UNIVERSITY MALAYSIA TERENGGANU

FACULTY OF OCEAN ENGINEERING TECHNOLOGY & INFORMATICS

BACHELOR OF COMPUTER SCIENCE MOBILE COMPUTING WITH HONORS

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CSM 3114

FRAMEWORK-BASED MOBILE APPLICATION DEVELOPMENT

PROJECT REPORT 1

LAUNDRY BOOKING APPLICATION

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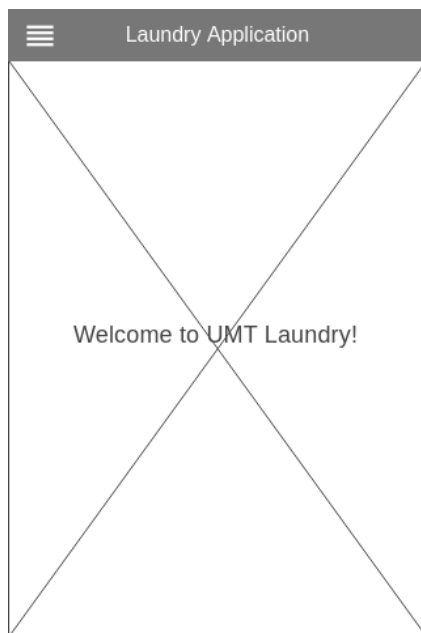
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Executive Summary

The laundry application prototype is meticulously crafted to meet the specific needs of university users, offering essential features for checking machine availability and making bookings. The primary objective is to streamline and enhance the laundry experience within a university setting. The prototype places a strong emphasis on user-friendliness and aesthetic appeal, aiming to create an engaging interface for both students and laundry facility administrators.

The visual elements of the application are carefully curated to ensure a cohesive and attractive design. The color scheme, prominently featuring blue tones and light blue accents, not only contributes to a professional and clean look but also aligns with the thematic elements associated with laundry and cleanliness. Background images on various screens provide a visually appealing backdrop, creating a cohesive and thematic connection with the laundry activities the application supports.
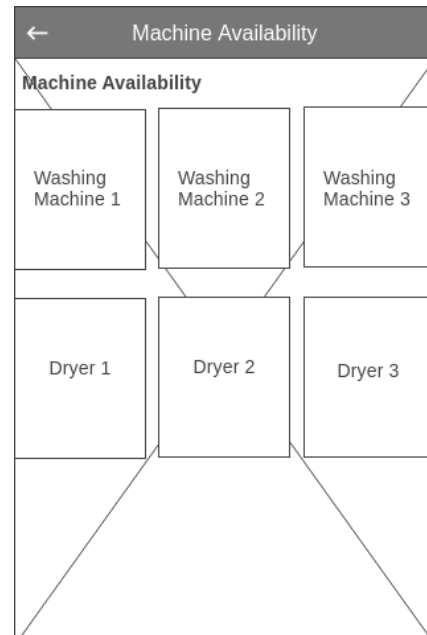
In terms of functionality, the prototype boasts a well-thought-out navigation system, notably featuring a side drawer for seamless access to critical functionalities. This design choice enhances the overall user experience, allowing users to effortlessly navigate between different sections of the application, including machine availability checking and the booking feature.

Prototype Design

Home Screen

≡   Laundry Application
Welcome to UMT Laundry!

Availability Screen

←   Machine Availability

Machine Availability

Washing Machine 1	Washing Machine 2	Washing Machine 3
Dryer 1	Dryer 2	Dryer 3

Booking Screen

←   Booking Machine

Student Name
_____

Room Number
_____

Select Machine Type:
Washing Machine ▼

Select Machine Number:
1 ▼

Select Day:
Monday ▼

Choose Time:
Choose Time: 1:04 PM

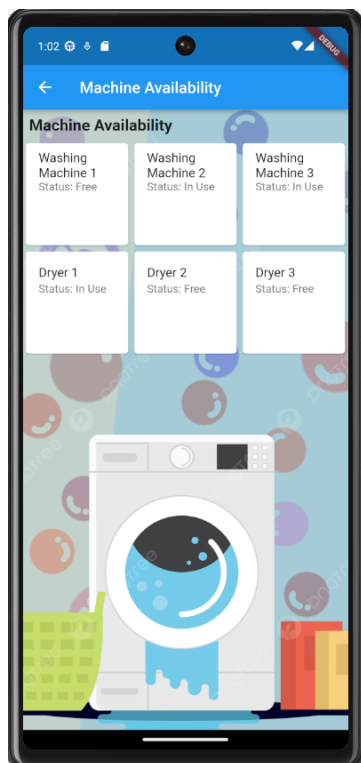Book Machine

The UI for the Application with Explanation

The Laundry Application features a thoughtfully designed User Interface (UI) that harmonizes aesthetics with practicality, providing users with a smooth and visually appealing experience. The UI is meticulously crafted to be user-friendly, ensuring that users can easily navigate through the application's diverse features. Now, let's delve deeper into the UI components, offering comprehensive insights into their design and functionality:
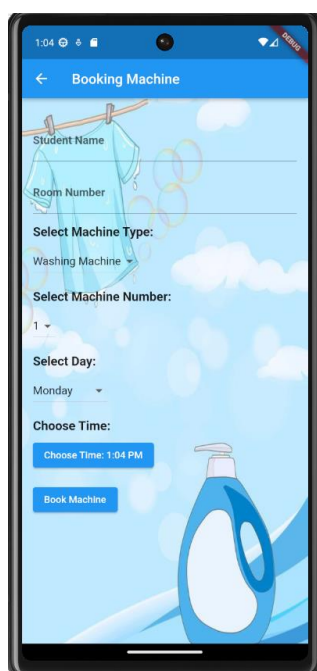
1. Home Screen

- The Home Screen serves as welcomes users with a background image and a central message. The navigation drawer offers options for checking machine availability and booking.

