



Knight Foundation School of Computing and Information Science

Fall 2023 Senior Design Project

Project Manager

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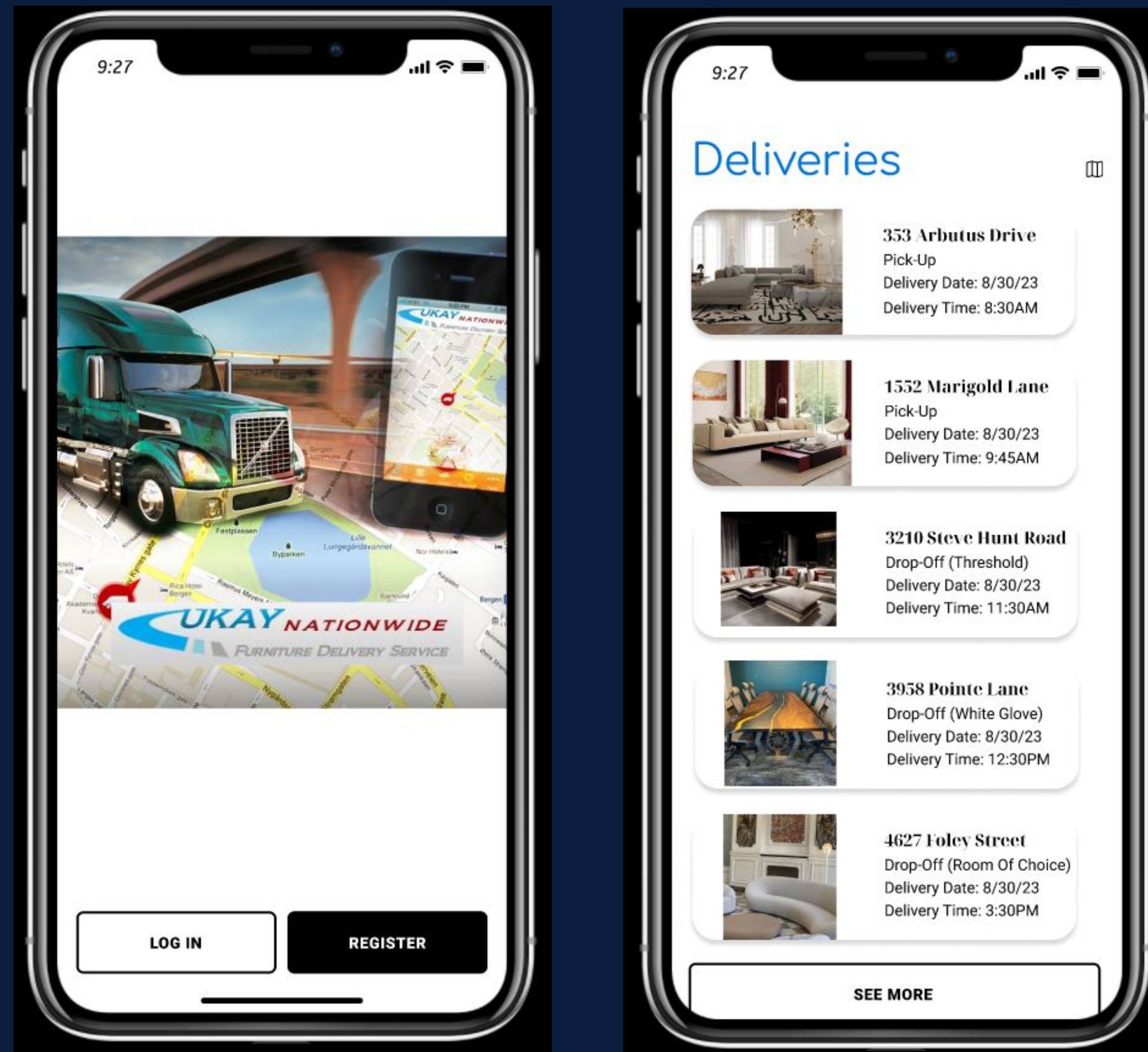
Mentor: Aydin Danaci, Branch Manager, Ukay Trucking and Delivery Services

Instructor/Faculty: Dr. Masoud Sadjadi, Florida International University

PROBLEM

Ukay Furniture Delivery presently relies on a manual tracking system for its deliveries, utilizing spreadsheets and physical documentation. The absence of a sophisticated, integrated system precludes real-time tracking of item deliveries, verification of delivery status, and route adherence by drivers. This manual process introduces a number of variables that may contribute to delays in shipment and potential loss of receipt confirmations, which, in turn, impedes the administrative dispatch team's ability to verify whether a delivery was attempted or successfully completed.

