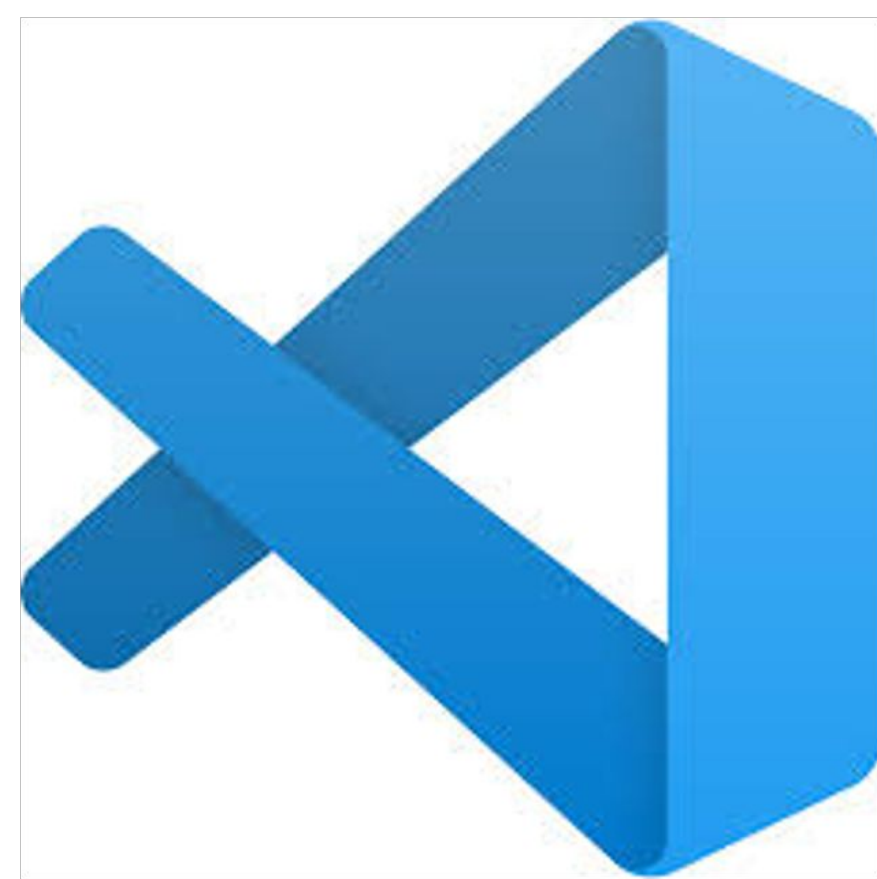




Knight Foundation School of Computing and Information Science

Fall 2023 Senior Design Project

Project Manager

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PROBLEM

Ukay Furniture Delivery currently operates with a highly manual system for its delivery operations, involving minimal use of software solutions. This process relies extensively on physical paperwork, creating challenges for drivers who must repeatedly consult paper documents for new delivery locations and manually input these addresses into their phones. Additionally, drivers are required to make phone calls to customers 30 minutes before arrival, often necessitating calls while driving. The absence of a digital, integrated system limits real-time tracking, verification of delivery status, and adherence to planned routes. These manual methods can lead to delays in delivery and difficulties in confirming receipt, thereby affecting the administrative team's ability to verify the completion or attempt of deliveries.