2. Availability Screen

- The Availability Screen serves as an informative hub, presenting users with a visually organized grid displaying the current status of washing machines and dryers. This feature aids users in planning their laundry activities efficiently, minimizing wait times and maximizing the utility of available machines.

3. Booking Screen

- The Booking Screen, a key component of the prototype, provides users with an intuitive interface for inputting their details and specifying booking preferences. The incorporation of dropdowns and clearly labeled text fields ensures that users can easily provide accurate information. The confirmation dialog before finalizing a booking adds an extra layer of precision, reducing the likelihood of errors in the booking process.

In conclusion, The Laundry Application boasts an aesthetically pleasing and user-friendly UI, consisting of three main screens: Home, Availability, and Booking. The Home Screen welcomes users with a central message and provides navigation options. The Availability Screen organizes machine status efficiently, aiding users in planning laundry. The Booking Screen offers an intuitive interface for user details and preferences, ensuring accuracy through dropdowns and confirmation dialogs.

Potential Commercial Value and Pricing of the Prototype

Commercial Value

The Laundry Application holds significant commercial value, primarily in university settings where efficient laundry management is essential. By addressing the common challenges of machine availability and booking, the application streamlines the laundry process, contributing to a more organized and user-friendly environment. The potential benefits include improved resource utilization, reduced wait times for machines, and enhanced overall user satisfaction. Institutions that adopt this solution may experience operational efficiency and positive feedback from students, enhancing their reputation for providing modern and convenient services.

Pricing

The prototype could adopt a flexible pricing strategy to cater to both universities and individual users:

1. Licensing Model for Universities:
   - Offer a tiered licensing model based on the size of the university or the number of students.
   - Provide universities with a comprehensive package that includes administrative tools for managing laundry resources efficiently.
   - Consider customization options to meet the specific needs of each institution.
2. Subscription Model for Users:
   - Introduce a subscription-based model for individual users, allowing them to access advanced features and personalized settings.
   - Offer a free basic version with essential features such as machine availability check.
   - Premium subscription can include features like priority booking, notifications, and historical usage data.

3. Freemium Approach:
    - Implement a freemium approach by providing a free version of the application with basic features.
    - Encourage users to upgrade to the premium version for an enhanced experience.
4. Bulk Licensing for Accommodation Providers:
    - Collaborate with accommodation providers near universities to offer bulk licensing, ensuring that the application is widely accessible to students living in various housing facilities.

By adopting a strategic pricing model, the Laundry Application can attract both institutional clients and individual users, creating a sustainable revenue stream while offering valuable solutions to enhance laundry management in university environments.

Lessons Learned

The process of developing the prototype has yielded valuable insights that will profoundly influence the future trajectory of the Laundry Application. The foremost lesson centers on the paramount importance of user-focused design. Crafting an interface that resonates with the end-users not only enhances their overall experience but also ensures the practical utility of the application. Through iterative design and user feedback, we've come to appreciate that a user-centric approach is pivotal in creating a solution that genuinely caters to the needs and preferences of the target audience.

Thematic consistency emerged as another critical lesson. A cohesive and well-maintained visual theme across different screens and components contributes to a unified and professional appearance. Consistency not only reinforces the brand identity but also aids users in seamlessly transitioning between various functionalities, fostering a sense of familiarity and ease of use.

Efficient navigation stood out as a key factor influencing user satisfaction. Streamlined pathways and intuitive interactions contribute to a positive user experience. Navigational elements should be logical and readily accessible, allowing users to move effortlessly between features. Our experiences during the prototype development underscore the significance of thoughtful navigation in ensuring that users can explore and utilize the application's capabilities without unnecessary friction.

These lessons serve as guiding principles for future iterations and improvements. As the application evolves, maintaining a strong focus on user needs, thematic consistency, and efficient navigation will remain at the forefront of our development strategy. The prototype, with its synthesis of functionality, aesthetics, and user-centric design, represents a promising solution to the challenges associated with university laundry services.

Conclusion

The "Laundry Application" project has effectively implemented an intuitive and user-friendly design, providing a seamless experience for students managing their laundry needs. Leveraging Flutter functionalities, such as smooth swipe gestures and dynamic network images, has significantly elevated the application's visual appeal. While the prototype showcases robust features for checking machine availability and making bookings, key findings from user interactions suggest potential enhancements in UI aesthetics and the incorporation of advanced features to further optimize the user experience.

References

1. Flutter documentation Flutter. Available at: https://docs.flutter.dev/ (Accessed: 24 December 2023).

2. Scribd. (n.d.). *Laundry managment project report*. Scribd. https://www.scribd.com/document/509250872/Laundry-Managment-Project-Report

3. YouTube. (n.d.). *YouTube*. Retrieved December 25, 2023, from http://www.youtube.com/@flutteraddict1327.

4. DropDownButton showTimePicker. (n.d.). ChatGPT. Retrieved December 23, 2023, from https://chat.openai.com/c/1a8851d2-4f7b-49b9-8c61-d3a26f6d5585

Github link

https://github.com/Ainin24/laundry_app