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**FACULTY OF OCEAN ENGINEERING TECHNOLOGY &**  
**INFORMATICS**

**CSM3114**  
**FRAMEWORK-BASED MOBILE APPLICATION DEVELOPMENT**

**INDIVIDUAL PROJECT 1**

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**COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONOURS**  
**SEMESTER I 2023/2024**

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## **1. EXECUTIVE SUMMARY**

The University App stands as an innovative and multifaceted solution designed to elevate the university experience for students, faculty, and staff. Comprising three key modules, the app seamlessly integrates advanced functionalities to address crucial aspects of university life.

The To Do List module within the app introduces a dynamic feature, enabling students to efficiently manage and take note of the assignments or tasks. With an intuitive interface, students can create, edit, and organize tasks, ensuring deadlines are met. The module not only streamlines the assignment submission process but also fosters better time management and organization skills among users.

The QR Code Attendance Scanner module represents a significant leap in attendance tracking technology. The feature allows students to effortlessly record attendance by scanning QR codes during classes.

The Campus Phone Directory module serves as a comprehensive and accessible database of university contacts. With visually appealing design elements and a user-friendly interface, users can effortlessly search for and connect with various departments and personnel. The module promotes effective communication within the university community, ensuring that users can easily access the right contacts when needed.

The app's cohesive design, featuring visually appealing gradients and an intuitive layout, enhances the overall user experience across all modules. Developed using Flutter, the app ensures cross-platform compatibility, catering to diverse devices and operating systems.

As the University App continues to evolve, future developments may include additional features, enhanced security measures, and integration with emerging technologies. The app's commitment to addressing the unique needs of its users positions it as a transformative tool in fostering a connected, organized, and technologically advanced university environment. In summary, the University App emerges as a comprehensive solution that combines efficiency, innovation, and user-centric design to redefine the university experience for all stakeholders.

