UNIVERSITY MALAYSIA TERENGGANU

FACULTY OF OCEAN ENGINEERING TECHNOLOGY & INFORMATICS

[CSM3114]

FRAMEWORK BASED MOBILE APPLICATION DEVELOPMENT

(GROUP 1)

FINAL REPORT PROJECT 1:
FTKKI LAB COMPUTER RESERVATION APP

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GitHub link for project 1: https://github.com/NurAdibahAdnan/CSM3114-S61891-PROJECT-1.git

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Executive Summary:

The FTKKI Lab Computer Reservation App (FLCRA) is an app where it offers a simple and user-friendly interface, that begins with users opening the app and enables the to browse available labs at the moment. User will be able to choose desired lab based on preferences, such as locations and capacity of the lab. There are some critical decision points in certain places of the app where the users need to do a lab selection and fill in a form that requires details like name, date, time and specifying their user type, whether users are student or lecturer. The app will validate the selected lab availability and shows the status of the reservation after the submission is completed.

Key features of FLCRA include a simple well-organized lab list for efficient exploration, user-friendly reservation form, and smooth availability validation. The lab list will navigate to a lab details page that will display the necessary description of the lab, including the location and availability status. The reservation form is also easy to fill in that contributes to a time saving and accurate reservation process. The app's availability to ensure to shows the selected lab availability will ensure the elimination of errors and enhancing the efficiency of the reservation process.

Users who use this app benefits from FLCRA's efficient lab selection process, allowing quick and informed decisions based on individuals' preferences. This clearly shows that FLCRA offers a time saving, accurate and simple efficient design for reservations. In general, FLCRA's simple intuitive design and easy to understand reservation form design enhance the user's satisfaction in doing a lab reservation through a mobile app.

The Prototype Design

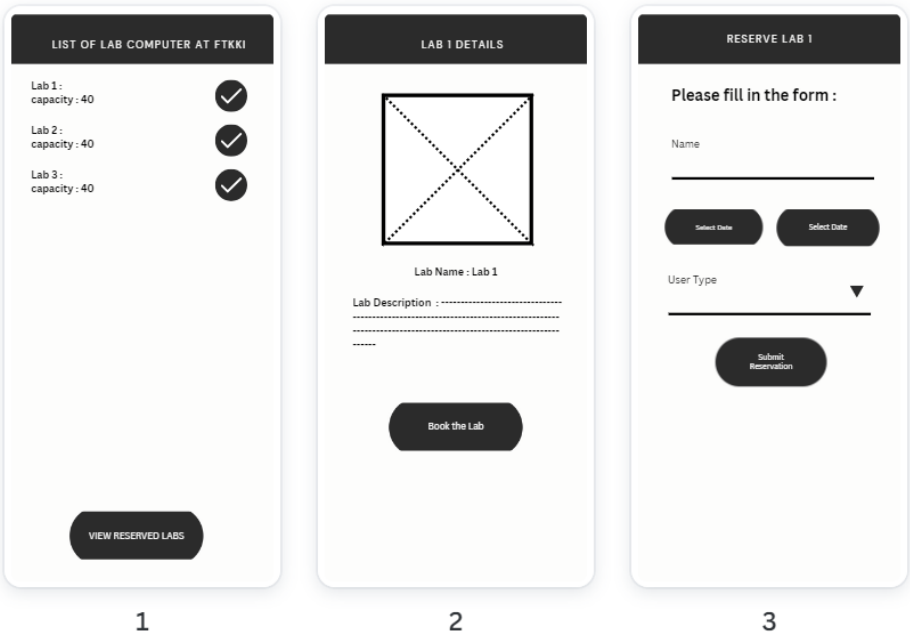

Figure 1 :Prototype design FLCRA page 1, 2 ,3

The first page is the main page of FLCRA, while the second page shows the lab details of chosen lab, the third page is the reservation form page.

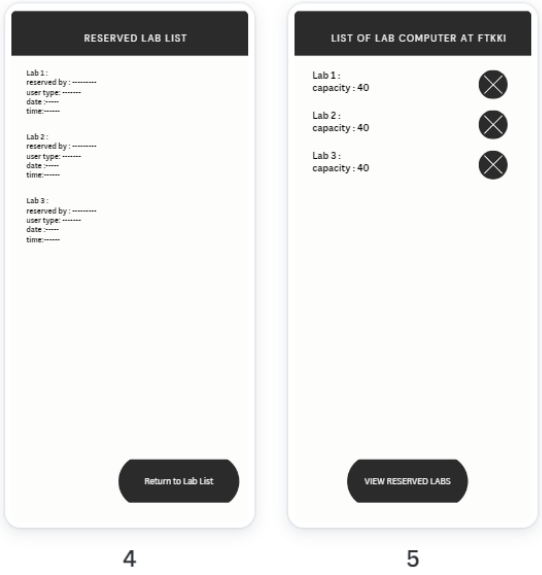

Figure 2: Prototype design FLCRA page 4, 5

The fourth page is the reserved lab list page and the fifth page is the updated lab list page after form is submitted and validated.