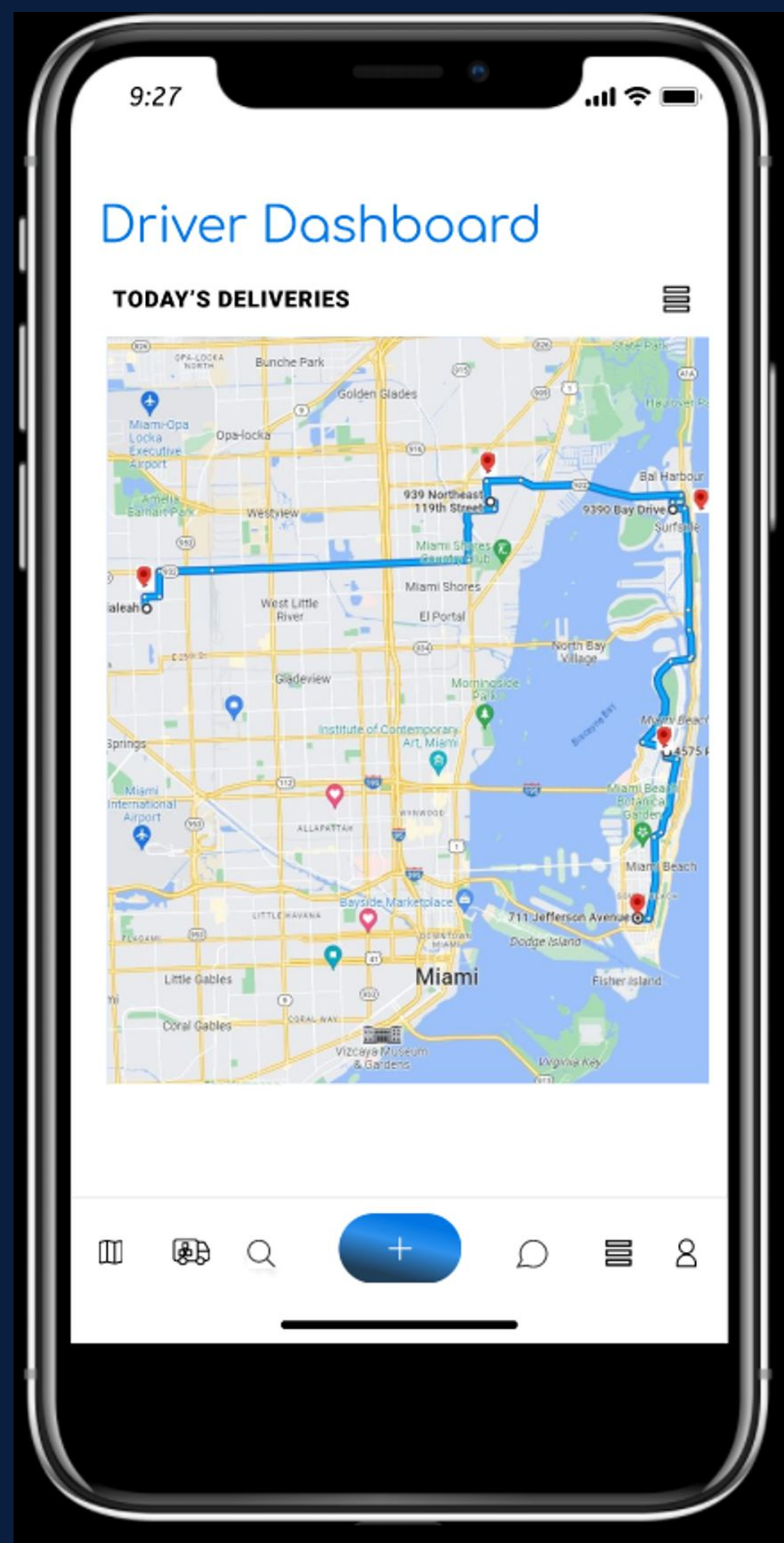
CURRENT SYSTEM

The current is inefficient and usually causes problems for the team due to miscommunication between drivers and the dispatch team. The currently system relies on giving drivers physical copies of the delivery information to give the drivers the information to complete their deliveries. The order in which the driver delivers the furniture is the order of the stack of papers given which is highly prone to human error. Upon delivery the drivers must send pictures via text as proof of delivery. The lack of a software solution in the current system makes it infeasible to scale, hinders communication, and causes greater stress on the drivers.

