KOLEJ POLY-TECH MARA ALOR SETAR
ICT RESERVATION SYSTEM

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KOLEJ POLY-TECH MARA ALOR SETAR

2023

TTS3293

IT PROJECT

PROJECT REPORT

(KOLEJ POLY-TECH MARA ALOR SETAR ICT RESERVATION SYSTEM)

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30 OCTOBER 2023

DECLARATION

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I hereby declare that this project paper is the result of my own work, except for quotations and summaries that duly acknowledged.

Signature: Date: 28October 2023 (MUHAMMAD WAFRIHAZIQ BIN MOHD

NOR MUHARAM)

ACKNOWLEDGEMENT

I completed this project thanks to the assistance I have been getting. My ideas for KPTMAS ICT RESERVATION SYSTEM in Malaysia were considerably aided by my project supervisor, Miss Marliana Mohamad, whose counsel and recommendations were invaluable. I also value the time invested in coaching and correcting my errors. I would also like to thank Miss Marliana Mohamad for guiding me through completing this website, report writing, and providing sufficient resources and data. Thank you to my family, for whom I am immensely thankful, who continues to encourage and motivate me until the very end, and to my professors and friends, who provide me with support, inspiration, and involvement in this project.

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1. INTRODUCTION AND BACKGROUND

STUDY 1.1 Introduction of Project

In the rapidly evolving landscape of education, the infusion of technology has become indispensable for fostering innovative learning environments. However, the effective management of Information and Communication Technology (ICT) resources within academic institutions presents an intricate challenge. It is against this backdrop that the KPTMAS ICT Reservation System emerges as a pioneering solution, poised to revolutionize the way we interact with and utilize technological assets

within our academic community.

The advent of digital havening tools, collaborative platforms, and research intensive applications has underscored the need for a sophisticated reservation system that transcends the limitations of traditional resource management. The existing paradigm, characterized by manual booking processes and a lack of real-time visibility, has proven inadequate in meeting the burgeoning demand for seamless access to ICT facilities.

In the absence of a centralized and efficient reservation system, the academic community faces a myriad of challenges. Resource conflicts, stemming from a lack of coordination and real-time information, have become a pervasive issue. The manual nature of current reservation processes introduces inefficiencies, resulting in underutilization or overcrowding of facilities. Moreover, the communication gap between users and administrators, coupled with a lack of accountability mechanisms, has led to a suboptimal utilization of valuable ICT resources.

1.2 Problem Statement

In the current landscape of our academic institution, the management of Information and Communication Technology (ICT) resources poses a multifaceted challenge. The absence of a centralized and efficient reservation system has led to a series of issues that hinder the optimal utilization of these critical assets.

The lack of a structured reservation system has resulted in frequent conflicts over the use of ICT resources such as computer labs, projectors, and other technology facilities. This leads to inefficiencies, frustration among users, and a suboptimal allocation of resources.

The existing manual reservation processes are time-consuming and prone to errors. Faculty, staff, and students often face challenges in coordinating schedules, resulting in underutilization of resources or, conversely, overcrowded facilities.

A dearth of real-time information on resource availability has created a communication gap between users and administrators. This lack of transparency often leads to misunderstandings, missed opportunities, and a general sense of dissatisfaction among stakeholders.

Without a centralized tracking mechanism, accountability for resource usage is compromised. The absence of a comprehensive record system makes it difficult to identify patterns, trends, or address instances of misuse effectively.

The absence of data-driven insights into ICT resource usage hampers effective planning for future needs. Administrators are currently unable to make informed decisions regarding resource allocation, leading to suboptimal planning and potential budgetary challenges.

1.3 PROJECT OBJECTIVES

- To make an online reservation process •

To make administrative tasks easier • To

keep track ICT equipment

1.4 PROJECT SCOPE AND LIMITATIONS

Scope:

- KPTMAS Students
- KPTMAS IT Department Administrations •

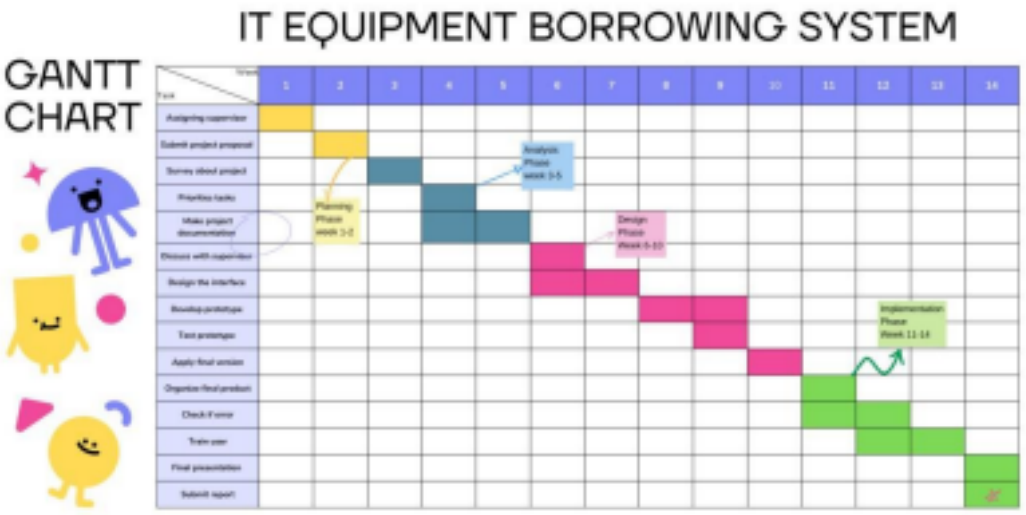
KPTMAS LECTURER

Limitations:

- Only can be accessible online
- Free version of Appsheet

CHAPTER 2: PLANNNING AND ANALYSIS

2.1: PROJECT PLANNING – GANTT CHART



Week 1: Assigning supervisor

- Assigned a supervisor to guide me, namely Miss Marliana Mohamad

Week 2: Submit proposal

- Explain the overall idea/concept of my project.
- Explain problem that contributes to the development of my project.
- List all the complete objectives to be accomplished.
- Explanation on requirement of the project in details specifically for each
- component and software.
- Making project schedule to make everything organize

Week 3: Survey about project

- Made a survey about this system, and got 22 respondents

Week 4: Priority tasks

- Start by assessing all the tasks on to-do Understand the deadlines, dependencies, and objectives associated with each task.

