DESIGN THINKING AND PRODUCT INNOVATION

[CSM 216]

MINI PROJECT REPORT

II/IV B. Tech Sem-I [R20]

TITLE: READEASE -EMPOWERING LIBRARY DIGITALLY

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Abstract

Applying design thinking to the creation of a Modern Library Management System involves a human-centric, iterative process. Beginning with empathizing, designers conduct user research to understand the unique needs and challenges of library patrons and staff. This insight informs the definition of specific problems and the creation of user stories. Ideation follows, encouraging diverse, creative brainstorming to generate innovative solutions. Prototyping involves iterative development of low-fidelity models, allowing for quick testing and user feedback. Through testing, designers gather valuable insights to refine the prototype before implementation. Agile development ensures flexibility and responsiveness, while continuous iteration based on user feedback and data-driven decision-making contribute to the ongoing improvement and adaptation of the Modern Library Management System, aligning it closely with the evolving needs of the library community.

Empathizing is a pivotal stage where designers immerse themselves in the experiences and perspectives of library patrons, librarians, and administrators. Through methods such as interviews, surveys, and observations, the design team gains deep insights into the diverse needs, preferences, and pain points of users within the library ecosystem. By developing a profound understanding of the challenges faced by both staff and patrons, designers can craft a system that genuinely addresses real-world issues, fostering a user-centric approach that lays the foundation for the subsequent stages of problem-solving and innovation.

In conclusion, a Library Management System (LMS) implemented through a web application represents a transformative leap in optimizing library operations and enhancing user experiences.

To address this problem, a modern Library Management System web application should prioritize user-friendly interfaces, intuitive navigation, and streamlined authentication processes. This would enhance the student's online library experience, allowing for efficient exploration and access to digital resources essential for academic success.

1. INTRODUCTION

1.1 Problem Scenario

Early days Libraries are managed manually. It required lot of time to record or to retrieve the details. The employees who must record the details must perform their job very carefully. Even a small mistake would create a lot of problems. Security of information is very less. Report generations of all the information is very tough task.

n Maintenance of Library catalogue and arrangement of the books to the catalogue is very complex task. In addition to its maintenance of member details, issue dates and return dates etc. manually is a complex task.

 All the operations must be performed in perfect manner for the maintenance of the library without any degradation which may finally result in the failure of the entire system to solve the inconveniences as mentioned in the existing system, an Online Library is the proposed system contains the following features:

¡ The students will register them through Online.

¡ Individually each member will have his account through which he can access the information he needs.

¡ Book details like authors, number of copies totally maintained by library, present. available number of books, reference books, non-reference books etc. all this information can be made handy.

 Time consuming is low, gives accurate results, reliability can be improved with the help of security.

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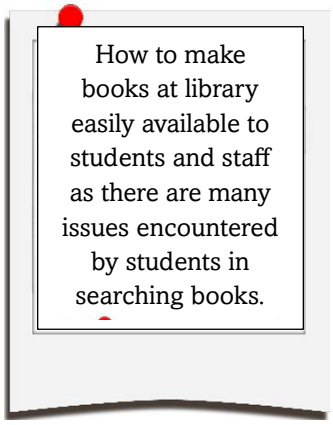


Figure 1: Why?

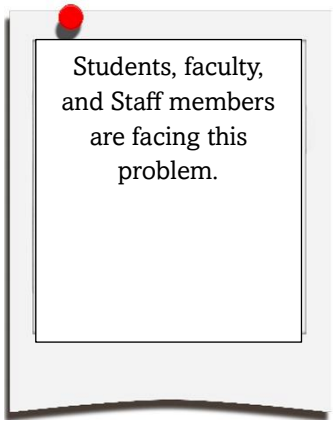


Figure 2: Who?

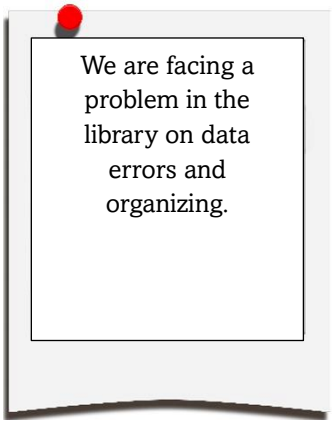


Figure 3: What?

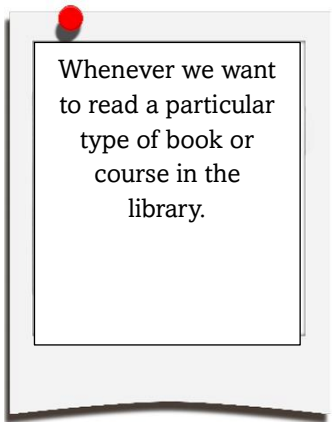


Figure 4: When?

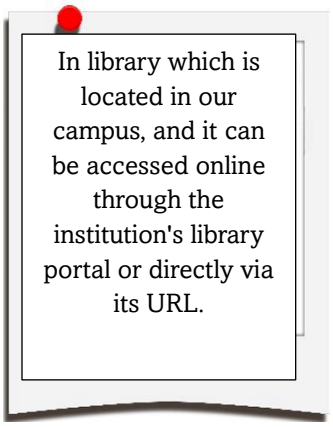


Figure 5: Where?

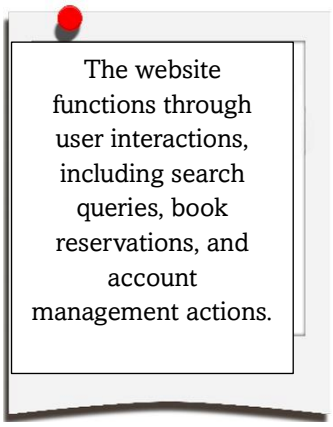


Figure 6: How?

How might we make the books easily available
action

and all the resources.
what

for the students who want to study without wasting the time in searching books
customer

in order to save the time which is faced as an issue
what change?

1.3 Problem Statement:

Currently, there is a disconnect between our traditional library offerings and the increasing demand for seamless access to digital materials such as e-books, online journals, and multimedia content. The existing system fails to provide an intuitive and cohesive platform that integrates both physical and digital resources, resulting in a fragmented user experience.

Design a solution that allows college students to independently track the information of the book and access necessary resources efficiently.

1.4 Introduction to Design Thinking:

Design thinking is a problem-solving and innovation methodology that places a strong emphasis on understanding and addressing human needs. It is a creative and iterative approach that draws inspiration from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.

Design thinking is part and parcel of what goes through a designer's mind in every single design project. It is a powerful thinking tool that can drive a brand, business or an individual forward positively. An example would be to take a gadget and ask, "How do I make this work, better, faster, smoother, and reduce waste and inefficiency?" But it can go beyond product design. You can scale it up and apply it to many things. For example, as more and more people come to cities to look for jobs, these urban areas' consumption of energy, food, water, and other natural resources will steadily increase. Design thinking can help solve problems with overcrowded living spaces and minimize stress to our infrastructure. It can be used to utilize our resources effectively and minimize energy. consumption.

DESIGN THINKING—ACTION PLAN & 5 ACTION PHASES:

Design thinking is the proper attitude and frame of mind, along with the right series of actions, to solve a problem. If the mindset is the train, then the action plan is the track. A design action plan is a series of action phases that execute the design thinking process. You need both the action plan and mindset to run design thinking. One will not work without the other.

The design action plan is a framework that contains a series of action phases that execute the design thinking process. It is a roadmap that tells people involved in a project whether they are going to be on the right track.

2. EMPATHY

2.1 Empathy:

Empathy in design thinking is a foundational and critical element that involves understanding and appreciating the feelings, perspectives, and needs of the end-users for whom a solution is being designed. It goes beyond mere observation and data collection, aiming to cultivate a deep emotional connection with the users' experiences. Empathy serves as the compass guiding the entire design thinking process, influencing decision-making, problem definition, and solution ideation.

Empathy maps help visualize user experiences, while personas create detailed user profiles. Journey maps track user interactions with a product or service, revealing pain points and emotions. By immersing designers in users' worlds, the empathy stage fosters deep insights that guide thoughtful solutions.

Empathy tools in design thinking include:

Interviews: Engaging with users to understand their experiences and perspectives.

Observations: Actively watching users in their natural environment to identify behaviours and needs.

Surveys: Collecting quantitative data on user preferences, opinions, and demographics.

Empathy Maps: Visualizing user thoughts, feelings, and actions to uncover insights.

