufficiently represent semi-structured or unstructured data. It's also unlikely to be helpful on its own in integrating data into a pre-existing information system.

- How to create an ERD:
  ERDs are generally depicted in one or more of the following models:

  1. A conceptual data model, which lacks specific detail but provides an overview of the scope of the project and how data sets relate to one another.
  2. A logical data model, which is more detailed than a conceptual data model, illustrating specific attributes and relationships among data points. While a conceptual data model does not need to be designed before a logical data model, a physical data model is based on a logical data model.
  3. A physical data model, which provides the blueprint for a physical manifestation -- such as a relational database -- of the logical data model. One or more physical data models can be developed based on a logical data model.

- Advantages of ER Model:
  1. Conceptually it is very simple: ER model is very simple because if we know relationship between entities and attributes, then we can easily draw an ER diagram.

2. Better visual representation: ER model is a diagrammatic representation of any logical structure of database. By seeing ER diagram, we can easily understand relationship among entities and relationship.

3. Effective communication tool: It is an effective communication tool for database designer.

4. Highly integrated with relational model: ER model can be easily converted into relational model by simply converting ER model into tables.

5. Easy conversion to any data model: ER model can be easily converted into another data model like hierarchical data model, network data model and so on.

- Disadvantages of ER Model

    1. Limited constraints and specification.
    2. Loss of information content: Some information be lost or hidden in ER model.
    3. Limited relationship representation: ER model represents limited relationship as compared to another data models like relational model etc.
    4. No representation of data manipulation: It is difficult to show data manipulation in ER model.
    5. Popular for high level design: ER model is very popular for designing high level design.