2. PROTOTYPE DESIGN

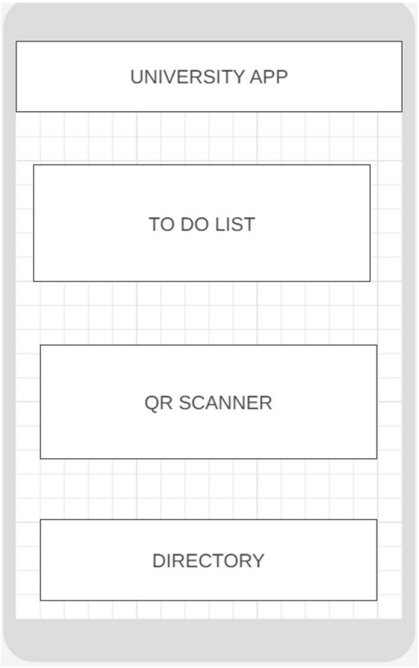


Figure 1 Home screen

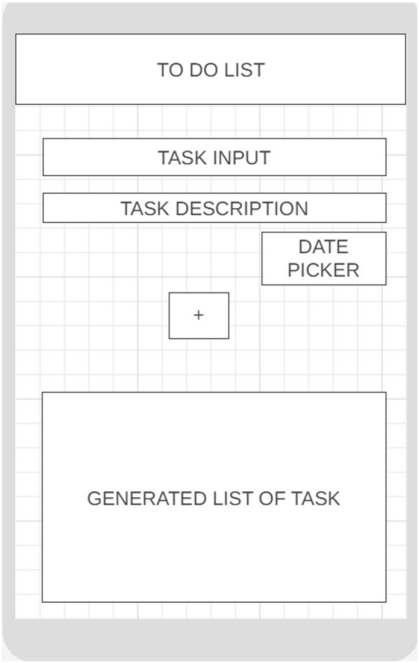
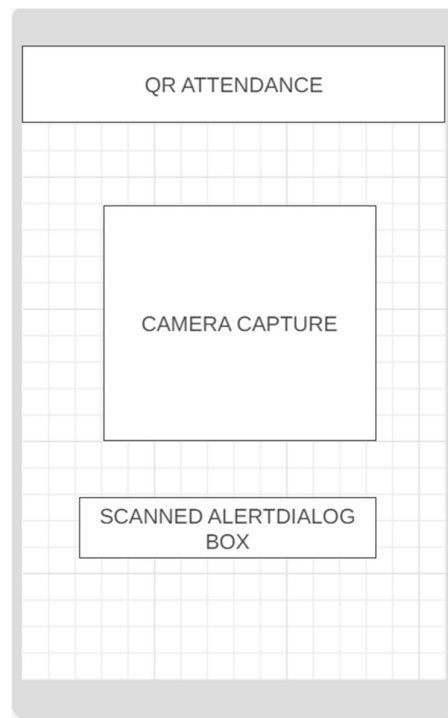
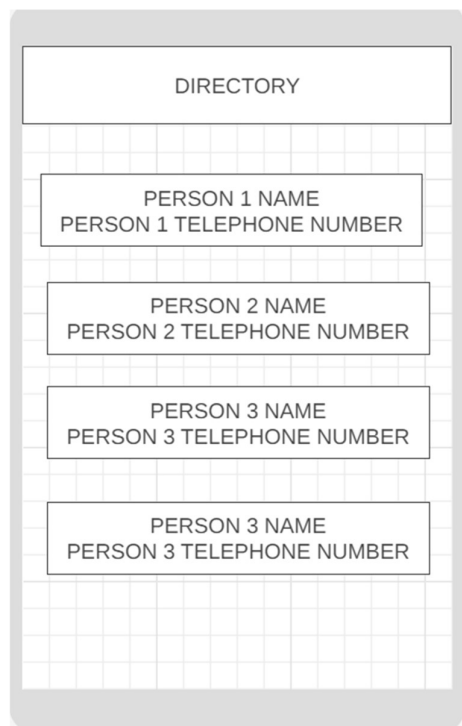


Figure 2 To Do List



*Figure 3 QR Attendance Scanner*



*Figure 4 Campus Directory*

3. USER INTERFACE APPLICATION

**Figure 5** shows the Home Screen UI where this is the screen to navigate to other screens. There are three modules to navigate which are To Do List, QR Scanner and Campus Directory. Where clicked to each of the buttons / modules, it will navigate to other screens.

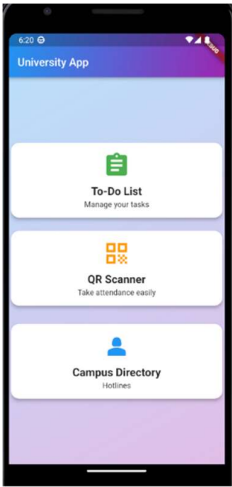


Figure 5 Home Screen UI

**Figure 6** shows the To Do List for assignment self-notification. This features to add Task into list where Create, Update and Delete the list. It also features Task Title, Task Description and Deadline.

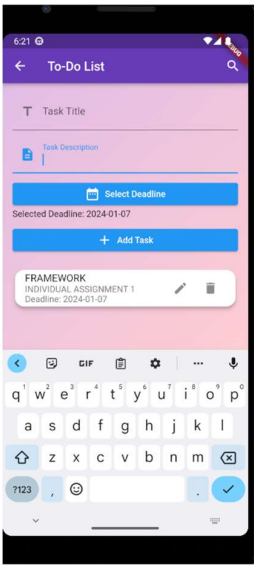
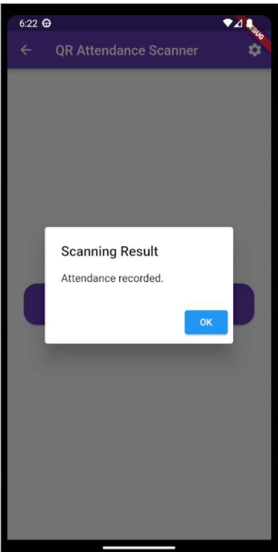


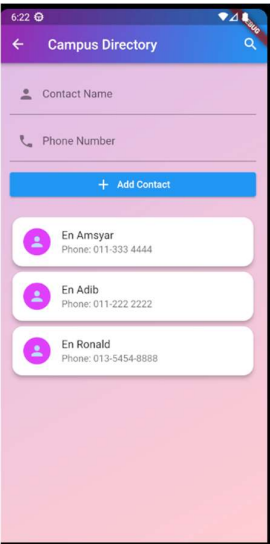
Figure 6 To Do List UI

**Figure 7** shows the QR Attendance Scanner UI where student able to scan the QR Code. This is useful for some of the phones that do not support QR features for camera.