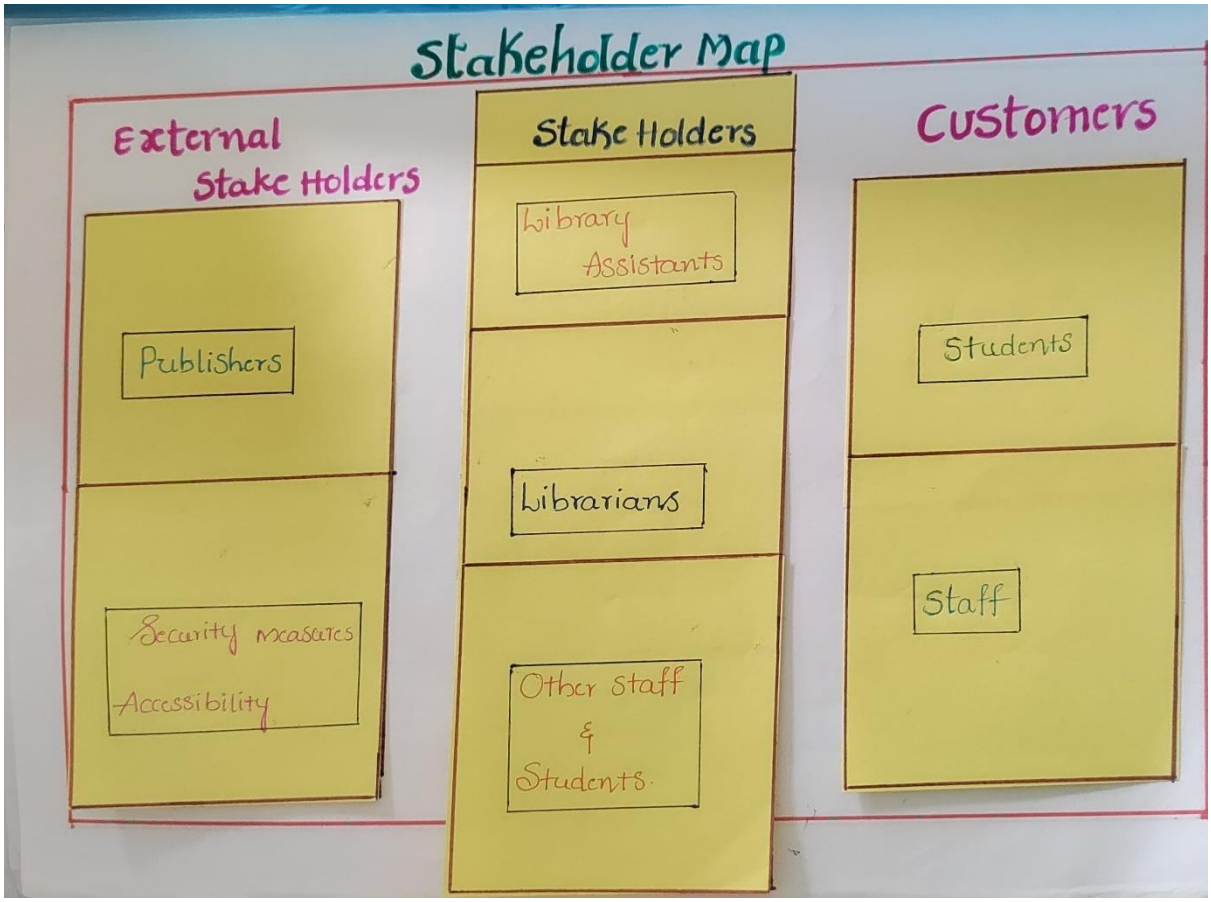
Personas: Creating fictional characters based on user research to represent different user segments.

Journey Maps: Illustrating the user's experience over time, highlighting pain points and emotional. Empathy maps to visualize emotions. Personas create user profiles, while journey maps track user experiences. These tools help designers connect with users, fostering a human-centric approach in problem-solving.

2.2 Stakeholders Map

A stakeholder's map is a visual representation of the individuals or groups involved in a project or key players and their interests, aiding in effective communication and decision-making.

The map typically illustrates the relationships between these stakeholders and their level of influence or interest in the problem or solution. Creating a stakeholder map is a valuable exercise to ensure that the diverse perspectives, needs, and expectations of all relevant parties are considered throughout the design process.



2.3 Empathy Questionnaire

1. Is every resource required for the student or the user available in the library as physical copy or any mobile copy?
2. Is there any requirement previously provided for the students for circulation checking and accommodation information?
3. can every user (student or faculty of the college) have the access to visit the site for their required resources?
4. Is there any necessity for providing additional copies of the volumes or resources in a website?
5. Are the resources and articles updated thoroughly?
6. Is there any necessity for finding the book even faster in the library and sequencing the books is needed?
7. Can any other person out of the campus can have access to the site or library?
8. have you noticed any previous research or any complaints about the accommodation of library resources?
9. Are there any complaints about the services provided by the web access /other issues about the library management application?
   Can the student or the faculty access or borrow the books without a physical copy of identity?

2.4 Empathizing the User

USER1:

Sarah is a graduate student studying environmental science. She is working on her thesis, which requires access to specific scholarly journals and books on environmental policy and sustainability. However, Sarah often struggles to find the necessary resources in the library's collection, as they are limited or not available in sufficient quantities.

USER2:

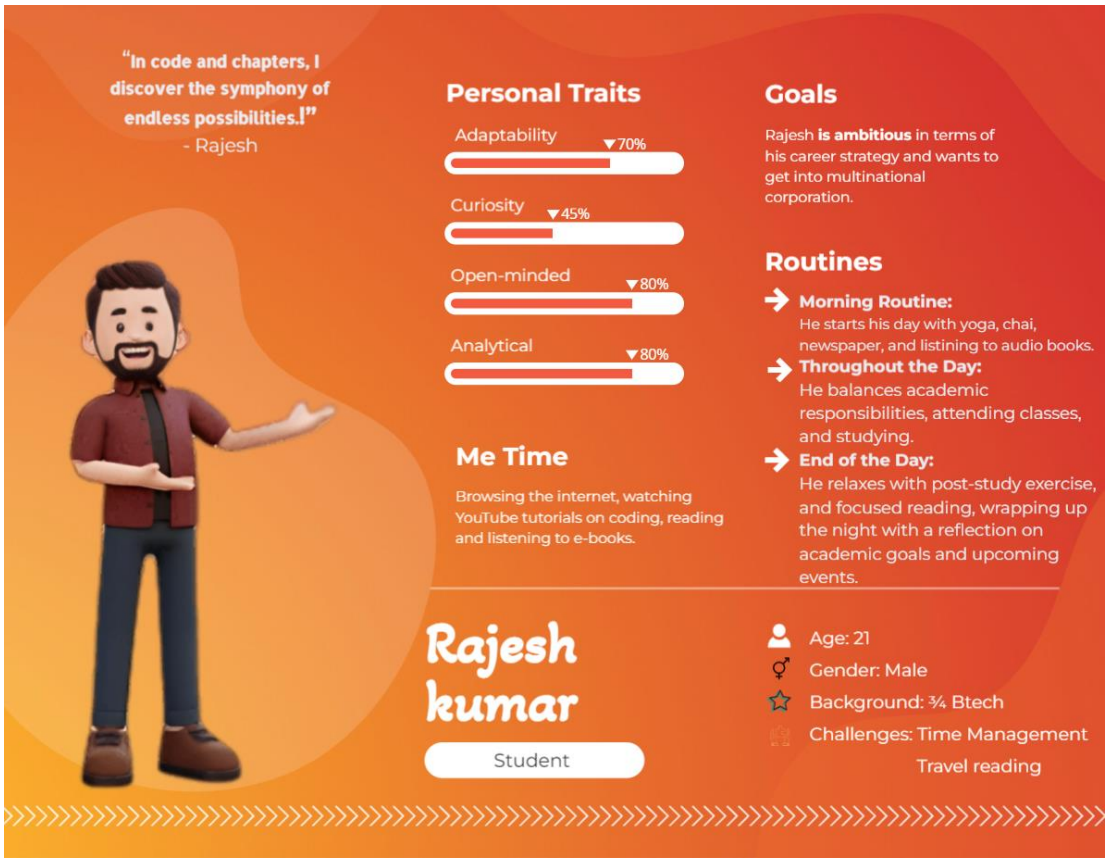
Prameela is a biology major researching the latest developments in genetic engineering for her term paper. However, when she searches for relevant books and articles in the library, she finds that many of them are outdated and do not cover recent advancements in the field. This makes it challenging for Emily to find up-to-date resources for her research.

USER3:

David is a first-year student who is unfamiliar with the library's layout and services. He struggles to locate books and navigate the library's online catalog. Despite seeking assistance from library staff, David finds that they are often busy or unable to provide the guidance he needs, leaving him feeling frustrated and lost**.**

2.5 Persona Creation

PERSON1:



PERSON NAME: Rajesh Kumar

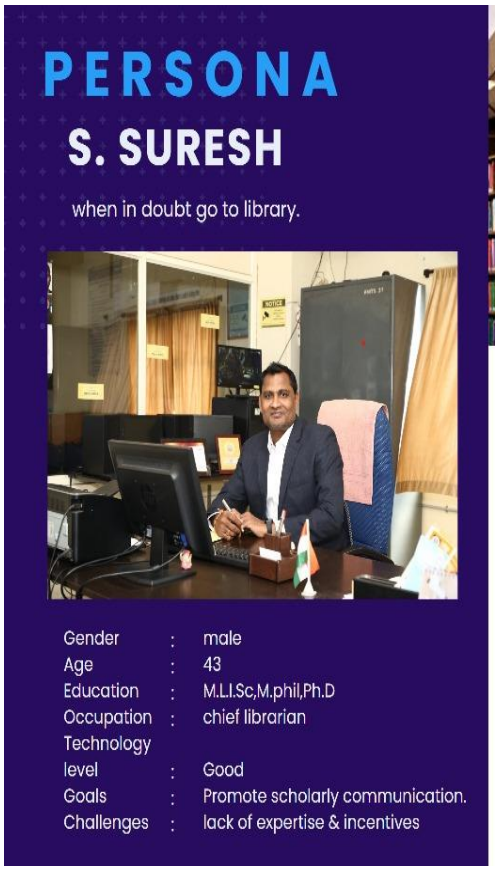
BACKGROUND: Rajesh Kumar is a dedicated and Anits college student majoring in computer science. He is passionate about technology and dreams of a successful career in the software industry. However, He has multiple responsibilities including academic commitments, part time work and involving in coding club due to heavy workload. He has been facing challenges in time management, this situation has started to impact him academic performance.