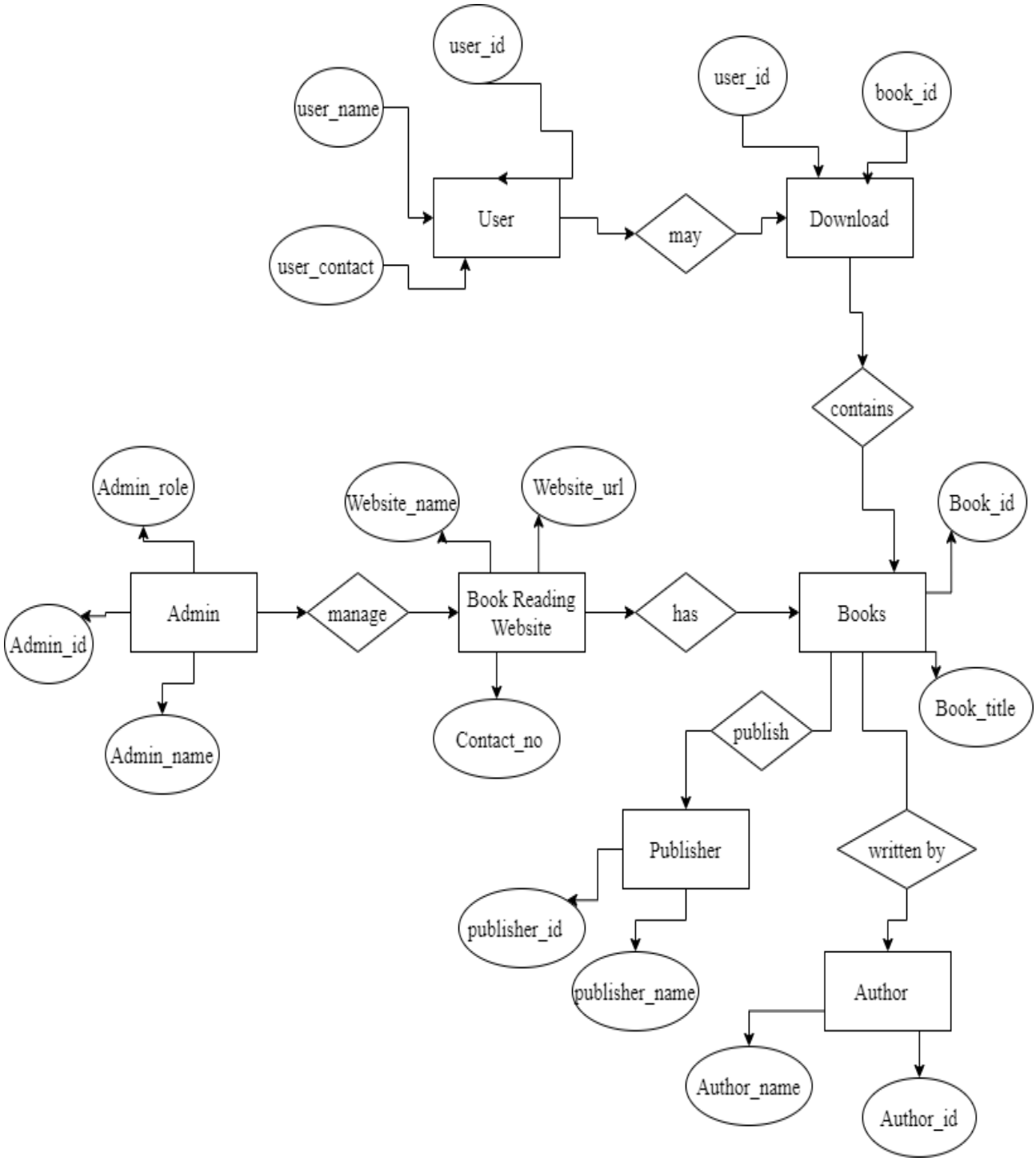


Fig: E-R Diagram

4.4. User Interface Design

User interface (UI) design is the process designers use to build interfaces in software or computerized devices, focusing on looks or style. Designers aim to create interfaces which users find easy to use and pleasurable. UI design refers to graphical user interfaces and other forms—e.g., voice-controlled interfaces.

User interfaces are the access points where users interact with designs. They come in three formats:

1. Graphical user interfaces (GUIs)—Users interact with visual representations on digital control panels. A computer's desktop is a GUI.

2. Voice-controlled interfaces (VUIs)—Users interact with these through their voices. Most smart assistants—e.g., Siri on iPhone and Alexa on Amazon devices—are VUIs.

3. Gesture-based interfaces—Users engage with 3D design spaces through bodily motions: e.g., in virtual reality (VR) games.

To design UIs best, you should consider:

- Users judge designs quickly and care about usability and likeability.

- They don't care about your design, but about getting their tasks done easily and with minimum effort.

- Your design should therefore be "invisible": Users shouldn't focus on it but on completing tasks: e.g., ordering pizza on Domino's Zero Click app.

- So, understand your users' contexts and task flows (which you can find from, e.g., customer journey maps), to fine-tune the best, most intuitive UIs that deliver seamless experiences.

- UIs should also be enjoyable (or at least satisfying and frustration-free).

- When your design predicts users' needs, they can enjoy more personalized and immersive experiences. Delight them, and they'll keep returning. Where appropriate, elements of gamification can make your design more fun.

- UIs should communicate brand values and reinforce users' trust.

- Good design is emotional design. Users associate good feelings with brands that speak to them at all levels and keep the magic of pleasurable, seamless experiences alive.

5. Results and Discussion

5.1 Documentation

- **For Management**

  Online E-book reader is primarily designed for providing information from the data after processing them. This system is designed for supplying information to the strategic level of management from the operational control. It includes almost all the functional areas needed like keeping User Records and Book Records**.**