*Figure 7 QR Attendance Scanner UI*

**Figure 8** shows the Campus Directory UI where the user can access the phone numbers for hotlines. User can also add the contact information via the same app.



*Figure 8 Campus Directory UI*

#### **4. POTENTIAL COMMERCIAL VALUE AND PRICING**

The University App project comprises three distinctive modules tailored to address specific needs within the university ecosystem. The To-Do List for Assignment Submission module serves as a centralized platform for students efficient assignment management and reducing the risk of missed deadlines. This module aims to enhance overall academic performance by providing a seamless organization of tasks. To monetize this offering, a tiered pricing model is proposed. Basic features would be accessible for free, while advanced functionalities, including integration with other tools and priority support, could be available under subscription plans.

The QR Code Attendance Scanner module offers a solution for automating and streamlining the attendance tracking process in universities. Beyond merely recording attendance, this module provides valuable insights into attendance trends, contributing significantly to institutional efficiency. A subscription-based pricing model is suggested, allowing for flexibility based on the number of students or classes. Different plans could offer features such as analytics, customizable reports, and integration capabilities, providing a tailored approach for various university sizes.

The Campus Phone Directory module simplifies communication within the university community by offering an organized contact directory. By providing quick access to essential contacts for students and staff, this module fulfils a crucial need in university life. A potential pricing strategy involves a licensing model based on the size of the institution, with larger universities paying a higher fee and smaller institutions benefiting from a more affordable structure. Additional charges may apply for customization and dedicated support.

To enhance the project's appeal and encourage adoption, a free trial period could be initiated. This trial period serves as an opportunity for universities to experience the app's functionality firsthand and provide valuable feedback. Incorporating user feedback during this phase will be instrumental in refining features and optimizing pricing structures. Furthermore, a commitment to delivering excellent customer support and ensuring regular updates will contribute to the long-term success and sustainability of the University App project.



In summary, the University App project offers a comprehensive suite of modules designed to streamline academic and administrative processes within universities. Through strategic pricing models and a commitment to user satisfaction, the project aims to provide valuable solutions to educational institutions, positioning itself as an indispensable tool for university management and students alike.

## **LESSON LEARNED**

Developing the University App prototype has been a multifaceted learning journey, offering insights into various aspects of software development and project management. From a technical standpoint, the project has provided an opportunity to master mobile app development using Flutter and Dart. Understanding how to implement features like user authentication, database integration, and crafting a seamless UI/UX design has been integral to building a robust application.

In terms of project management, the experience has honed skills related to prioritizing tasks, tracking milestones, and efficient time management. The iterative development process and adherence to Agile methodologies have become second nature, emphasizing the importance of adaptability in real-world scenarios.

The focus on user-centric design has been a pivotal aspect of the learning process. Crafting interfaces that are not only visually appealing but also intuitive has been a priority. Incorporating user feedback throughout the development cycle has highlighted the significance of responsiveness to user needs, leading to iterative improvements in usability.

## **5. CONCLUSION**

In conclusion, the University App offers a comprehensive solution to enhance efficiency and connectivity within the university environment. The incorporation of three distinct modules—To-Do List for assignment submission self-notification, QR Code Attendance Scanner, and Campus Phone Directory—addresses crucial aspects of student life, and overall campus organization.

Throughout the development process, the utilization of Flutter and Dart programming languages demonstrated their efficiency in creating cross-platform applications with a single codebase. The integration of various features, styles, and functionalities showcases the versatility of these technologies

## 6. REFERENCES

1. Application: iStudent@UMT  
<https://play.google.com/store/apps/details?id=com.umt.studentapp&pli=1>
2. Course: FRAMEWORK-BASED MOBILE APPLICATION DEVELOPMENT (2023/2024).  
umt.edu.my
3. HeyFlutter.com. (2023). Flutter Barcode Scanner | Accurate QR Code and Barcode Scanning [Youtube Video]  
In Youtube. <https://www.youtube.com/watch?v=622vOT8A1J0>
4. material library – Dart API (2023). Flutter.dev  
<https://api.flutter.dev/>
5. Flutter Mapp. (2022) Flutter ExpansionTile Widget – Expand Tile [Youtube Video]  
In Youtube. <https://www.youtube.com/watch?v=i34zFGTofCE>
6. Github link: <https://github.com/HisyamuddinS63651/S63651-PROJECT1>