GOALS: Rajesh Kumar aims to improve his time management skills according to the library hours and to maintain good academic standing and actively contribute to his coding club. He also hopes to find ways to reduce heavy workload and enhance his overall well-being.

CHALLENGES: Balancing his academic responsibilities, part time job, coding club, adjusting his time according to library hours is challenging for Rajesh Kumar. He needs to challenge these problems and optimize his schedule, ensuring he meets both academic and personal goals.

PERSON2:

PERSON NAME: S. Suresh (Librarian)



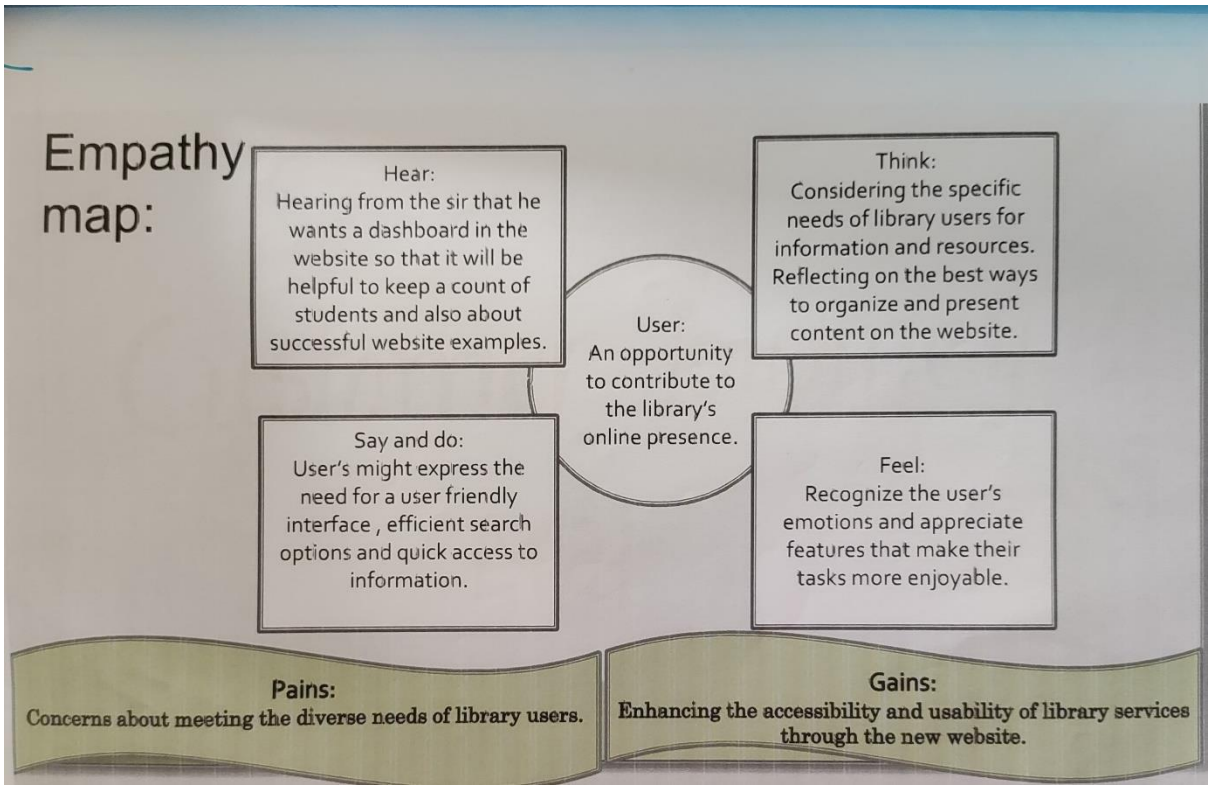
FOR THE LIBRARY

- check for the staff work and all resources in the library.
- Thinks for the development of library and resources.
- Keeps track of every resource and management of the library.

BACKGROUND: S. Suresh is the dedicated librarian at ANITS college, overseeing the management of the college library and its resources. With a passion for fostering knowledge and facilitating learning, Suresh plays a crucial role in supporting students and faculty members in their academic endeavour's. Suresh holds a degree in Library Science and has several years of experience in the field, bringing a wealth of expertise to his role.

CHALLENGES: S. Suresh, the college librarian, faced significant hurdles due to limited resources and outdated systems. Now, with the launch of the website, new challenges arise in effectively integrating it into library operations, ensuring user adoption, and managing the transition from traditional methods to digital platforms. Additionally, maintaining the website's relevance, accessibility, and security while adhering to evolving technological standards presents ongoing challenges for Suresh in leveraging this new tool to enhance library services and support academic success within the college community.

2.6 Empathy Map



Pains of Empathy Map in Library Management Website:

1.Insufficient Data:

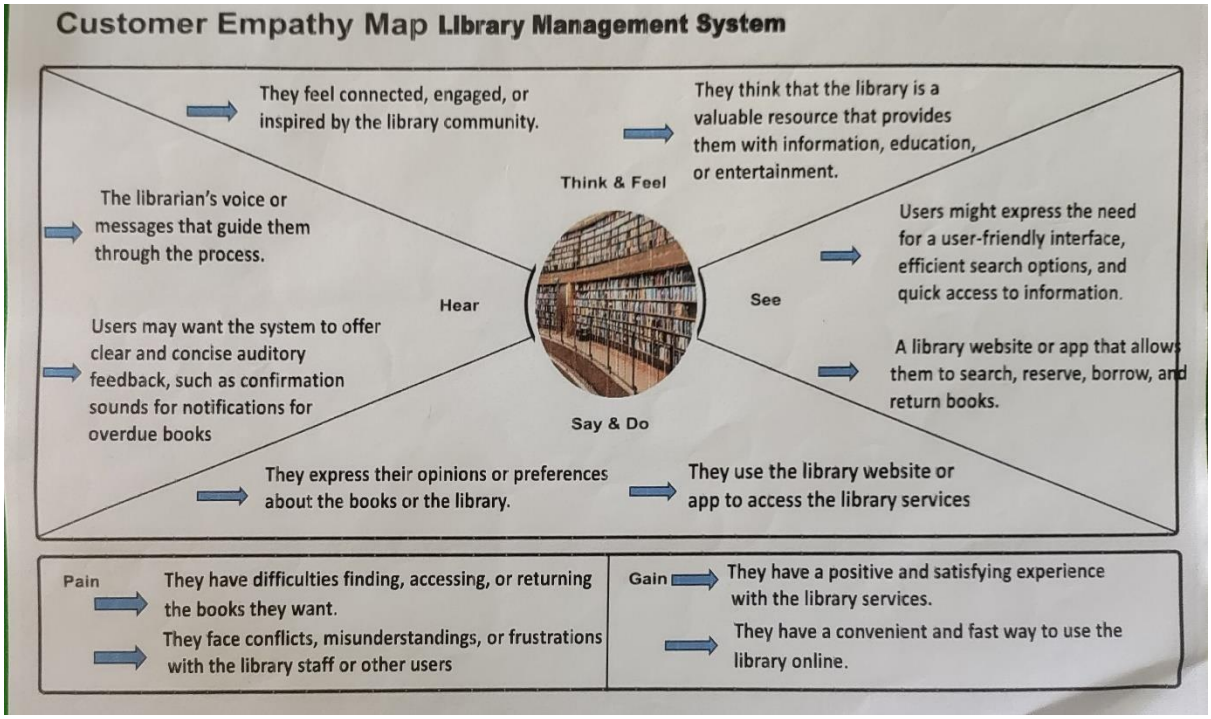
Pain: Difficulty in collecting accurate and sufficient data to create a comprehensive empathy map, especially if user research is limited.

Impact: Incomplete or inaccurate insights may lead to ineffective design decisions.

2.Assumption Bias:

Pain: The risk of making assumptions about users' needs and experiences without validating them through direct interactions**.**

Impact: Design decisions may be based on inaccurate assumptions, leading to solutions that do not resonate with actual user needs.



Gains of Empathy Map in Library Management Website:

1.Enhanced User Experience:

Gain: Contributes to the creation of a library management website that is intuitive, user-friendly, and aligned with the actual needs of library patrons.

Impact: Improved user satisfaction and engagement with the website.