Week 5: Discuss with supervisor

- gather all relevant project documentation, such as project briefs, requirements, and any initial plans.
- Familiarize yourself with the project's objectives, scope, and timeline.

Week 6: Design the interface

- Begin by understanding the purpose of the website. What are the goals and objectives that want to achieve with the website's interface

Week 7-9: Develop prototype and test prototype

- Conduct usability testing to ensure that the website is user-friendly and intuitive
- Verify that the website is responsive and adapts to different screen sizes and devices, including mobile phones and tablets.
- Review the website to ensure it meets all project requirements and objectives.

Week 10: Apply final version

- Creating the final version of a website involves a series of steps to ensure that it's ready for public access.

Week 11-13: Check if error

- Test all interactive features and functions of the system • Gather feedback from users or stakeholders to identify any errors or issues they may have encountered while using the website.

Week 14: Final presentation and submit report

- Present the website to supervisor and accessor
- Submit report

2.2 REQUIREMENT ANALYSIS

Question 1:

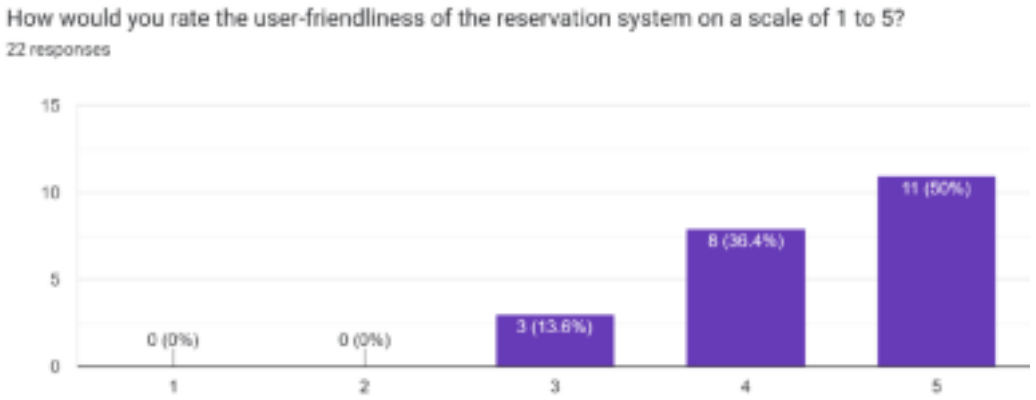
The 100% "yes" vote suggests that users find the system effective in streamlining processes and eliminating the hassles associated with traditional paperwork. This could be attributed to factors such as convenience, speed, and possibly improved accuracy. The unanimous agreement also indicates a high level of satisfaction among users, which is a positive sign for the efficiency and user-friendliness of the system. Overall, it seems like the online reservation system has successfully met the needs and expectations of its users.

Question 2:

With 11 people rating the reservation system a perfect 5, it's safe to say that a significant majority finds it extremely user-friendly. The additional 8 people giving it a rating of 4 further reinforces the positive sentiment, suggesting that the system is consistently well-received.

While 3 people rated it a 3, the overall trend indicates a strong satisfaction with the user-friendliness of the reservation system. The majority giving a top rating of 5 suggests that users likely find the system intuitive, easy to navigate, and overall a positive experience. It seems like the system is doing a great job in providing a

user-friendly interface for reservation processes.



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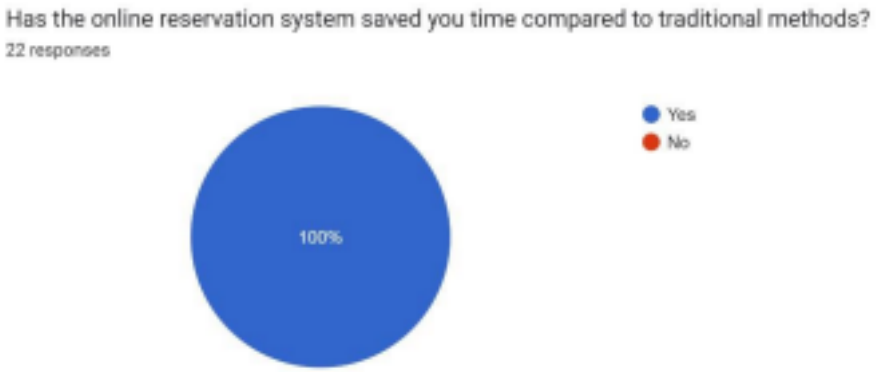
Question 3:

This is a strong indicator of the system's efficiency and effectiveness in streamlining processes. Users likely appreciate the convenience and speed offered by the online system, contributing to a more time-efficient experience.

The unanimous agreement also implies a high level of satisfaction among users when it comes to the time-saving aspect of the reservation system. Overall, it seems like the transition to an online reservation system has been a successful move in terms of time management and operational efficiency.



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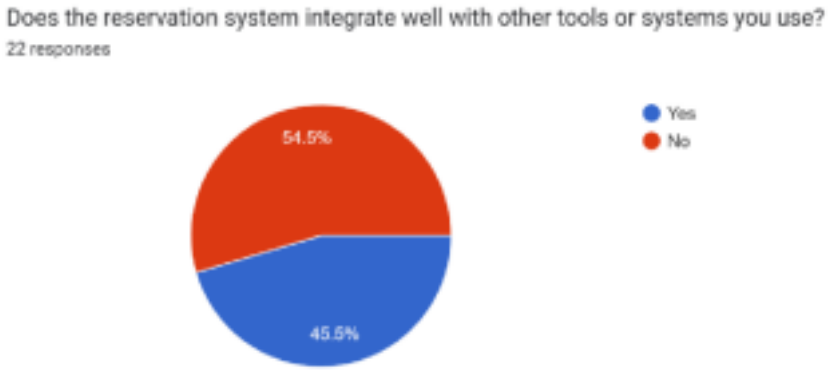
Question 4:

The results show a divided opinion on the integration aspect of the reservation system. The 54.5% who voted "no" may indicate that a significant portion of users face challenges or limitations in integrating the system with other tools or systems they use. This suggests there could be potential areas for improvement to enhance compatibility and streamline workflows for these users.

On the other hand, the 45.5% who voted "yes" suggest that a considerable portion of users find the current level of integration satisfactory. It's positive that nearly half of the users are content with how the reservation system interacts with other tools, indicating some success in creating a system that aligns with their needs.