- **For Uses**

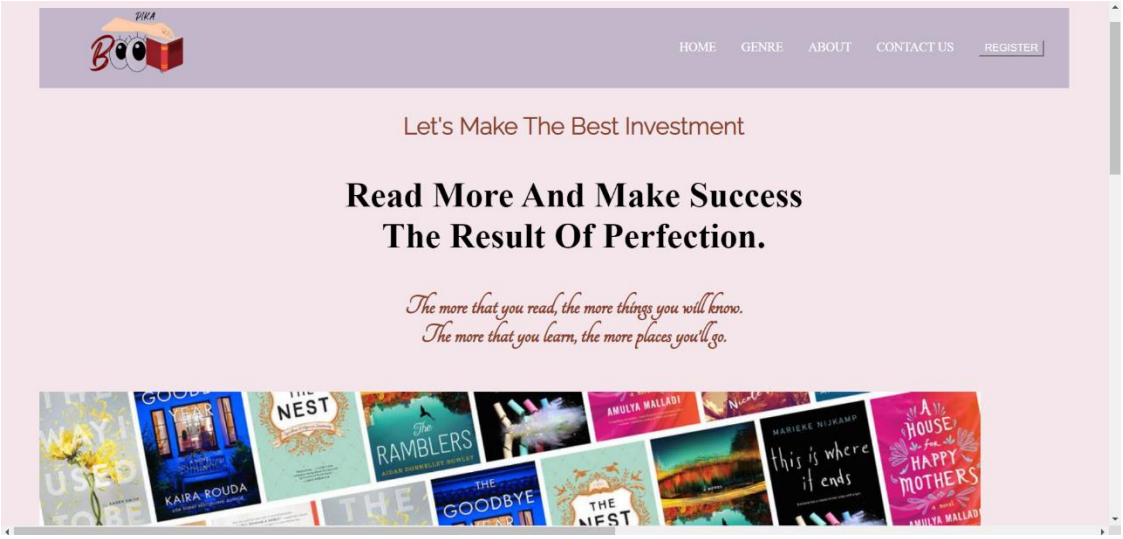
  With this electronic data processing system, the operators will able to maintain the following task:
  - Information regarding books they read.
  - Records of user details.
  - Regular Transaction details.

- **For data processing department**
  - In maintenance, the data processing department needs to create backup of the database file from time to time.
  - The main menu of the system provides different menus for different purposes.

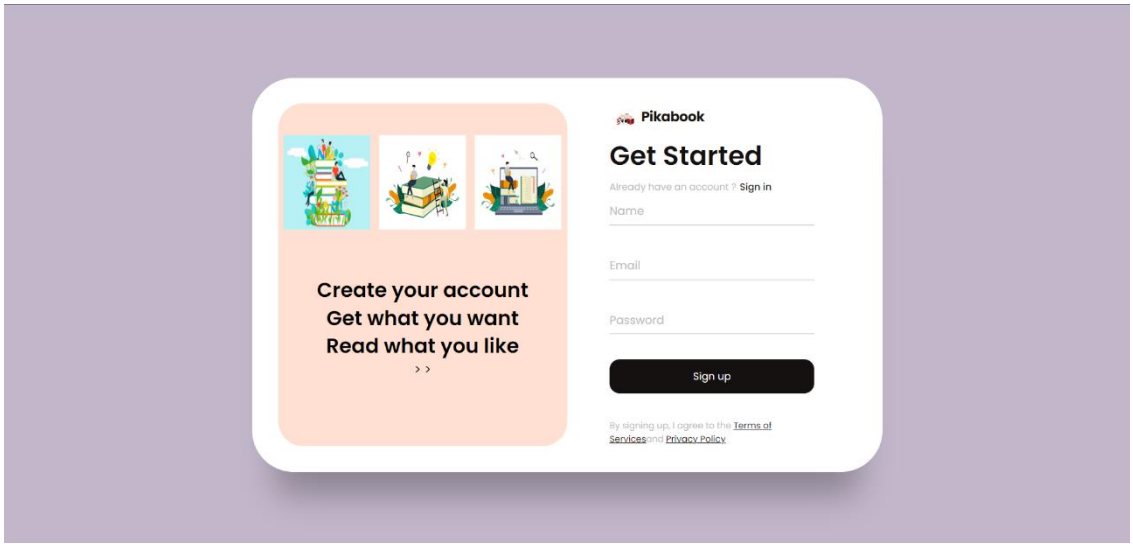
5.2 Implementation

The Software Design Description Document has been used as input in the implementation process. The actual implementation has been done using PHP. PHP has been used to interact with the backend database. In this implementation, My SQL Server has been used as the backend RDBMS. PHP processes the inputs or commands given by the user and translates them in the commands understandable to the backend database. The output produced by the backend database is also handled by PHP which then displayed on the Browser screen.