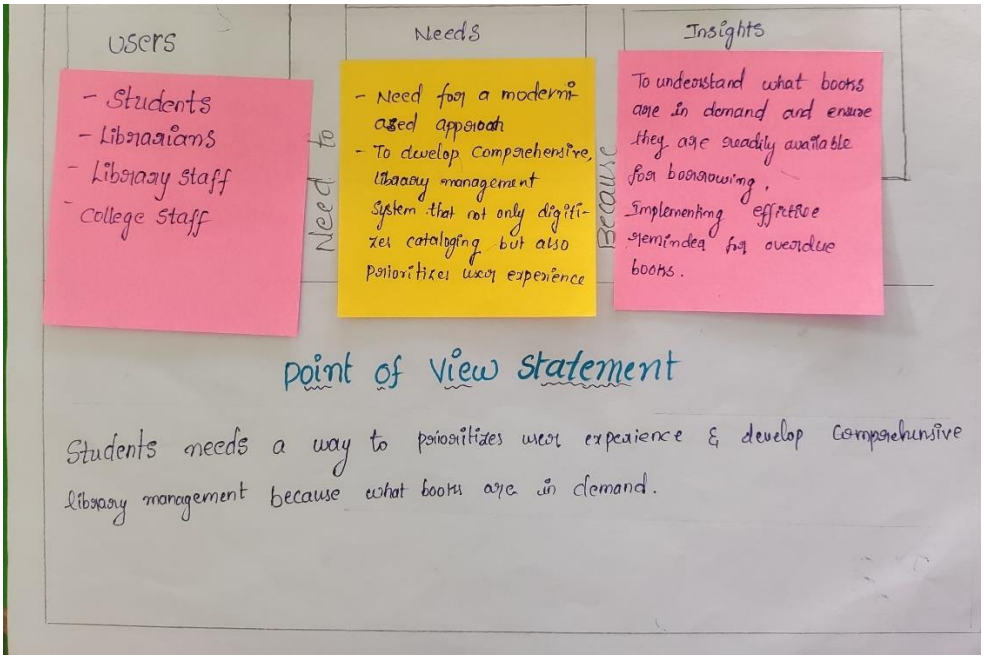
2.Targeted Problem Solving:

Gain: Provides a focused understanding of specific challenges and opportunities users face when interacting with the library management website**.**

Impact: Enables targeted problem-solving, leading to more effective and relevant design solutions.

3. DEFINE

3.1 POV statement



STATEMENT:

Students are facing challenges in tracking the information of the book in library and accessing e-books along with journals. Our goal is to create a user-friendly website that streamlines navigation, enhances search capabilities, and ensures accessibility across various devices.

3.2 How Might We Statements

1.How might we improve the search functionality to ensure users easily locate and access specific books, multimedia, and digital resources?

2.How might we simplify the process for librarians to efficiently catalogue and update digital resources while ensuring accuracy and consistency?

3.How might we optimize the circulation system to reduce wait times and enhance the overall efficiency of the check-in and check-out processes?

4.How might we enhance wayfinding features on the library website to guide users efficiently to the physical location of their desired resources?

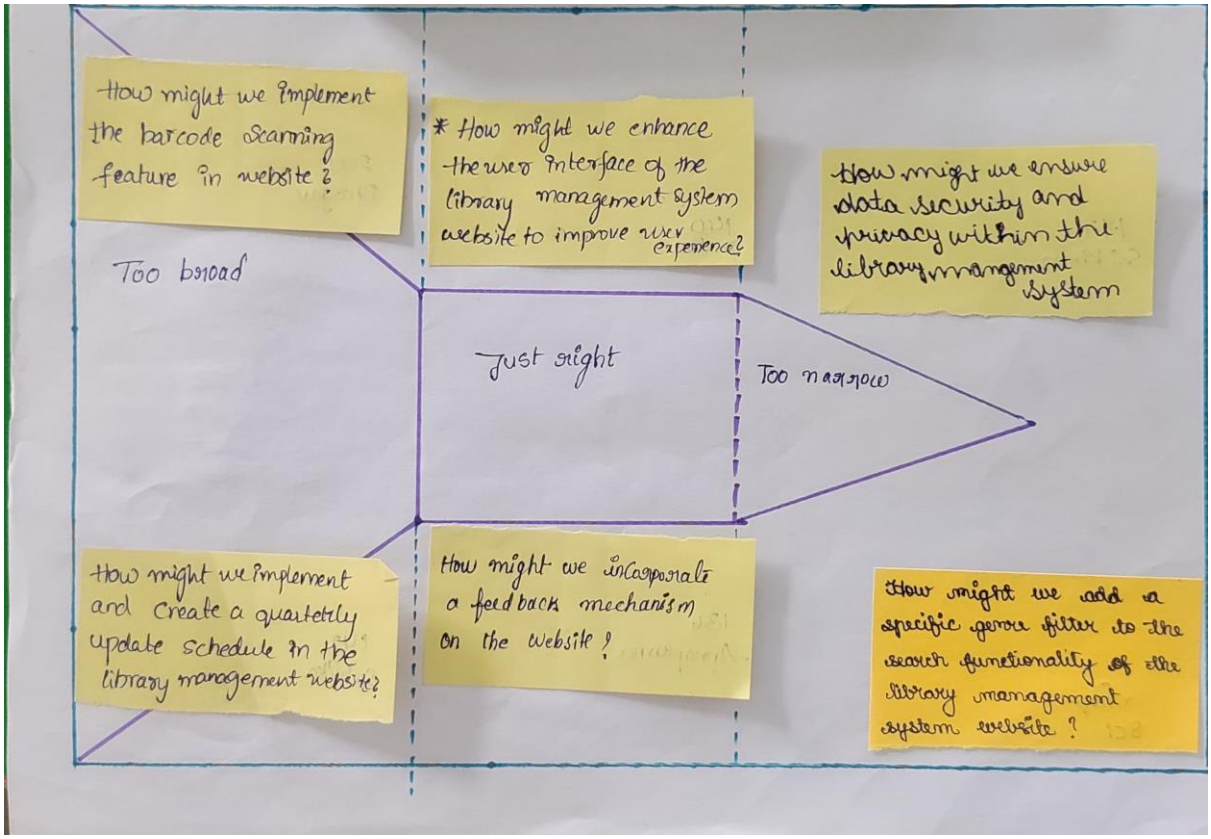
5.How might we streamline the interlibrary loan system to simplify the borrowing and lending processes, ensuring a smooth experience for both patrons and staff?

6.How might we optimize the library management website for a responsive design, ensuring a consistent and user-friendly experience across desktops, tablets, and smartphones?

7.How might we redesign the reservation system to make it more intuitive and user-friendly for patrons seeking to reserve study spaces or library facilities online?

8.How might we implement a real-time availability tracker for study spaces and meeting rooms, allowing users to check and reserve spaces conveniently through the website?

3.3 Redefine Problem statement by Just right Statement.

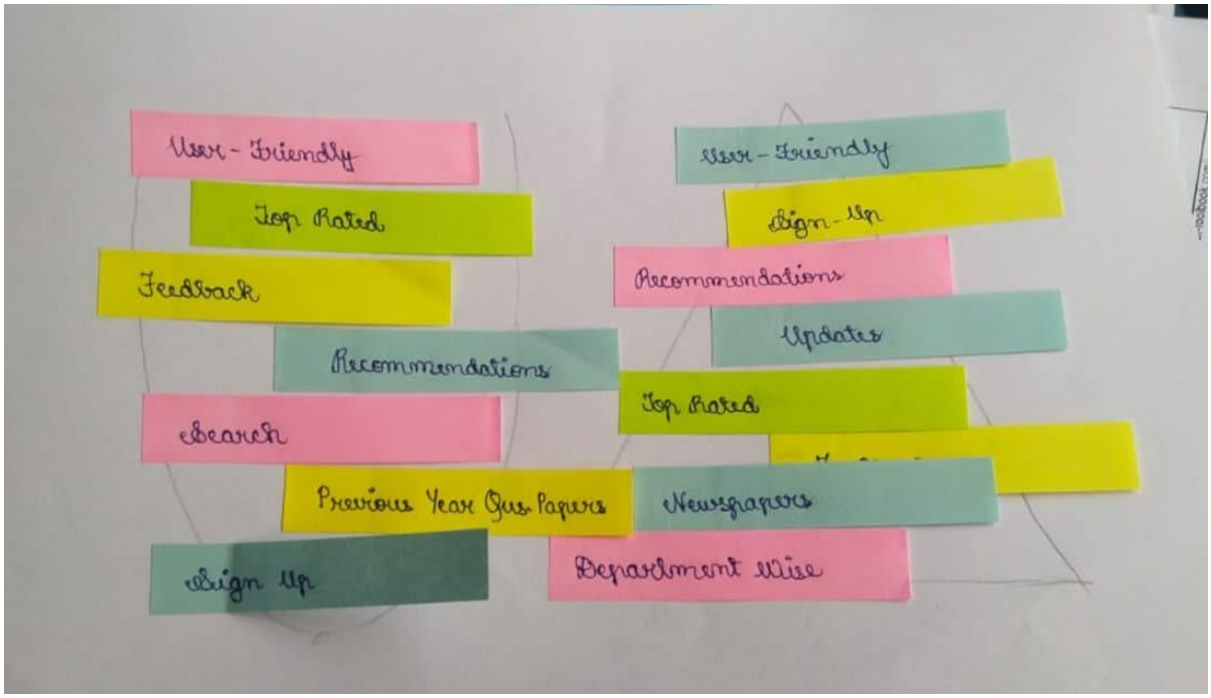


STATEMENT:

Developing a library management website, challenges related to user experience and functionality. Users currently face issues in efficient navigation, resource discovery, and accessibility. The existing interface lacks responsiveness, hindering optimal user interactions. To address these challenges, our goal is to create a user-friendly front-end solution that streamlines navigation, enhances search capabilities, and ensures accessibility across various devices. By prioritizing an intuitive design and responsive layout, we aim to improve the overall user experience, making our library management website a seamless and accessible platform for patrons and administrators alike.