To address the concerns of the majority, it could be beneficial to gather more specific feedback on the integration issues they are facing. This information could guide efforts to make targeted improvements and ensure a more seamless experience for all users.



Question 5:

With 9 people giving it a perfect 10, and an additional 5 and 5 people rating it a 9 and 8 respectively, the overall satisfaction level seems quite high.

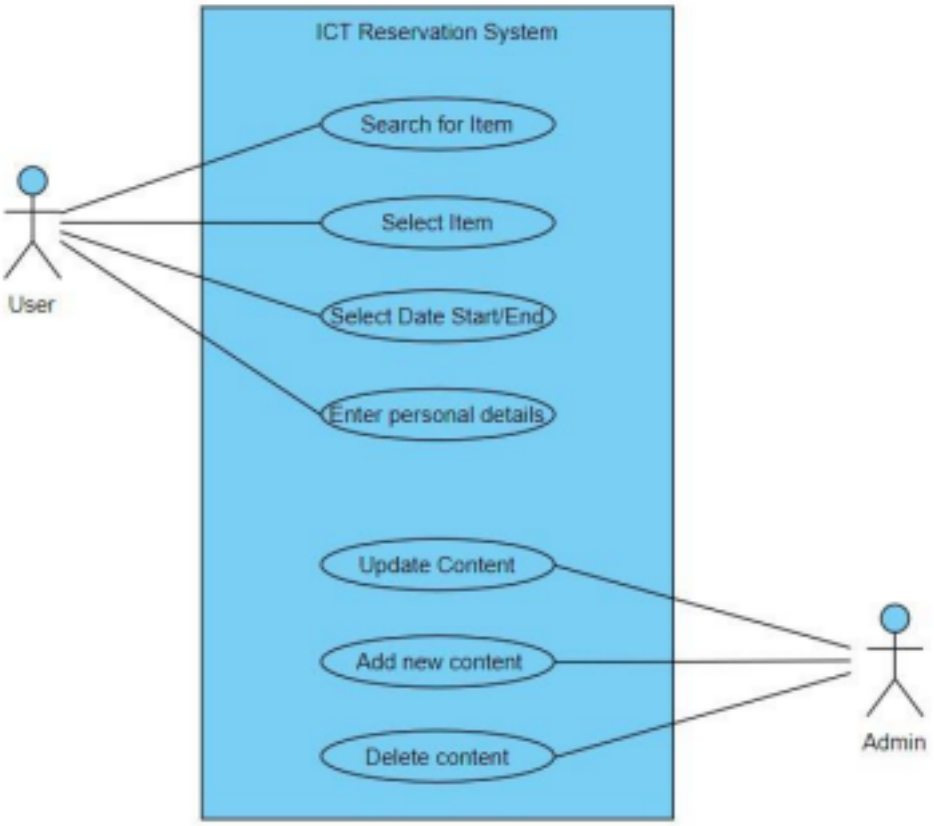
The fact that there's only one person each who rated it a 5, 6, and 7 suggests that these instances might be outliers or isolated cases of lower satisfaction. It could be worthwhile to explore the feedback from these individuals to understand specific

areas of concern or improvement.

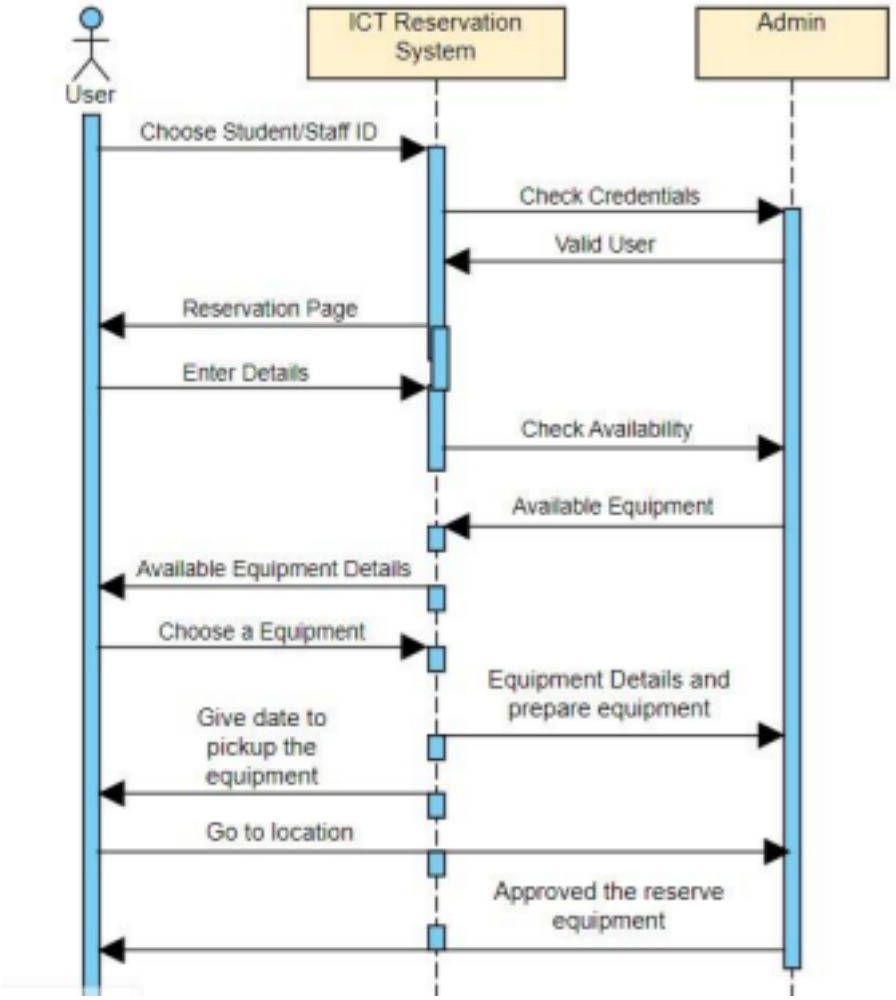
Overall, the majority of users expressing top ratings indicates that the online reservation system is generally well-received and effective in meeting user expectations.