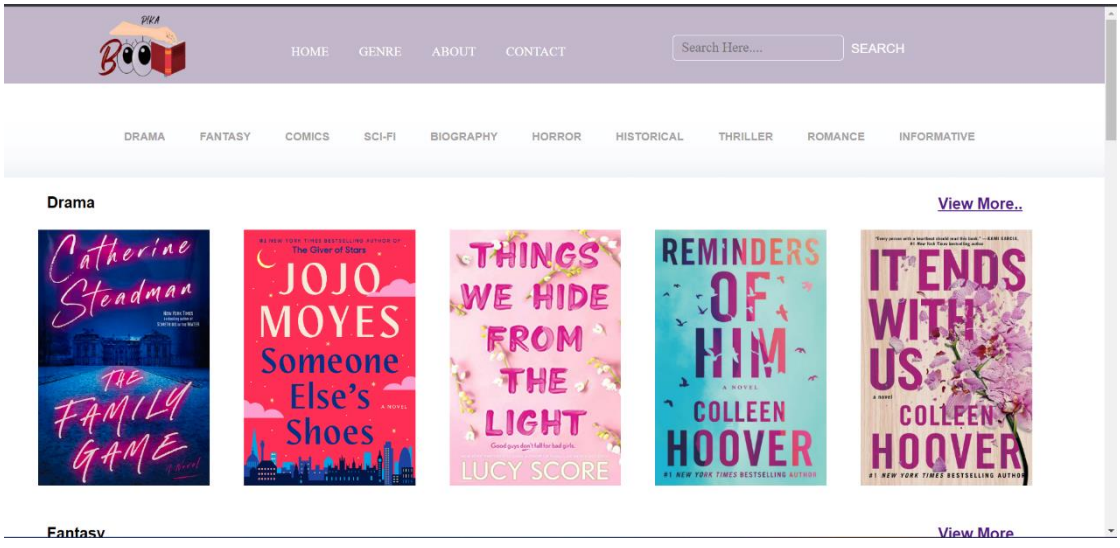
- **Home Page**



- **Login Page**



- **Genre Page**



6. SWOT Analysis

- **Strengths:** E-books' strength lies in innovative features that offer new ways to interact and engage with content, including:

1. Increased accessibility and portability of collections.
2. Semi-permanency, physical resiliency, and durability.
3. Interactivity and availability of keyword searching, annotation, and hyperlinked navigable text features.
4. Support for interactive and contextual learning.
5. Catalog synchronization.
6. Intra- and interuniversity consortial programs that increase content offerings at lower cost than equivalent print collections.

- Most studies agree that e-books greatly enhance the user's experience by increasing the accessibility of content and releasing content from the confines of physical library space and operating hours (Library Journal, 2011). E-books provide flexibility as to how and when content can be consumed on small, lightweight mobile devices such as e-readers, tablets, and smartphones. While most participants of e-reader studies admit that they would not replace physical books with e-books, most recognize the convenience of being able to access content at will (Pattuelli & Rabina.2010; Jamali, Nicholas, & Rowlands, 2009; Muir, Veale, & Nichol, 2009).
- The virtual nature of e-books offers additional benefits to remote users and distance learning programs. In a study of distance learning students of the University of Leicester, researchers found that students valued electronic collections for a one-point access of materials at a time and location of their choice (Nie et al. 2011).
- Another major strength of e-books is interactivity. Keyword searches and other integrated functions facilitate quick browsing and targeted navigation, offering a new non-sequential approach to learning (Dresang, 1999). Users can personalize their e-book experiences similarly to a physical book, through highlighting, bookmarking, and/or taking notes within the book. The key difference is that such activities do not alter the book itself, nor affect other users.
- E-readers often allow adjustment of font (style and type) and pages (dimensions) to further customize the reading experience and accommodate varying visual abilities (Dewan, 2012). E-books also complement contextual and extended learning by linking to dictionaries or other electronic resources, and facilitating interactive learning by enabling educators to share annotated e-books outside of the classroom (Shiratuddin et al. 2003).

- From the library's collection development perspective, e-books have the advantage of greater resilience, cost-effectiveness, maintenance, and scalability compared to the maintenance of physical real estate (Dowdy et al., 2001). Outside of format conversions or new editions, there is little reason to upgrade an e-book in the way that a damaged or missing book must be replaced. E-books cannot be misplaced, which reduces replacement expenses for lost materials (Slater, 2009). Additionally, e-books can be easily integrated into an existing catalog: "MARC records... are delivered electronically for downloading into a local OPAC," reducing the labor of manually entering information for new acquisitions (Schell & Polanka, 2011).