4. IDEATE

4.1 Brainstorming



In the brainstorming phase of design thinking, diverse team members converge to cultivate a dynamic space for idea generation, devoid of judgment. This pivotal stage champions a liberated exchange of thoughts, welcoming even the most unconventional ideas. Quantity takes precedence over quality at this juncture, as the emphasis lies in exploring a myriad of perspectives and possibilities. The overarching objective is to ignite creativity, stimulate innovation, and unveil distinctive solutions to address the challenges outlined in the problem statement. Within this collaborative environment, team members actively build upon one another's ideas, fostering a culture of collective creativity. This collaborative synergy not only amplifies the range of concepts but also extends the boundaries of conventional thinking. The underlying philosophy is thatdiverse minds contribute unique insights, propelling the ideation process beyond predictable paths. The culmination of this brainstorming phase yields a rich collection of ideas, serving as a robust foundation for subsequent refinement and development in the broader design process.

4.1 Brainstorming Session Report

READEASE, A library Management System

Participants:

1. D. Pardha Shankar (Project Manager)
2. Sk. Ahmed, V. Bhargav (Developers)
3. R. Sai Kiran, B. Ravi Kiran (UX/UI Designers)
4. G. Satvika, Y. Chiru Babu (Data Administrators)
5. B. Annapurna, U. Arya (Documentation)

Objective:

The objective of the brainstorming session is to gather ideas and outline the key features and functionalities for the development of a library management system website.

Agenda:

1. Identifying User Requirements
2. Feature Prioritization
3. Design Considerations
4. Database Structure
5. Development Approach

Summary of Discussion:

1. Identifying User Requirements:

- We need to cater to both librarians and library patrons.

- Librarians require features for managing books, issuing/renewing books, tracking inventory, generating reports, etc.

- Patrons need features for searching books, checking availability, reserving books, and managing their accounts.

- User-friendly interfaces are essential for both librarians and patrons.

2. Feature Prioritization:

- Basic features such as book search, user registration/login, and book borrowing should be prioritized.

- Advanced features like book recommendation, fine management, and integration with digital resources can be considered for future updates.

- Mobile responsiveness and accessibility features should be prioritized to ensure usability for all users.

3. Design Considerations:

- The design should be clean, intuitive, and easy to navigate.

- A simple yet effective search bar prominently placed on the homepage for quick book searches.

- Clear categorization of books (by genre, author, popularity, etc.) to aid in browsing.

- Interactive features like book previews, reviews, and recommendations to enhance user engagement.

4. Database Structure:

- The database should store information about books (title, author, genre, ISBN, availability), users (name, contact info, borrowing history), and transactions (issued books, due dates, fines).

- Relational database model with tables for books, users, transactions, etc., ensuring data integrity and efficient retrieval.

- Regular backups and security measures to protect sensitive user data.

5. Development Approach:

- Agile methodology with iterative development cycles to allow for flexibility and continuous improvement.

- Regular feedback loops involving librarians and patrons to ensure the system meets their needs.

- Integration of APIs for external services (book databases, online payment systems) to enhance functionality and convenience.

Next Steps:

- Create a detailed project plan with timelines and milestones.

- Assign tasks to team members and establish communication channels.

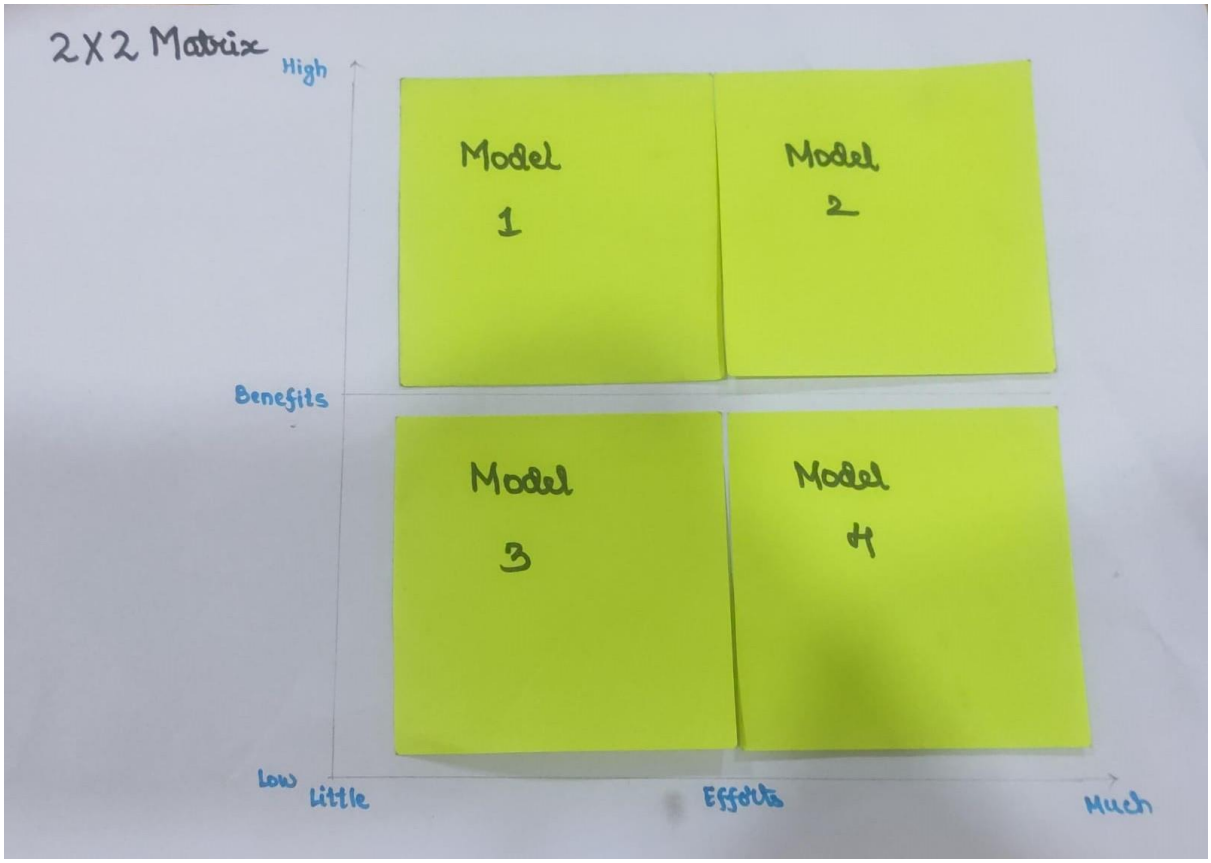
- Begin development, focusing on implementing core features first.

- Conduct user testing and gather feedback for refinement.

Conclusion:

The brainstorming session laid the groundwork for the development of a robust library management system website. By prioritizing user needs, adopting a user-centric design approach, we aim to deliver a high-quality system that enhances the library experience for both librarians and patrons.

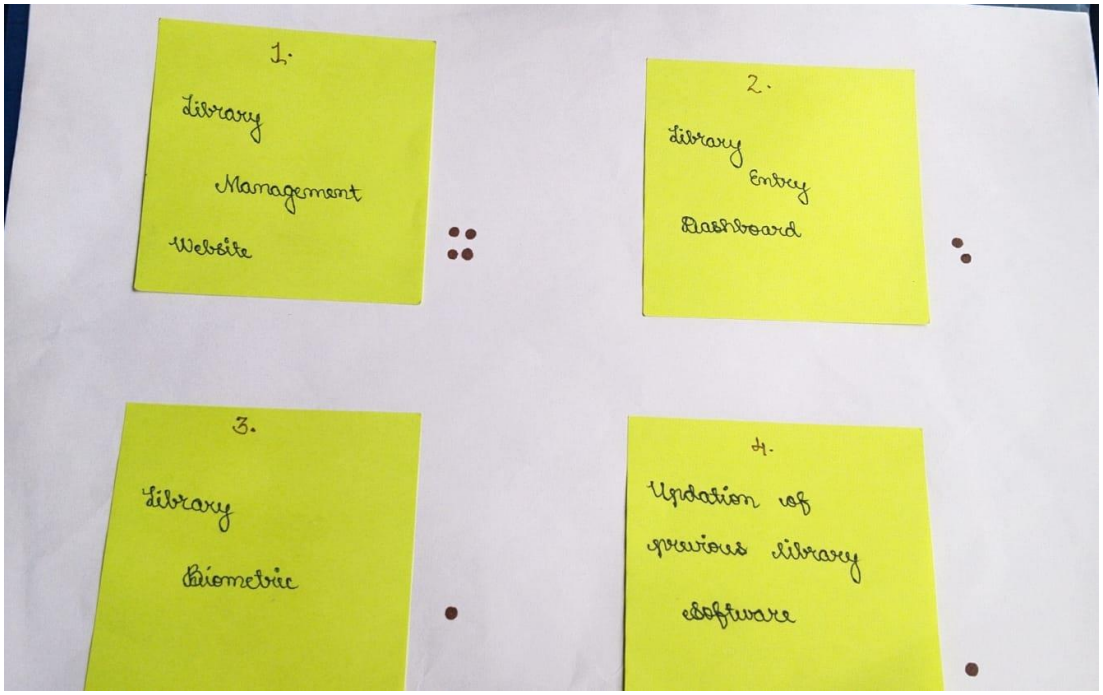
4.2 2x2 Matrix



The 2x2 matrix in design thinking is a powerful visual tool that facilitates the categorization of ideas or solutions based on two opposing criteria, typically depicted along the horizontal and vertical axes. Consisting of four quadrants, this matrix serves as a practical framework for prioritization and decision-making within a design context. Consider a classic example using the axes of “Feasibility” (Can we build it?) and “Desirability” (Do people want it?). In this scenario, the matrix unfolds into four distinct