2.3 SYSTEM ANALYSIS

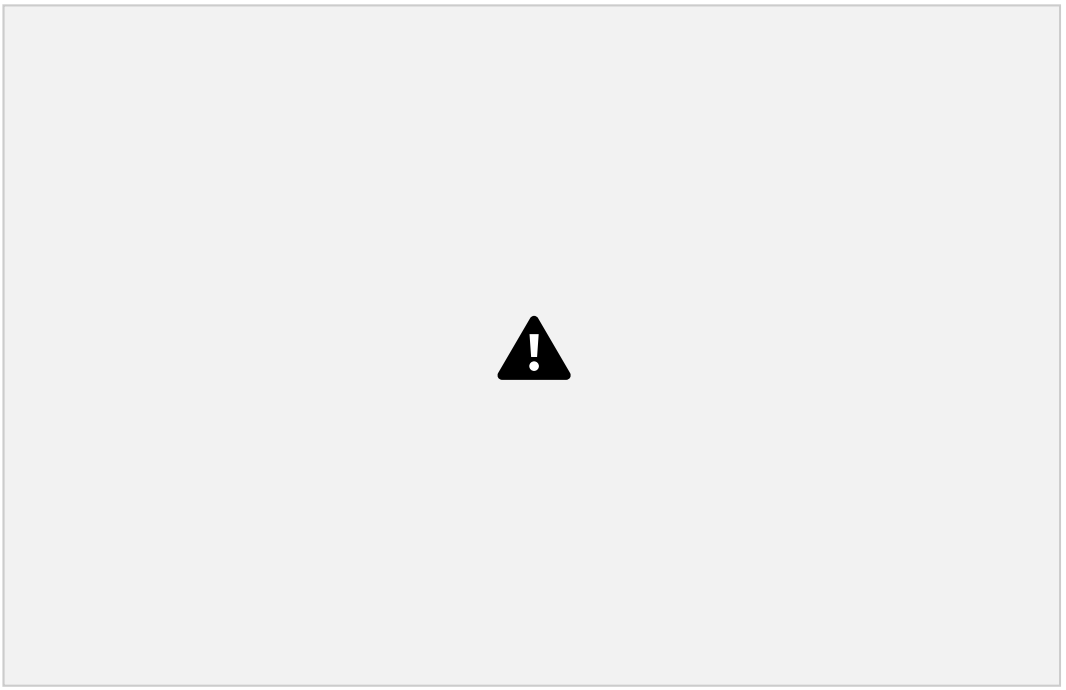
Use Case Diagram



Activity Diagram



Class Diagram



CHAPTER 3: DESIGN

3.1 SOFTWARE AND HARDWARE REQUIREMENT

Software Requirements

Data Source: Google Sheets, Excel, or a database like SQL.

AppSheet Account: Google account

Supported Browsers: Chrome, Firefox, and Safari are commonly used and supported

AppSheet Editor: A web-based interface. Ensure browser is up to date.

Subscription (if required): AppSheet offers different plans, including a free plan with limitations. Depending on your needs, you might need a subscription.

Hardware Requirements

My Device: Asus TUF F15

Windows 11 Home Single Language

Intel(R) Core(TM) i5-10300H CPU @ 2.50GHz 2.50 GHz

16.0 GB (15.8 GB usable)

04CABF66-5438-4895-BD07-FC42B671C962

00356-24577-97394-AAOEM

64-bit operating system, x64-based processor

No pen or touch input is available for this display

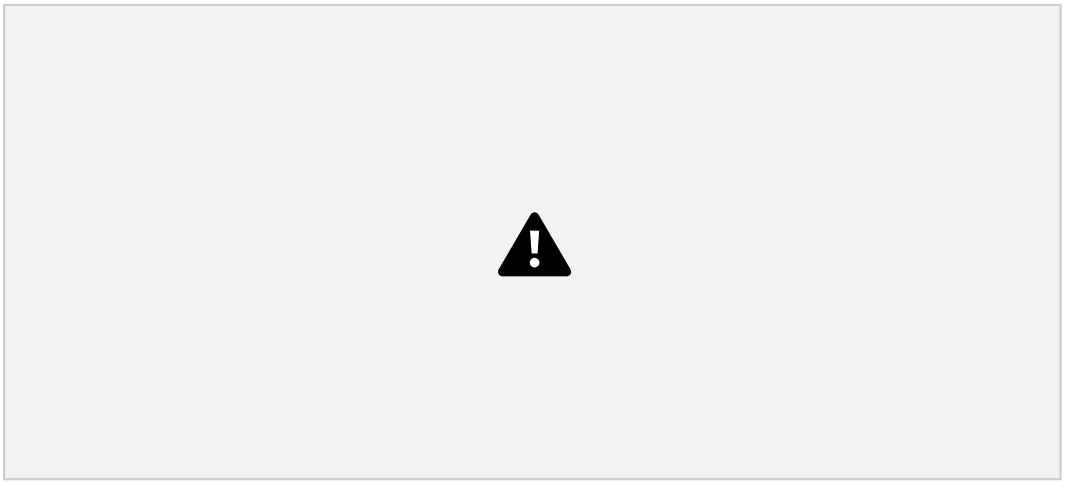
Web Browser: Google Chrome, Mozilla Firefox, Safari, and Microsoft Edge are commonly used and supported.

Internet Connection: Since AppSheet is a cloud-based platform, a stable internet connection is necessary for designing and syncing your apps.

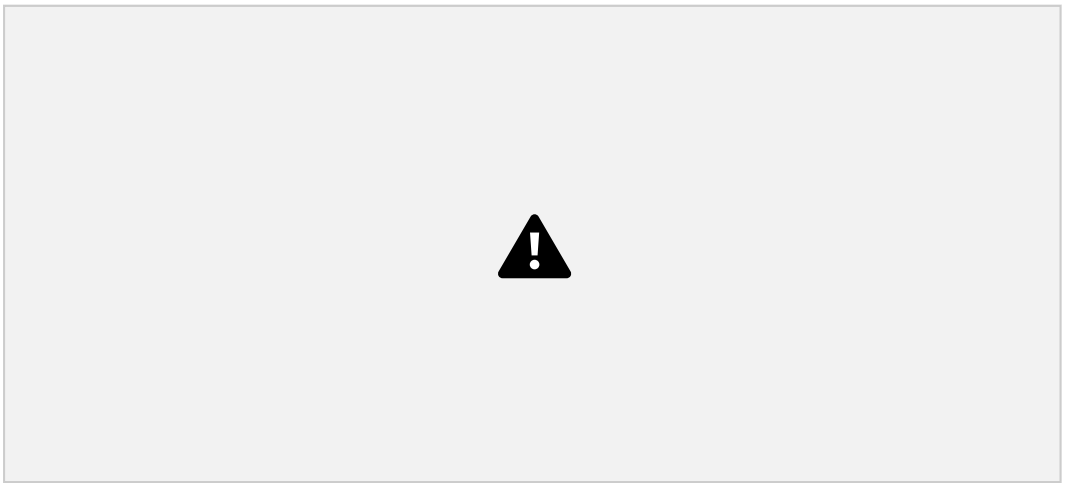
My Mobile Device (Redmi 9T): To test your apps, you'll need a mobile device running either iOS or Android. You can use the AppSheet Preview app for this purpose.