FRONT-END DESIGN

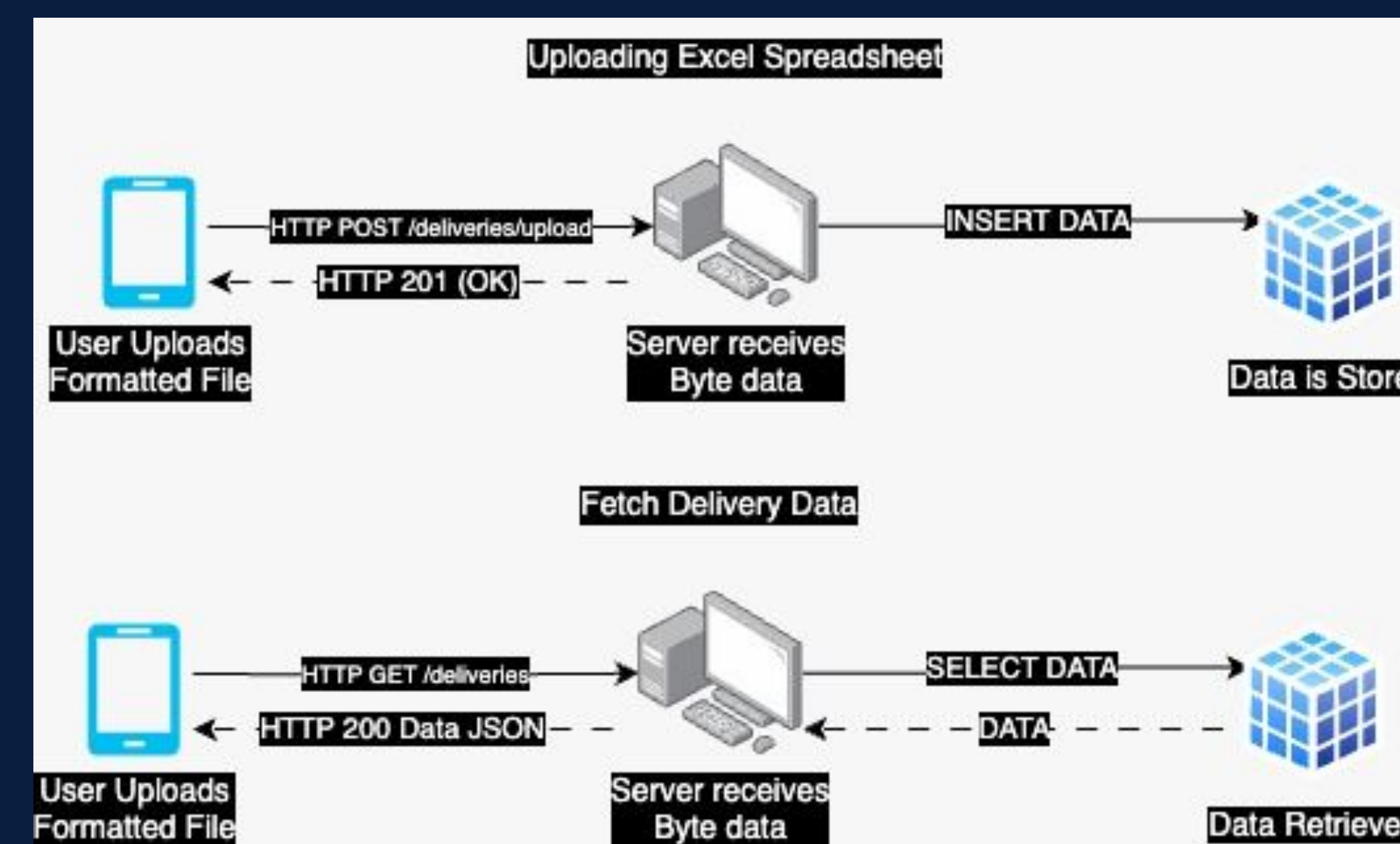


CURRENT SYSTEM

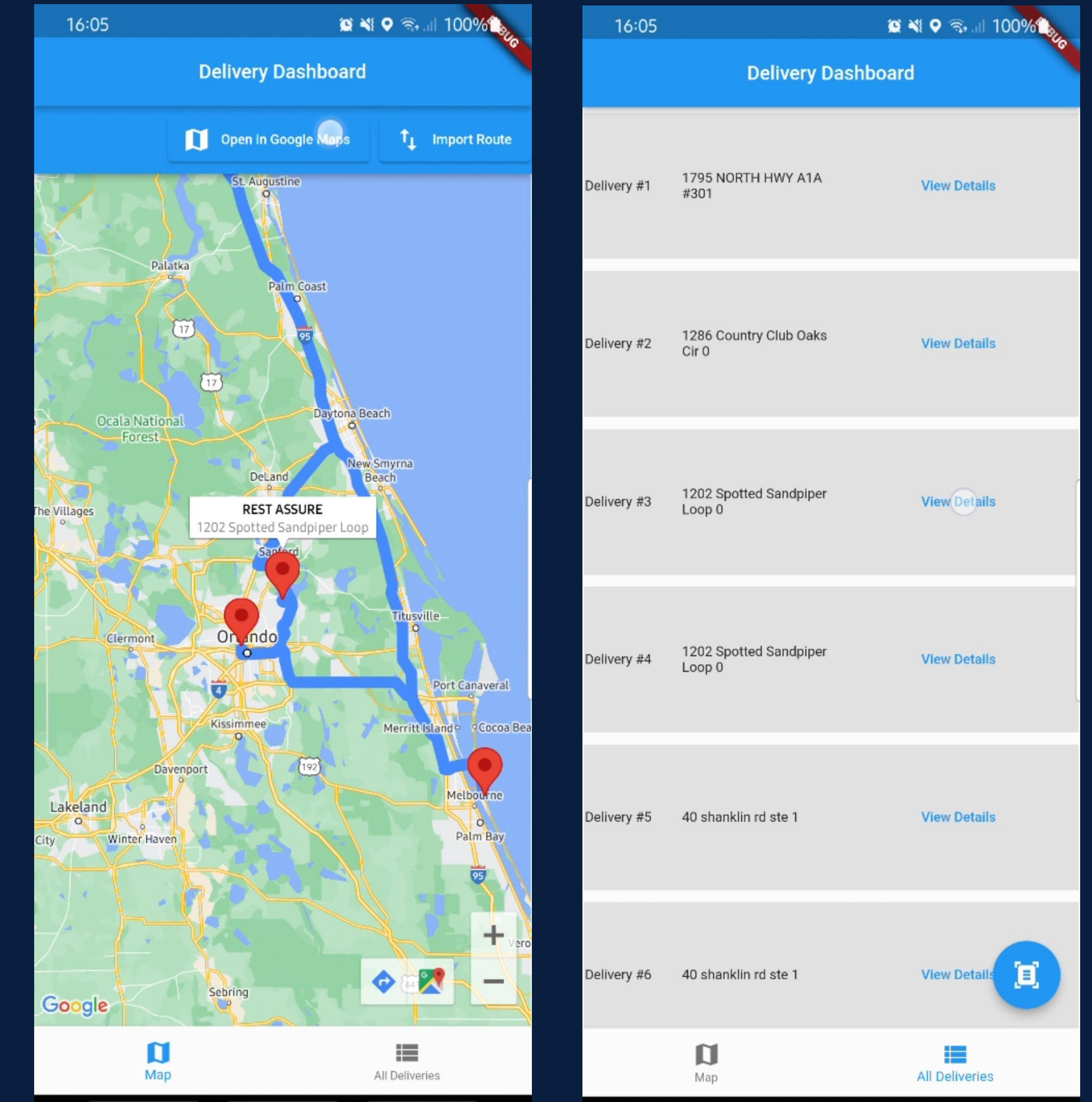
The extant system in operation is suboptimal and labor-intensive. Route planning for deliveries is conducted manually via spreadsheets, which restricts the ability of drivers, dispatch administrators, and clients to ascertain the current status of any given delivery. Furthermore, drivers are obligated to complete physical forms to report on the delivery status, adding to the administrative burden.

CONTRIBUTIONS

My contributions to the project were primarily centered on the front-end design, leveraging Figma to create a user interface that not only meets the highest standards of intuitiveness but is also visually compelling. I was responsible for architecting the application's skeleton using Flutter and Dart, which established the groundwork for subsequent feature integrations. Furthermore, I developed the crucial deliveries screen, which provides drivers with the functionality to modify, delete, or view delivery data. I also implemented the upload photo feature that allows the driver to upload a proof of delivery directly to the application. These component is instrumental in streamlining the drivers' daily operations and significantly contributes to the efficient execution of their delivery responsibilities.



IMPLEMENTATION



SUMMARY

The existing Ukay Furniture Delivery system, heavily reliant on manual processes involving spreadsheets and physical documentation, faces challenges such as potential delivery delays and unconfirmed deliveries. To mitigate these issues, a cross-platform mobile application has been introduced, enhancing the coordination between clients, dispatchers, and drivers by enabling the digital handling of delivery details, viewing of assignments, and pre-delivery verification with integrated navigation features. While this solution offers real-time tracking capabilities for administrators and promotes scalability, it currently presents security vulnerabilities, and the absence of front-end features like data caching and transaction queuing could affect performance during back-end downtime.

ACKNOWLEDGEMENT

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