quadrants, each with its own strategic significance. The top-left quadrant, often termed the “Win Zone,” encompasses ideas or solutions that score high on both desirability and feasibility. These are the optimal opportunities, aligning with user needs while remaining realistic to implement. They represent the sweet spot for prioritization, as they promise high value solutions that resonate with users and are achievable within practical constraints. Moving to the top-right quadrant, we encounter the “Dream Zone. Here, ideas or solutions are highly desirable to users but currently deemed infeasible. This quadrant encourages teams to explore ambitious concepts that may necessitate innovation or advanced technology. While these may present challenges, they also hold the potential for groundbreaking solutions, pushing the boundaries of what is currently achievable. Descending to the bottom-left quadrant, we find the “Safe Bet.” In this space, ideas or solutions are feasible but lack desirability among users. These options may be practical, meeting operational criteria, but they risk falling short in capturing the enthusiasm or engagement of the target audience. This quadrant urges teams to consider whether the lack of user appeal outweighs the practicality of implementation. Finally, the bottom-right quadrant is the “Risky Zone.” Here, ideas or solutions neither align with user desires nor are currently feasible. This quadrant highlights low-priority options that pose both implementation challenges and a lack of user interest. It serves as a cautionary area, signalling concepts that may be impractical or inappropriate for further pursuit. By placing ideas or solutions into these quadrants, the 2x2 matrix enables teams to focus on the most promising opportunities within the “Win Zone” while evaluating the associated levels of risk and innovation across different concepts.

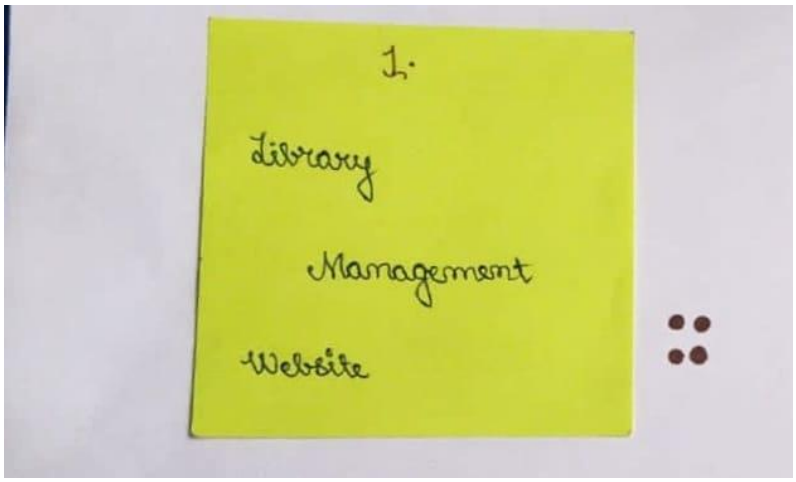
4.3 Dot Voting

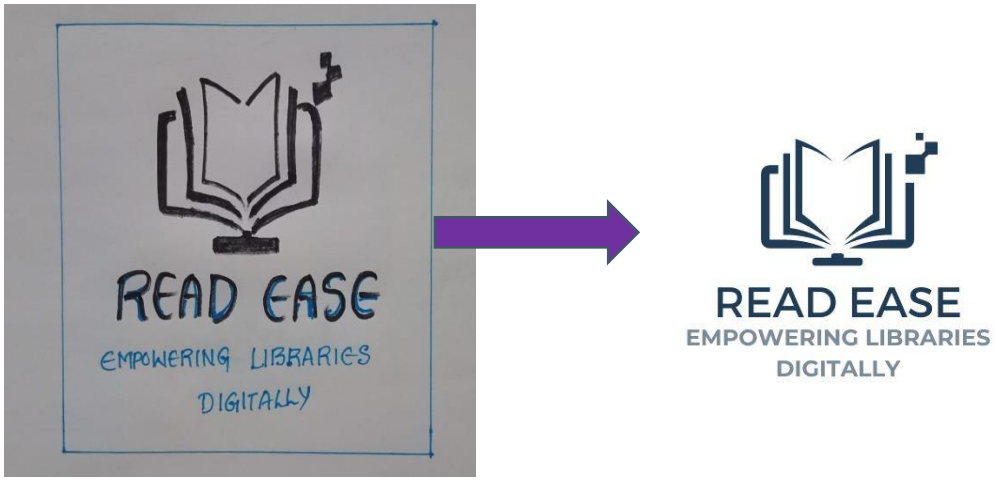


Dot voting is a participatory decision-making technique widely employed in design thinking. In this collaborative approach, participants are allocated a specific number of dots, typically in the form of stickers or markers, to vote on various ideas or solutions. Everyone strategically places their dots on the concepts they find most appealing or impactful, creating a visual representation of collective preferences. This method streamlines the decision-making process by providing a tangible way for participants to express their preferences. By visually highlighting the concepts with the highest number of votes, dot voting promotes consensus-building among team members.

4.4 Finalized cluster of Ideas.

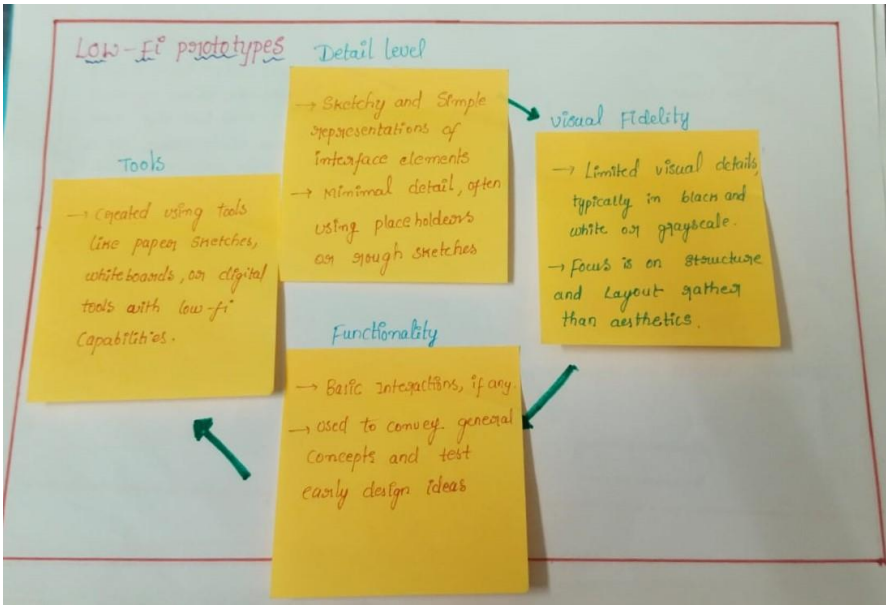
By visually highlighting the concepts with the highest number of votes, dot voting promotes consensus-building among team members. Dot voting is particularly valuable for its simplicity and efficiency. It enables teams to swiftly prioritize ideas, guiding further development with a focus on the concepts that resonate most widely. This method not only accelerates decision-making but also fosters a collaborative environment where the collective wisdom of participants directs the design process, ensuring that the most promising ideas move forward for detailed exploration and refinement.