3.2 INTERFACE DESIGN

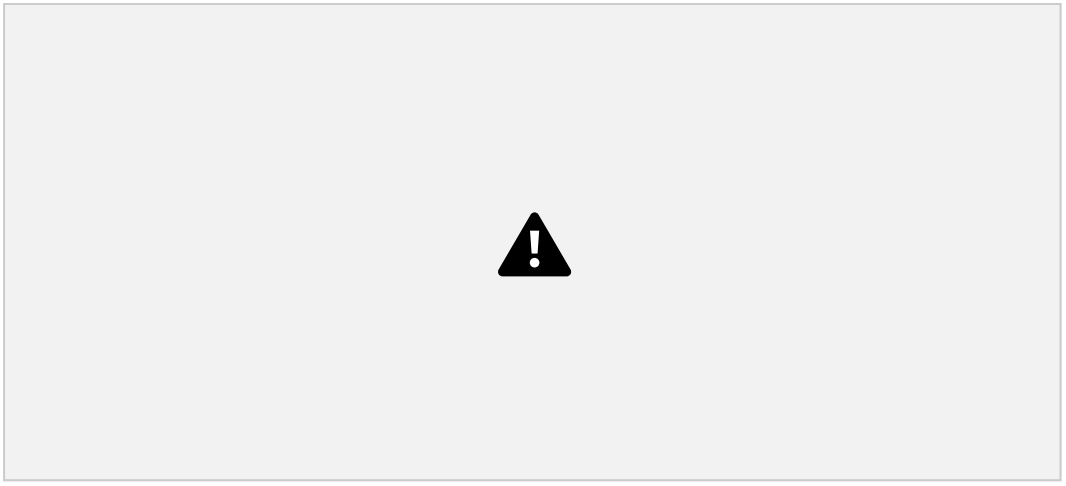
This is reservation page, here (admin page) you can manage, add, delete, edit and view the detail of the reserved item.



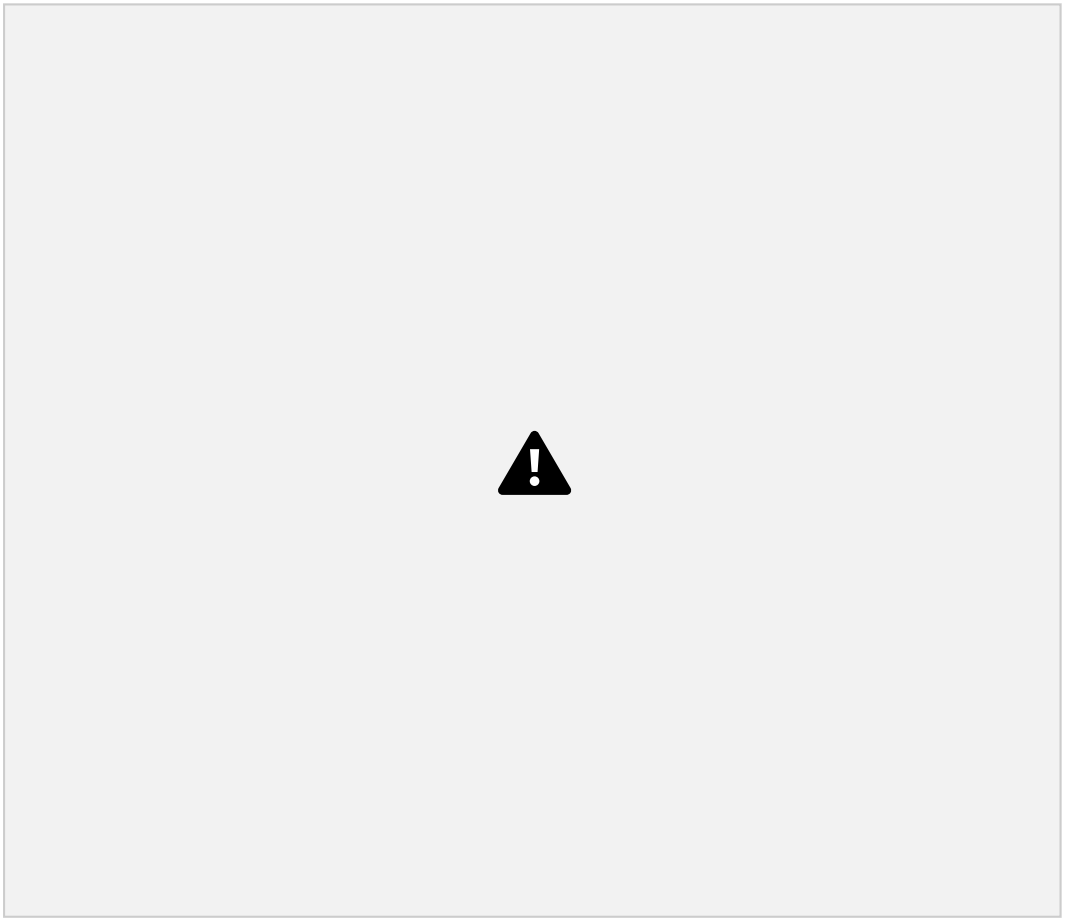
This is equipment page, here you can view how many view item have been reserved and admin can add, delete, edit the item.