- **Weaknesses:** E-book technology is not without drawbacks that directly affect its use and acquisition in libraries. Some of these include

1. Limited content accessibility related to
   a) e-book/e-reader functionality and
   b) licensing and copyright issues
2. Costs associated with e-book pricing, licensing, and processing.

- One of the major weaknesses of e-books is difficulty of accessing and manipulating digital content. The limited ability to copy, print and share e-books across multiple platforms can be largely attributed to digital rights management (DRM) restrictions built into the ebook technology to protect intellectual property rights. The drawbacks of DRM include blocking JAWS (Job Access With Speech) and other screen-reading software; lack of support for the DAISY (Digital Accessible Information System) and EPUB formats that create an electronic alternative to braille for e-books (Ranti Junus, 2012); and limiting the use of e-books for interlibrary loan (ILL) programs (Fredriksen et al., 2011).

- In many instances, e-books incur higher indirect costs. Due to DRM restrictions built into the technology, there is no market for "used" digital textbooks. Even if students save money by purchasing electronic textbooks, they cannot benefit from re-selling items or purchasing used e-books (Walters, 2012).

- For libraries, the growth of e-book holdings requires maintenance of costly networks and broadband connections to enable mobile access to the collection (Bosch et al., 2011). E-book processing can often be "more complicated and time consuming than print" and is associated with "inefficient and varied order processes on different publisher websites" (Renner, 2009). Other cost burdens include higher prices for e-books, paying to renew subscriptions to e-serials or e-book packages each year,

and cataloging costs when provided MARC records are not adequate. To allocate for e-resources, librarians are often required to make hard choices and cut budgets in other important areas of the library (Polanka, 2011).

- **Opportunities:** As readers grow more comfortable with digital media, the opportunities for e-books become more evident. With the increasing availability of e-readers and the expansion of platforms across all electronic media, possibilities for the future include:
  1. Increased collaboration and partnership
  2. Enhanced content
  3. Empowered library workforce
  4. Enriched distance education
  5. Platform innovation

- Joining a consortium can enable libraries to diversify electronic offerings without increasing budgets: consortium packaging allows an academic library to license monograph titles it ordinarily might not be able to purchase; bulk ordering saves libraries time and money, especially when paired with a patron-driven acquisition model (Polanka, 2011). Some of these opportunities will largely depend on the ability of publishers and libraries to reach agreements on DRM and licensing issues.

- Additionally, the digital format gives publishers and academic libraries opportunities to work together to create and distribute enriched content. Emerging digital humanities initiatives could streamline research, archiving, and digitizing, incorporating multimedia and metadata into editorial practices (Miller, 2011). Enhanced content will add value to the price of e-books or monographs. Users will be able to customize their own products, creating a "mixtape" of chapters and monographs from several sources.

- Once the workflow process has been established, enhanced e-books will become economically and logistically viable options for university presses. Authors will be able to specify and even create enhanced content with multi-media additions during the writing process itself (Polanka, 2012).

- Digital resources offer an opportunity to greatly improve the e-reserve process. Electronic content can be directly integrated into course management systems (CMS), course websites, or blogs, which in turn offer students instant access to materials and free up space in the physical library, enabling staff to concentrate on other tasks (Renner, 2009).

- A positive effect of e-book adoption is that librarians will need to become knowledgeable in digital rights, copyright, DRM, and legal contractual agreements, which can benefit the library community as a whole (Donlan, 2011; Goodson & Frederiksen 2011). As data collection becomes more sophisticated, libraries will easily be able to compile statistics and metrics on e-book usage for funding, collection development, and budget purposes. E-books also open up the potential for patron-driven acquisitions, both in ease of request and speed of material acquisition (Kolowich, 2011).

- **Threats:** While none of the identified trends can threaten the existence of e-books, a few can potentially slow down their rate of adoption, including:
  1. Culture of print book readership
  2. Usability and awareness of e-books
  3. Lack of viable business models

- Traditional print has been used in academic environments for centuries. It is no surprise that many academic users still prefer print to electronic books (Baker et al., 2010; Briddon et al., 2009). This preference can be due to differences in learning styles associated with print versus electronic media.