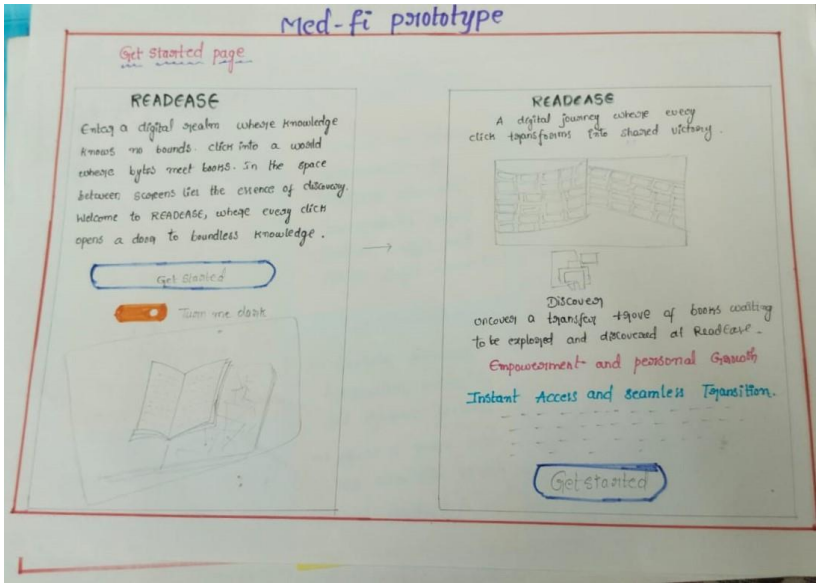
5. PROTOTYPING

5.1 Low-fi Prototypes



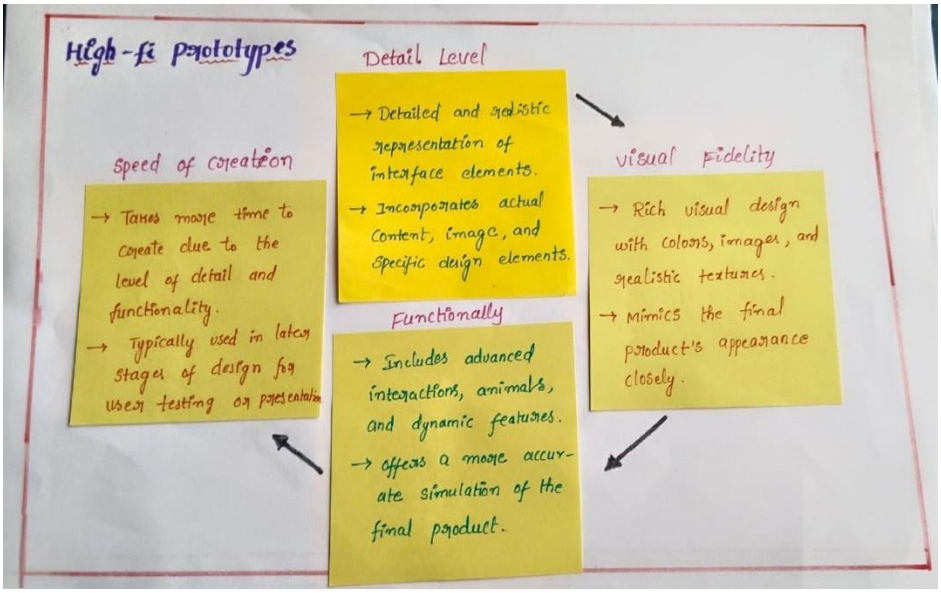
Low-fi prototypes, or low-fidelity prototypes, serve as simplified representations of design concepts, created using basic materials like paper, sketches, or digital tools. These prototypes aim to convey the fundamental functionality and structure of a design swiftly. Unlike their more detailed counterparts, high-fidelity prototypes, low-fi prototypes are specifically employed in the early phases of the design process to rapidly explore and communicate ideas. By offering a quick and cost-effective means to bring ideas to life, low-fi prototypes facilitate early testing, feedback gathering, and concept validation. Their simplicity allows designers to focus on the core aspects of a concept, enabling stakeholders to visualize and understand the fundamental elements without getting caught up in intricate details. Designers can make swift iterations based on feedback, ensuring that the concept aligns with user needs and project goals before committing extensive time and resources to more refined designs. In essence, low-fi prototypes are indispensable tools for efficiently advancing through the early stages of design exploration and evaluation.

5.2 Med-Fi Prototype



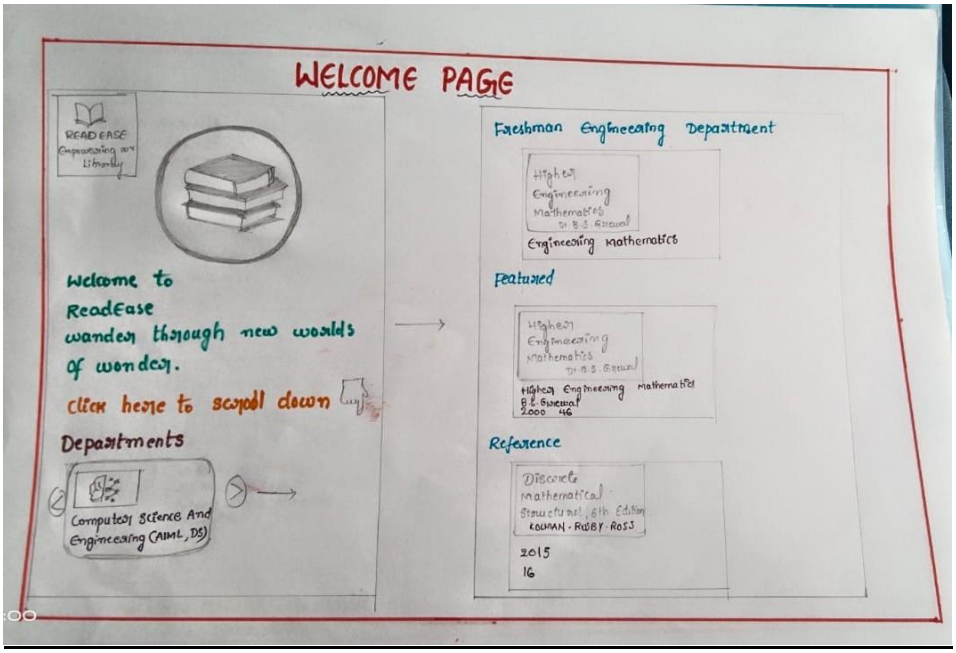
A Medium-fidelity (medium-fi) prototype occupies a middle ground in the spectrum of design representations, balancing between the simplicity of low-fidelity sketches and the refinement of high-fidelity designs. This type of prototype offers a more detailed and realistic visualization of a product or interface compared to basic sketches but stops short of the polished and interactive nature of high-fidelity prototypes. In a medium-fi prototype, designers incorporate concrete visual elements like colours, images, and basic interactions. This level of detail allows stakeholders and users to gain a more comprehensive understanding of the intended design without the extensive time and resources required for a fully polished product. It serves as a crucial intermediate step in the design process, offering sufficient detail for testing and feedback while maintaining the flexibility for relatively quick iterations. The medium-fidelity prototype strikes a strategic balance, facilitating effective communication of design concepts and enabling valuable testing and feedback loops. Its role as a transitional stage allows designers to refine ideas without the commitment of final product development, making it an essential tool in the iterative and user-centric approach of design thinking.

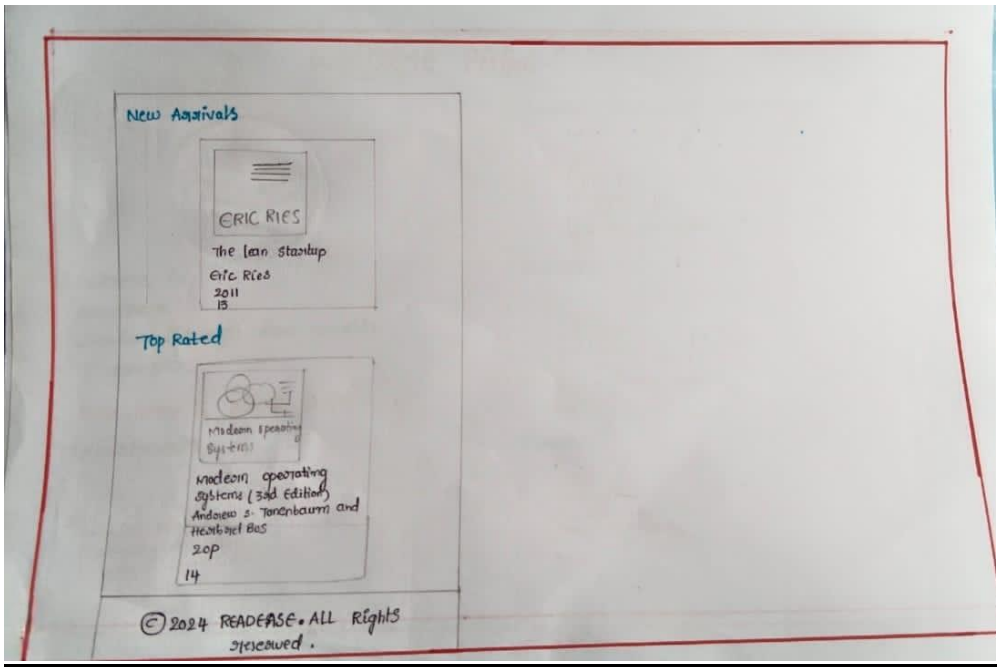
5.3 Hi-Fi prototypes



Hi-Fi prototypes, short for high-fidelity prototypes, represent an advanced stage in the design process, offering intricate and detailed depictions of a product or design. In contrast to low-fidelity prototypes, which focus on basic functionality, Hi-Fi prototypes go a step further by closely mimicking the final product's appearance and interactions. They incorporate polished graphics, precise layouts, and interactive elements, providing a realistic user experience that mirrors the envisioned product. Particularly valuable in the later stages of design, Hi-Fi prototypes serve as a crucial tool for visualizing the final product with a high degree of accuracy. These prototypes play a pivotal role in user testing, as their close resemblance to the product allows users to provide more precise feedback on aspects such as look, feel, and functionality. The level of detail in Hi-Fi prototypes transforms them into powerful instruments for communicating design intent effectively. Moreover, they facilitate the approval process by enabling stakeholders to closely examine and comprehend the proposed design before transitioning into the development phase. In essence, Hi-Fi prototypes serve as a bridge between design vision and execution, ensuring a comprehensive understanding of the final product and promoting successful collaboration between designers and stakeholders.

5.4 Final Working Prototype





6. TESTING

6.1 Feedback Capture Grid

I Wish:

- Better delavaration.
- Could be implemented as mobile application.
- Books could be highlighted mare.

Ideas:

- I would suggest to use some bootstrap icons.
- Allow users to give book reviews and ratings.
- Include separate search bar for department and books.