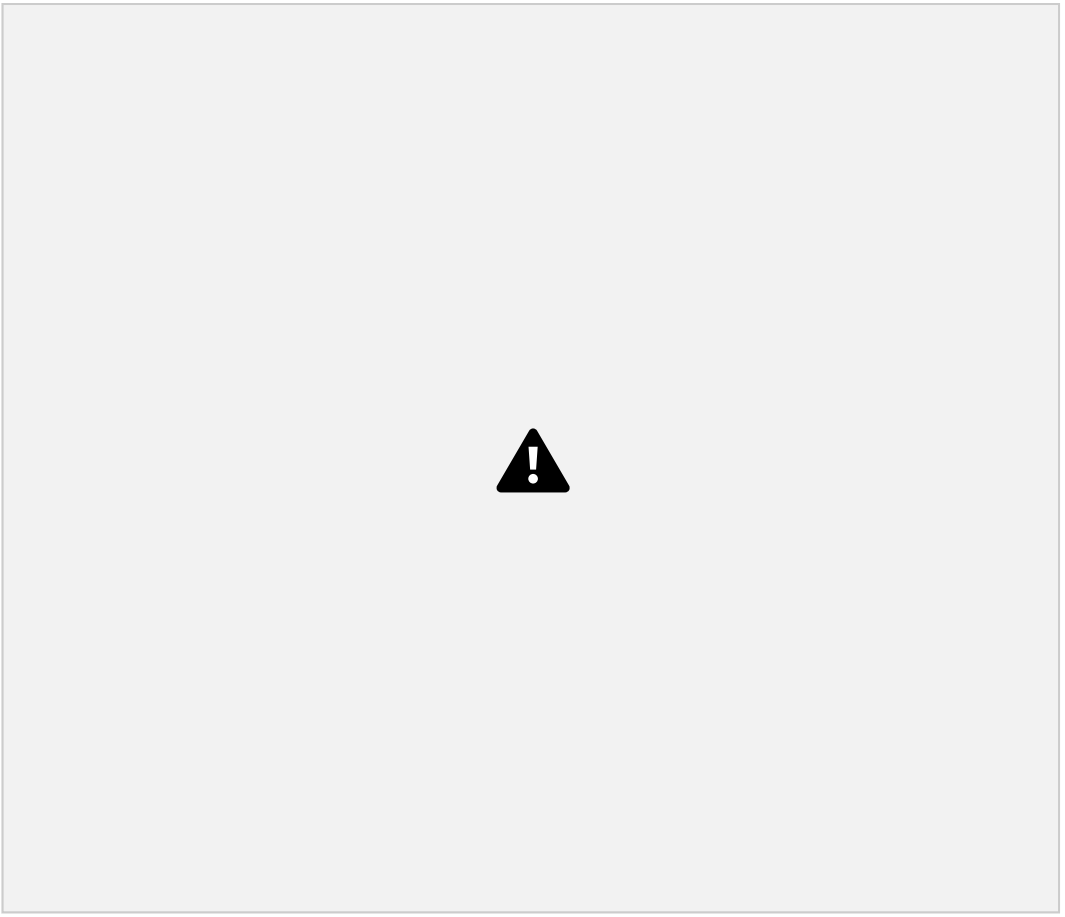
This is ID page, here you can add, edit, delete KPTMAS staff/student



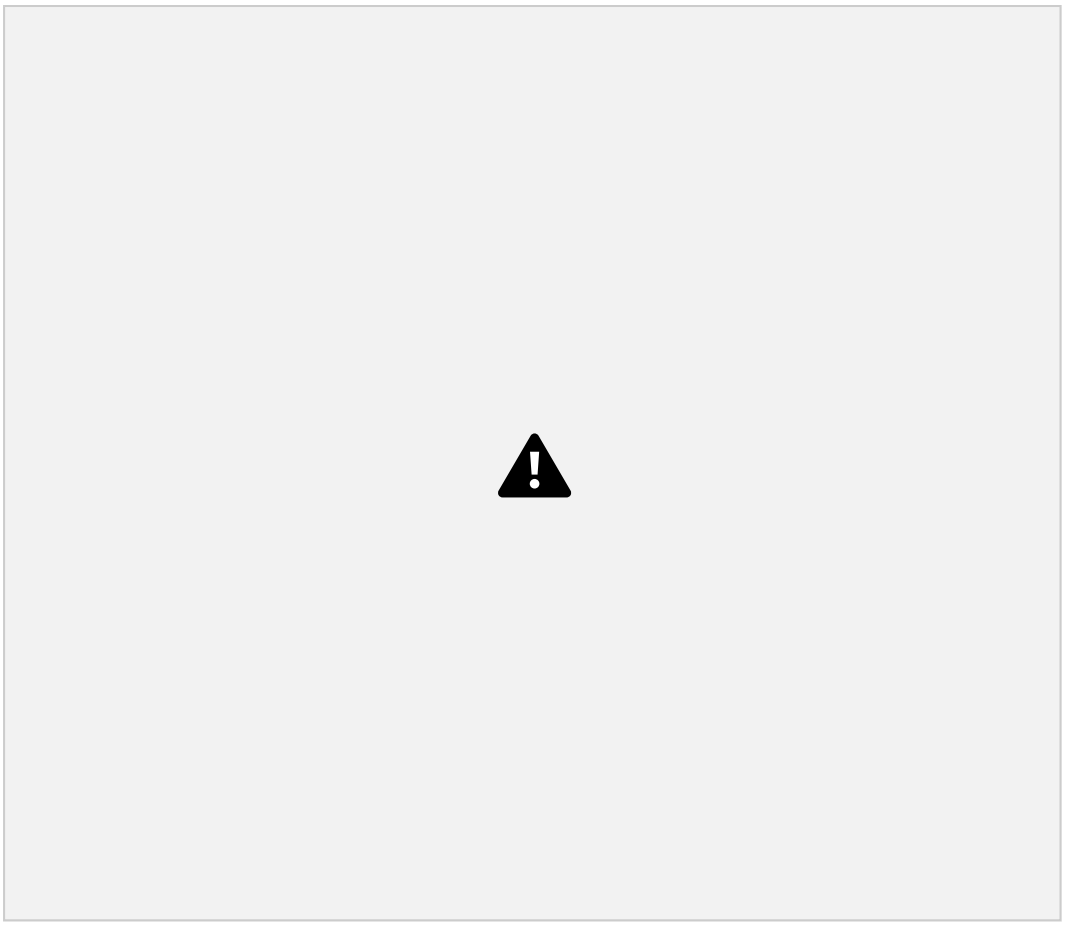
This is reservation page, you can see the process in more detail how the reservation being added



This is ID form, here you can see in detail how the ID process being added



This is Equipment Form, here you can see in detail how Equipment being added



CHAPTER 4: TESTING AND IMPLEMENTATION

4.1: TESTING AND IMPLEMENTATION

Testing:

1. Double-check app design in the AppSheet editor. Ensure all data sources, tables, views, and workflows are configured correctly.
2. Test app with various data scenarios to ensure that it handles different inputs and conditions appropriately.
3. Preview app on a mobile device to test the user interface and experience. Ensure that navigation is smooth and intuitive.
4. Set up workflows (automation), test them to make sure they trigger the intended actions.
5. Test app on different devices and screen sizes to ensure compatibility.
6. App involves sensitive data, double-check the security settings and test

user access controls.