The UI for the application with explanation

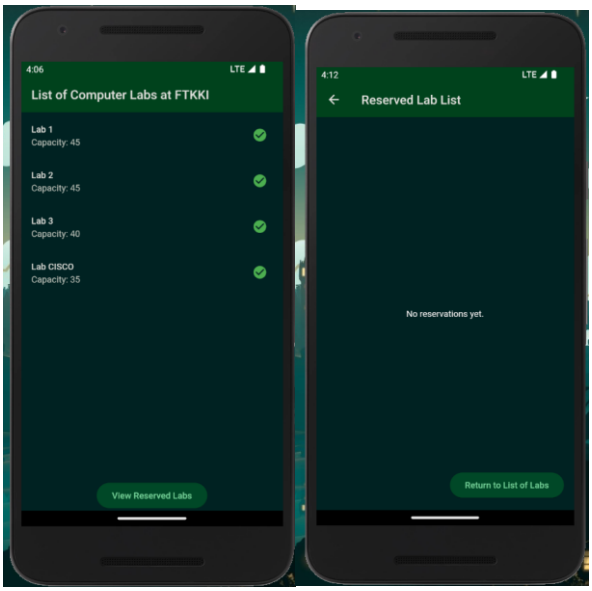

Figure 3: Main app UI and Reserved Lab list page.

The figure shows the UI for the main page where when the app is run for the first time, a list of labs shows and it consist of the name of the labs, its capacity and the status of availability of lab. There is also a 'View Reserved Labs' button that will navigates to the Reserved Lab list page. To browse the desired lab, just click on the lab in the list and a new page called Lab detail page will shows up.

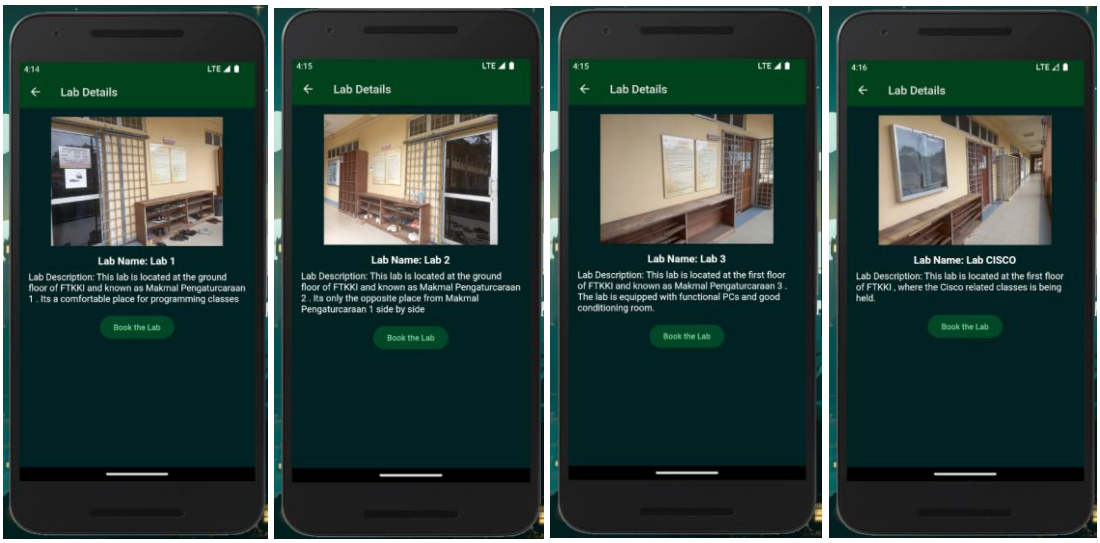

Figure 4: UI for each Labs in FLRCA

These are the labs that are availables in the app and its has its own details for each lab. When user have decided to reserve the lab , the ‘Book the Lab’ button will navigates user to the next page , which is reservation form page.