- A study by the University of California Libraries showed that many of their students found it easier to concentrate and remember information when reading from a print book as opposed to digital text (Li, 2011). Other weaknesses in the e-book format cited in the literature include:
  1. difficulties reading on a screen (Shelburne, 2009; Briddon et al., 2009);
  2. physical aspects that differ from print format (e.g., e-book readers miss the smell of the print book, feeling the pages);
  3. technological requirements for use and difficulties of downloading e-books to personal devices (Dewan, 2012);
  4. difficulties with annotation;
  5. issues with availability and reliability of digital texts (Briddon et al., 2009).

- An additional reason for preferring print over e-books, especially among teaching faculty, is the concern over plagiarism, as it might be easier for students to plagiarize from electronic resources than print (Polanka, 2011).

- Awareness of digital collection offerings is another frequently cited roadblock to massive e-book adoption in academia. Studies suggest that students and faculty are frequently unaware of e-books available through their academic libraries, or lack knowledge on how to access these resources (Jamali et al., 2009; Briddon et al., 2009; Shen, 2011).

- A valid criticism is the lack of diverse e-book offerings compared to print counterparts. The scarcity of electronic content for research and teaching purposes is largely due to publishers who "are still struggling to create an appropriate business model" to profit from ebook offerings (Lynch, 2012, 78). In addition to developing new pricing strategies, publishers should work on new marketing platforms, reasonable DRM standards, and other business strategies that will make e-books viable alternatives to traditional print (Lynch, 2012).

- Libraries also need to find ways to embrace e-books and provide content in a convenient manner (Bosch et al., 2011). Without developing new ways of coping with and embracing e-books, both publishers and libraries might be tempted to resist e-book technology or offer limited products and services.

7. Conclusion

After implementing the application it will contain the advantages were incomparable to the present contemporary systems used by company. The most admirable feature founded was its simplicity in terms of application to the user but its highly beneficial outputs can't be ignored. The users will be highly benefited after using the system.

It is hoped that this project will help the future developers to modify and implement the system. After modifying some techniques of the programs, it will give us the best performance as our requirements. The project will be very useful for the users.

6.1Limitations of the System

1. It's expensive. Although the price of an eReader has come down considerably over the years, the cheapest eReaders on the market are still $100 or more—and that's not including a cover, which you'll need to prevent scratches.

2. It's electronic. This means that your eReader needs something that traditional books don't: regular battery charging. And, unlike your favorite paperback, if you drop an eReader, it might break.

3. It doesn't have the same physical presence as a traditional book. Who wants a house with no books on the shelves? It may be the diehard paper lover in me, but when I think of a cozy home, I think of shelves packed with well-loved books.

4. You can't flip through the pages. Sometimes I like to flip through a book I've read to remind myself of the main points, or to find a passage that I particularly like. While eBooks let you search for words, they only let you flip page-by-page, or chapter-by-chapter, so you lose part of the "flip" appeal of a traditional book.

5. It just doesn't have the same feel as a traditional book. There is something to be said for paper books. The smell of ink, the feel of the pages, the excitement of getting closer and closer to that last page. eBooks will never be able to replace that!

6. It's not great for gift-giving. Sure, you can give someone an eReader as a gift. But what if you just want to get them the latest bestseller that you know they'll love? You probably wouldn't want to give them an eBook.

7. Not all titles are available in eBook form. Keep this in mind when you have a specific book in mind, and suddenly can't find it through the library or in the eBook store!

8. Speaking of stores…eBooks are a threat to booksellers. The ease and availability of eBooks has (in part) led to a decline in bookstores, since consumers have stopped visiting their local booksellers to find titles they want.

9. Some books just don't work as eBooks. Anatomy textbooks without images? Children's books without the color illustrations? Depending on your eReader device, some books just don't translate to electronic form that well.

10. It can't be autographed by the author. In fact, eBooks are completely divorced from the author's social context—there will never be a "first edition eBook" that will become a collector's item. If this matters to you, you're officially a bibliophile. Go pick up the latest hardcover and check out that author signing, stat!