Implementation:

1. Deploy app on the AppSheet platform. This involves making it accessible to your users.

2. Set up user access and permissions. Define who can view, edit, or add data in app.

3. Communicate with users about the new app, provide instructions for installation (if applicable), and offer any necessary training.

4. Implement monitoring tools to track app usage, identify potential issues, and gather user feedback.

5. Continue to monitor and gather feedback after the initial launch. Use this feedback to make iterative improvements to your app.

6. Provide documentation for users, including any FAQs, guides, or help resources they might need.

7. Establish a support system for users who may have questions or encounter issues.

CHAPTER 5: CONCLUSION

5.1 REFLECTION

This project took around 14 weeks to complete. By the completion of this assignment, I have gained several insights. I start with how laborious the website development process may be. As a developer, I must see situations from various angles and examine every possibility that may please the end users. This procedure involves broad general knowledge and solid problem-solving skills and may be time-consuming and stressful for novices with no prior experience. I have also gained a deeper understanding of various programming languages, such as the benefits and drawbacks of using certain languages for specific development, how libraries function and are developed, the differences in syntax, and several

other concepts I need clarification on. The main obstacles encountered in finishing this project are time constraints and a need for more competence in system development. The greatest obstacle was learning HTML, CSS and JavaScript programming languages. Due to a lack of time, I had to stray somewhat from the intended plan owing to the time I spent studying this issue. As a result, I could not incorporate certain features in the website, such as make administrators. This project is a success for me, as I have accomplished most of my objectives to introduce the retreat place. If I could redo the process, I would organize my time more effectively and prioritize the most critical aspects to add more features and make the website visually appealing.

5.2 RECOMMENDATION

Easy to Use:

No technical expertise required. Navigate effortlessly through the userfriendly interface.

Customizable:

Tailor the app to your specific needs. Personalize views, data, and more.

Feedback Matters:

We value your input! Use the in-app feedback form to share your thoughts and ideas.

5.3 Future Improvement

• User-Driven Feature Requests:

Implement a system for users to submit and vote on feature requests. This helps prioritize enhancements based on user needs and preferences.

• Offline Functionality:

Explore options for offline functionality. This can be especially valuable for users who need to access the app in areas with limited or no internet connectivity.

• Integration with Other Tools:

Consider integrating your app with other tools or services that your users commonly use. This could streamline workflows and enhance the overall user experience.

• Enhanced Reporting and Analytics:

Improve reporting capabilities within the app. Provide users with more advanced analytics and reporting features to extract valuable insights from their data.

• Automation Refinement:

Refine and expand automation features. This could include more advanced workflows, scheduled tasks, or automated notifications to further streamline processes.

• Enhanced Security Measures:

Stay vigilant about security. Regularly update security measures to protect user data and privacy. Consider implementing additional security features as needed.

• Performance Optimization:

Continuously optimize the app's performance. This involves improving speed, responsiveness, and overall efficiency to provide a seamless user experience.

• User Training Resources:

Develop additional training resources. This could include video tutorials, interactive guides, or live training sessions to help users make the most of the app's features.

• User Onboarding Enhancements:

Enhance the user onboarding process. Make it even more intuitive for new users to get started with the app, reducing the learning curve.

• Scalability Planning:

Plan for scalability. If your user base is expected to grow, ensure that your app can handle increased data loads and user activity without sacrificing performance.

• Regular User Feedback Sessions:

Conduct regular feedback sessions with users. Actively seek their input on the app's usability, features, and any pain points they may have encountered.

• Accessibility Features:

Ensure your app is accessible to users with disabilities. Implement features that enhance accessibility, such as screen reader compatibility and keyboard navigation.

• AI and Machine Learning Integration:

Explore opportunities for integrating AI or machine learning features. This could include predictive analytics, smart recommendations, or automated data categorization.

• Cross-Platform Compatibility:

If not already implemented, consider ensuring cross-platform compatibility. This allows users to seamlessly transition between different devices while maintaining a consistent experience.