- Is backend included into that?
- Does the resources meet the syllabus standards of affiliated colleges?
- Will the books get updated with latest edition? How long would it take?

Questions:

- I like the animations.
- Book representation.
- Design features and accessibility.

I Like:

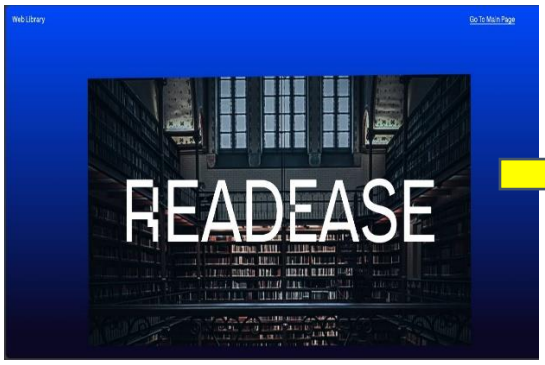
6.2 Testing Summary

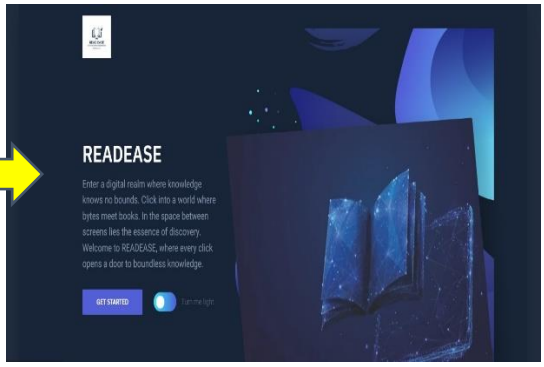
The library management website underwent comprehensive testing to ensure optimal functionality and user experience. Various aspects were scrutinized, including navigation, search functionality, book checkout process, user authentication, and system responsiveness. Throughout the testing phase, potential bugs and glitches were identified and promptly addressed to enhance the website's performance and stability. Additionally, user feedback was incorporated to fine-tune features and improve overall usability. As a result of rigorous testing, the library management website now boasts seamless operation, streamlined workflows, and robust security measures, ensuring a hassle-free experience for both librarians and patrons alike.

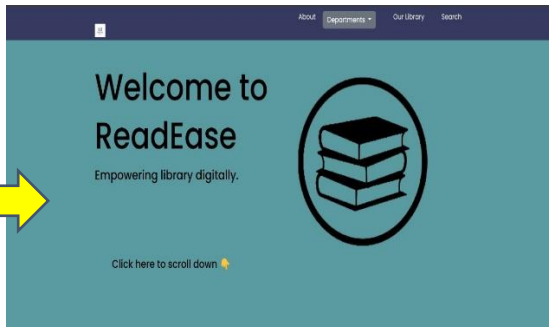
The testing summary for searching books on the library management website involved comprehensive assessments to ensure efficient and accurate search functionality. Functionality testing verified the search feature's responsiveness and accuracy in retrieving relevant results based on various search queries, including title, author, genre, and keywords. Compatibility testing confirmed consistent performance across different browsers and devices, ensuring users can access the search feature seamlessly. Usability testing focused on the intuitiveness of the search interface, including clear instructions and helpful feedback for users. Performance testing assessed the speed of search queries and result loading times, optimizing for fast and efficient retrieval of book information.

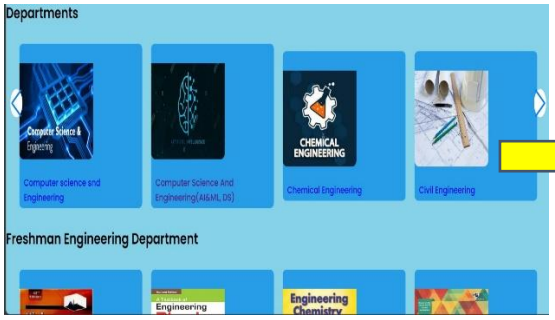
6.3 Modification to the Prototype after Testing

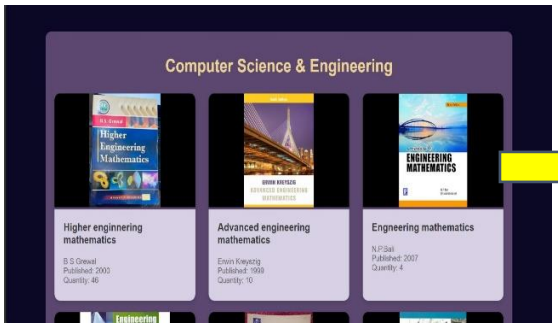
BEFORE **AFTER**

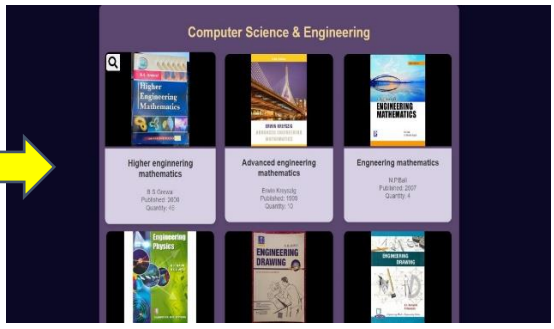




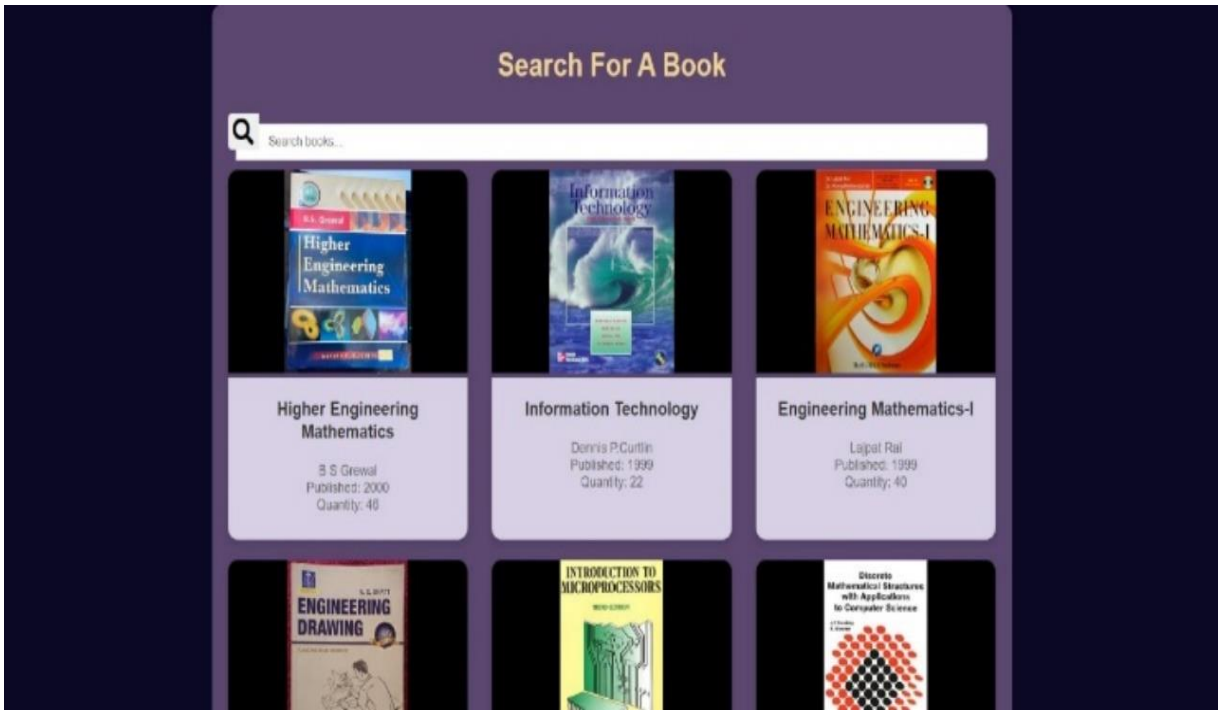








New feature: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Engineering Mathematics-I
Lajpat Rai
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ENGINEERING DRAWING
INTRODUCTION TO MICROPROCESSORS

7. Conclusions

7.1 Conclusions:

In conclusion, the library management website represents a successful application of Design Thinking (DT) principles, serving as an innovative solution to modernize library operations and enhance user experience. Throughout its development and testing phases, DT principles guided the iterative process, ensuring a user-centric approach at every step. By empathizing with users' needs, defining clear objectives, ideating creative solutions, prototyping, and testing iteratively, the website evolved into a robust platform that addresses the diverse needs of librarians, students, faculty, and other stakeholders. The website's features, including intuitive search functionality, secure user authentication, and reservation options, reflect the iterative refinement based on user feedback and continuous learning. Through the collaborative efforts of cross-functional teams and stakeholders, the website embodies the essence of Design Thinking, delivering a solution that not only meets but exceeds user expectations, ultimately enhancing the educational experience within the institution. The library management website serves as a vital platform for librarians, students, faculty, and other members of the educational institution to efficiently manage and access library resources. Developed with the aim of modernizing library operations and enhancing user experience, the website offers a range of features including robust search functionality, user authentication, and reservation options for popular items.

APPENDIX

ACTIVITY SHEETS