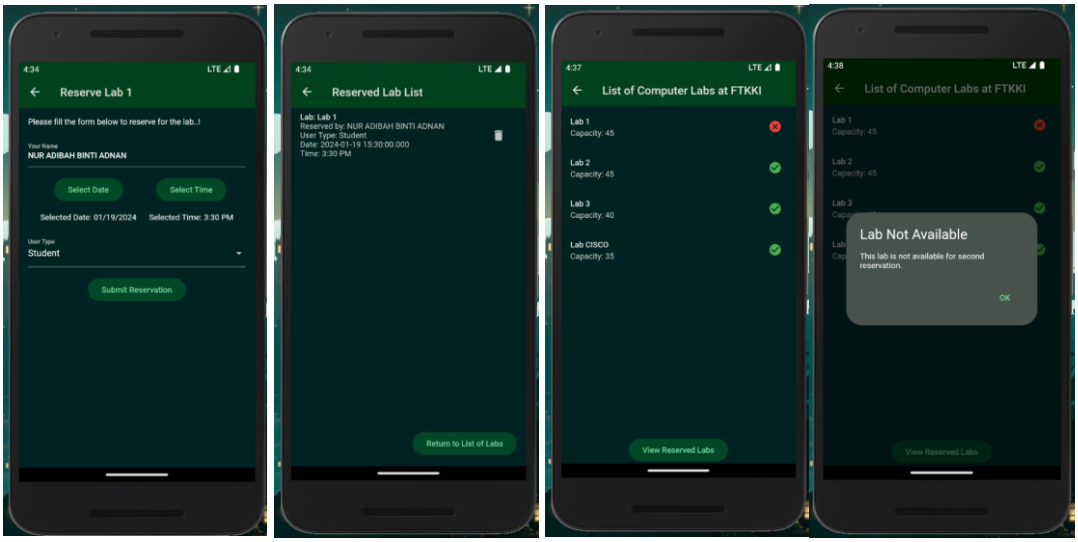

Figure 5 : UI interface after reservation form is submitted

After the users fill the form and click ‘Submit Reservation, the Reserved lab List will be updated and shows the details of the reserverd lab that have been filled earlier. The status of the reserved lab will also be updated on the Lab List page and turn the icon into not available . If the user attempted to book for unavailable lab, an alert message will appeared .This indicates that the user wont be able to do a second reservation on the same lab. And the reservation that have been made can be deleted using the delete icon , this will return the lab status to available again.

Potential commercial value and the pricing of the prototype

Potential commercial value:

FLCRA app holds a very substantial commercial value by using a simple approach and elevating user satisfactions. The FLCRA has potential in commercial especially for schools, universities and so on. It will utilize the education institution and also delivers optimized scheduling and reduced the burden of lab administrator. This will surely save a lot of time and money, since the app is a valuable asset for educational organizations.

The FLCRA's efficiency gains are prominently demonstrated through its real-time availability status feature, empowering users to make prompt and well-informed decisions. The organized lab list and the user-friendly reservation form further contribute to a seamless process, minimizing the time and effort spent on reservation management.

Furthermore, the FLCRA 's commitment to user satisfaction adds an extra dimension to its commercial value. A thoughtfully designed interface, intuitive navigation, and precise availability validation collectively create a positive and enjoyable user experience. This user-centric approach not only attracts new users but also fosters loyalty and retention, establishing a foundation for the app's sustained commercial success.

Pricing of the prototype:

As mentioned in a post on LinkedIn in 2024, various factors contribute to the overall cost estimation of a prototype. These factors include the complexity of the prototype, the tools utilized in the development process, and the level of expertise and consultation required for its creation (“LinkedIn,” 2024).

Taking these factors into careful consideration, the estimated cost of developing the FLCRA (FTKKI Lab Computer Reservation App) prototype aligns with the category of low-fidelity prototypes, falling within the range of 100 to 3000(“LinkedIn,” 2024).. This categorization is attributed to the simplicity of the app, which does not involve extensive tool usage and does not necessitate the involvement of experts or consultants during the development phase.

The FLCRA prototype, being a straightforward application, minimizes the overall development costs by leveraging simplicity and avoiding the need for specialized tools and external consultations. This cost-effective approach ensures that the prototype remains within the low-fidelity category, making it an efficient and budget-friendly solution for its intended purpose.

Lesson Learned

The development of FLCRA has been a valuable learning experience that provides insights into creating a lab reservation system. The FLCRA can be improved a lot more to enhance user experience and its functionalities. One prominent lesson learned is the importance of user-centric design. While FLCRA successfully addresses the fundamental need for a lab reservation, there is a realization that user experience can be further enhanced. The project highlights the significance of incorporating user feedback into the iterative development process. Future enhancements will prioritize features that directly align with user preferences and expectations, ensuring a more intuitive and satisfying experience.

Additionally, the journey has underscored the need for adaptability and flexibility in app development. As technology evolves and user requirements shift, FLCRA must remain agile to incorporate emerging trends and functionalities. This lesson emphasizes the importance of building a foundation that accommodates future growth and innovation.

Security considerations have also emerged as a crucial aspect of app development. The FLCRA project has prompted a heightened awareness of data protection and privacy concerns. Future iterations will prioritize the implementation of robust security measures to safeguard user information and ensure a trustworthy platform.

Conclusion

In conclusion, the FLCRA project is all about keeping things simple and practical, offering a lab reservation system that's easy for everyone to use. Its straightforward design makes it a breeze to navigate, suitable for users of all tech levels. The basic features of the app bring real benefits, making lab reservations smoother, cutting down on administrative hassles, and making users happy overall. Reflecting on the project, it's clear that the combination of simplicity and usefulness is a powerful recipe, pointing the way forward for an effective and user-friendly lab reservation app.

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