6.2 Future Scope and Future Enhancement

Software development is never–ending process and continues the life of the software as per the changing needs of the user from time to time. The project is no doubt has been developed keeping in mind easy modification and enhancement that may be required from time to time . However, there are many scopes to modify this software. As because due to shortage of time, we here become unable to include many things.

1. In the website ,we seek to add a functionality for our readers to post and read blogs. This will help the users to write their views ,opinions and suggestions over various topics, thoughts, social issues, poetry, current affairs, life skills and also it will help the readers to overcome their confusions and doubts about situations.

2. We also seek to add the functionality of selling old textbooks of your school or college which are no more useful to us. This will free up our spaces at home and needy ones can get the books at low prices. Thus this is beneficial for both the users, the one who is selling and the one who is purchasing. The transaction will be carried out through online mode directly to the users bank account.

3. Sometimes, we need to keep track on our daily stuffs and things that are most likely to forget. Therefore to keep a list of those things, we seek to introduce to add notes functions in our website where one can write anything that is essential to memorize, for example: you are going to visit a place and you are planning things about the total cost of the trip, your travel expenditure, stays at hotels, expenses on food and places you are planning to visit at that place. One more example you can also note important dates there.

4. Last but not the least, for better user experience we will keep enhancing the UI of the website for easy navigation and smooth functioning to give the user a satisfactory usage of the website. Also, we hope to get best reviews and less reports/bugs.

8. References

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9. Glossary

Electronic Books or eBooks as they are popularly known, are books that are published in a digital format. All of the book's content is made to be readable on any digital device from computers to smartphones and tablets. They are made available and distributed through the internet as downloadable files or as web pages that can be read online.

Common eBook Formats-

· EPUB – this is one of the most popular formats for eBooks as it is supported on almost all devices and e-readers except Amazon Kindle.

· MOBI – This is similar to the EPUB format except for the fact that it doesn't support audio or video and it isn't publicly available.

· AZW – This format was developed by Amazon specifically for their Kindle e-reader, any eBook purchased from Amazon will come in this format. The AZW format supports both audio and visual content in eBooks, but it is not supported on many other e-readers besides Amazon's Kindle.

· PDF – this is another extremely popular format of eBooks, as it is easy and comfortable to use along with the fact that it is open standard. The main drawback of this format is that it isn't reflow-able. This means that the presentation of the book doesn't adapt to the size of and the user settings.

eBook Readers-

eBook readers or eReaders are devices that are made specifically for the purpose of downloading and reading eBooks. They are usually handheld devices that offer a variety of features that enhance the digital reading experience. This includes things such as – longer battery life, various lighting options, sharp displays, customisable size and font of the text, page-turning feature, automatic bookmarking, and more.

10. Appendix

· Cataloging records needed .
· Ebooks will play an increasingly important role because of ease of access, searchability, value added services such as citation linking.
· Print will always be important; Users continue to prefer print.
· Ebook not panacea for book storage issue.
· Some titles will be used a lot (e.g reference, computer and tech titles).
· Ebook will be made available in xml so that we can have diversity of display options.
· Ebooks use will focus on e-reserves.
· Need to involve more selectors/subject specialists.
· Monitor usage so we can understand it better.
· Ebooks represent a supplement to purchasing print monographs; ebooks will take over if they become available faster than print version.
· Ebooks will become better integrated into instruction than print monographs.
· Continue to acquire books, monitor usage and industry trends.
· Need to develop and refine policies for acquiring electronic titles and develop mechanisms ensuring preservation.
· We have formed a group to monitor developments and assist reference/bibliographers in their assessment of ebooks.
· Over time ebooks will become more important (most students seem to be using them now for reference not for extended reading).
· We need to consider how we will promote ebooks and educate users.
· Technology is still not quite there.
· Wireless or lighter laptops could be the future.
· Print has many right and powers that ebooks don't. We like ebooks but we must not allow ourselves to be locked into technology or legal/social paradigms that impair our ability to support open research, teaching, and public discourse of our community. We will favor vendors who support open process of scholarship and long-term preservation so we will not rush into ebooks.