REFERENCES

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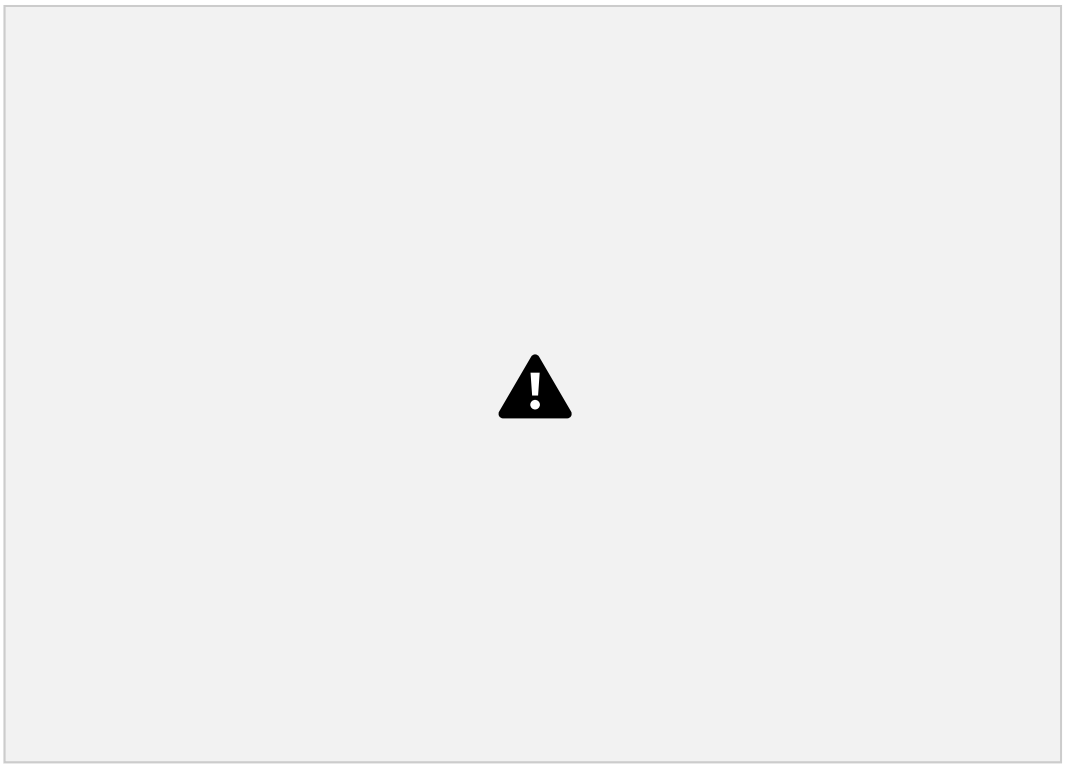
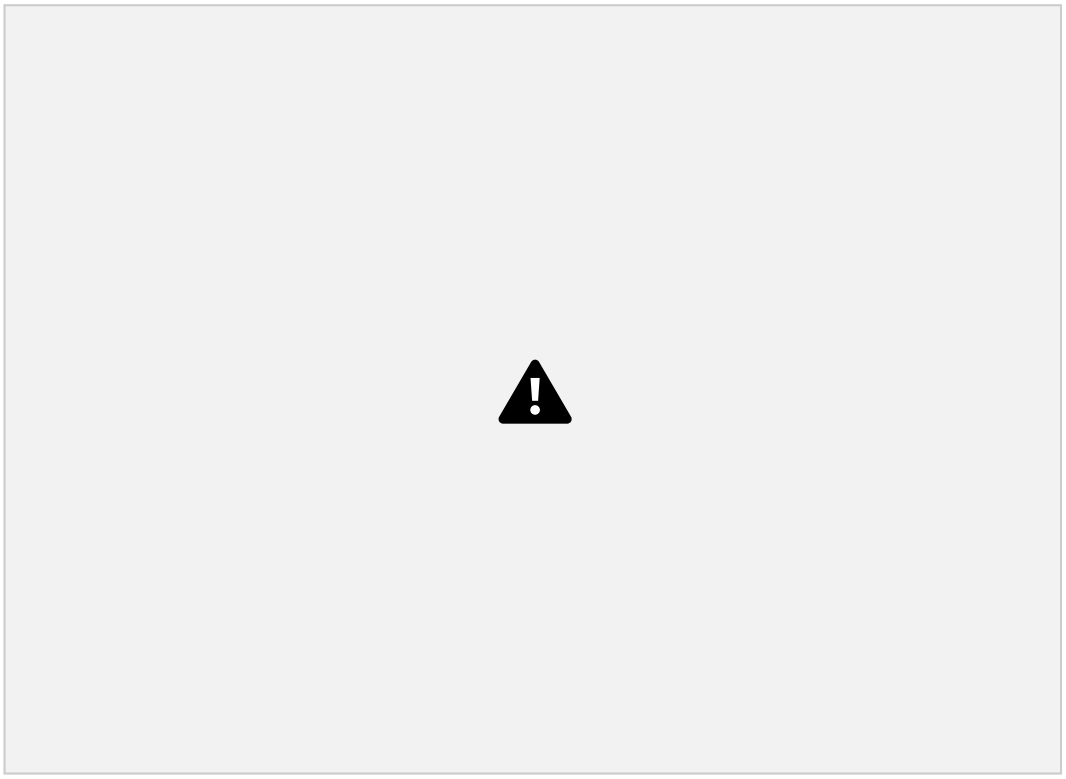
- https://prezi.com/6hqk9gupr9yd/ict-in-booking-systems/

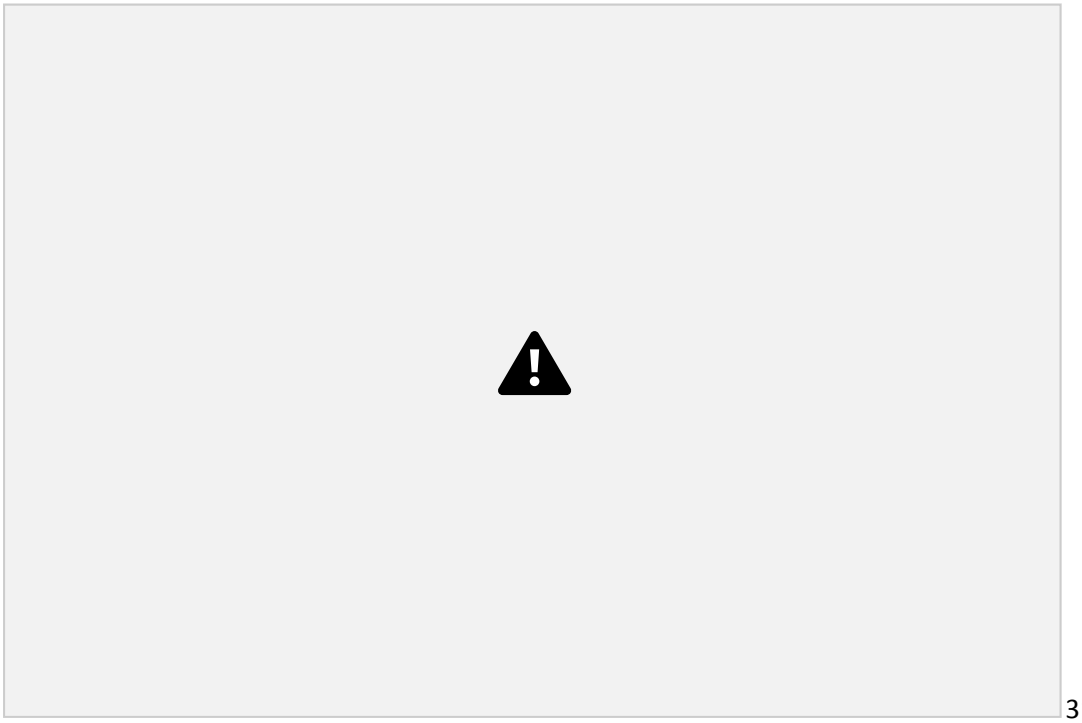
APPENDICS

I: Survey through Google Form





II. Data Source of Reservation System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