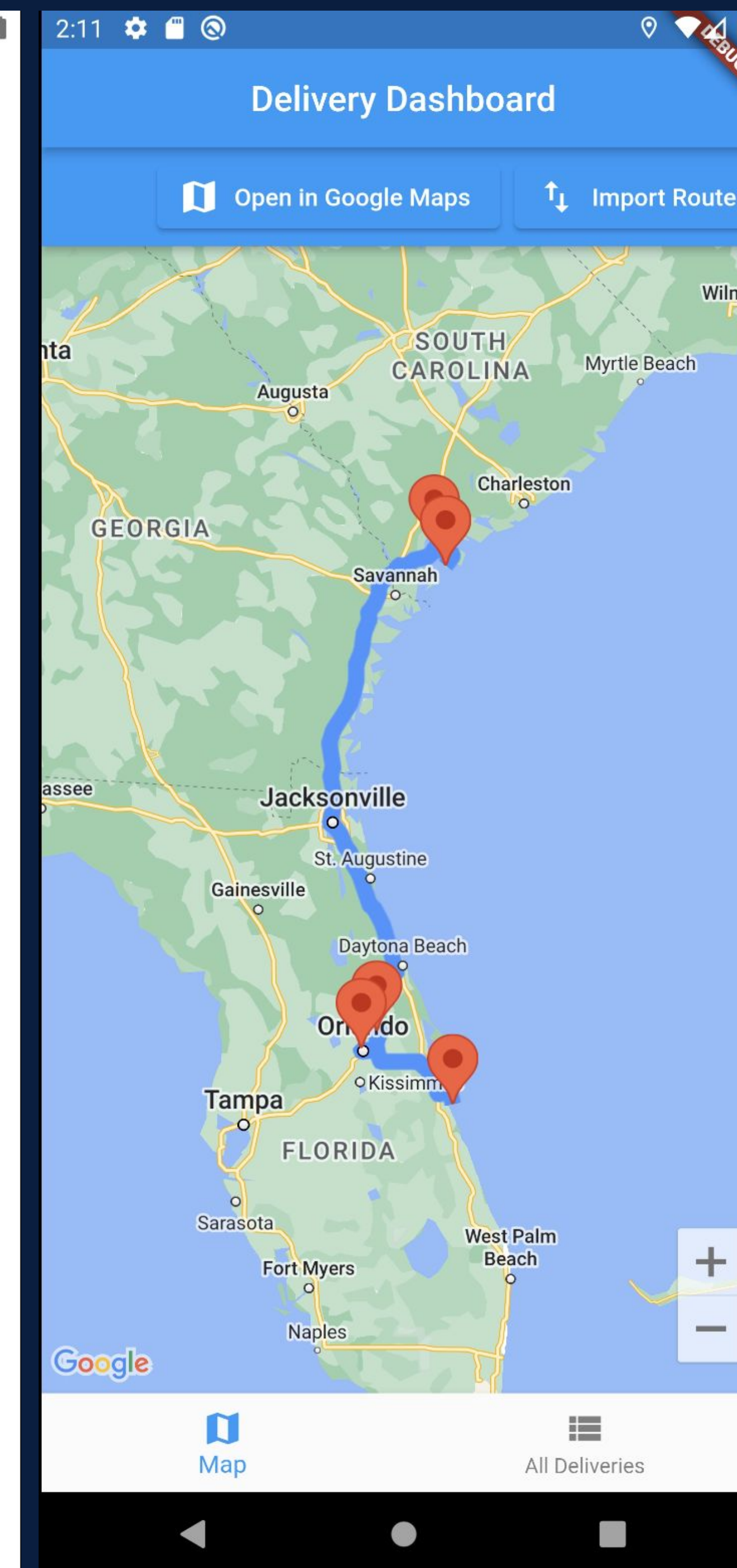
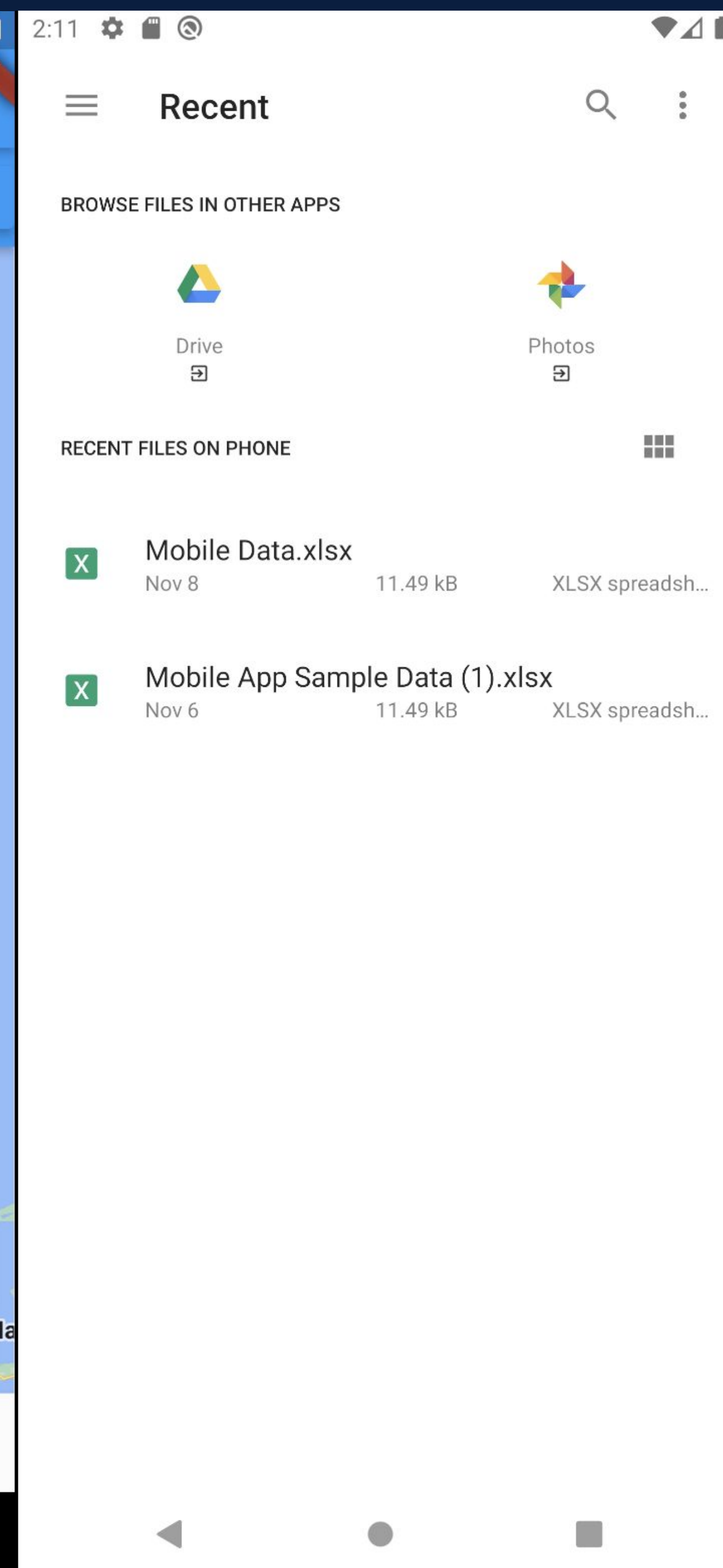
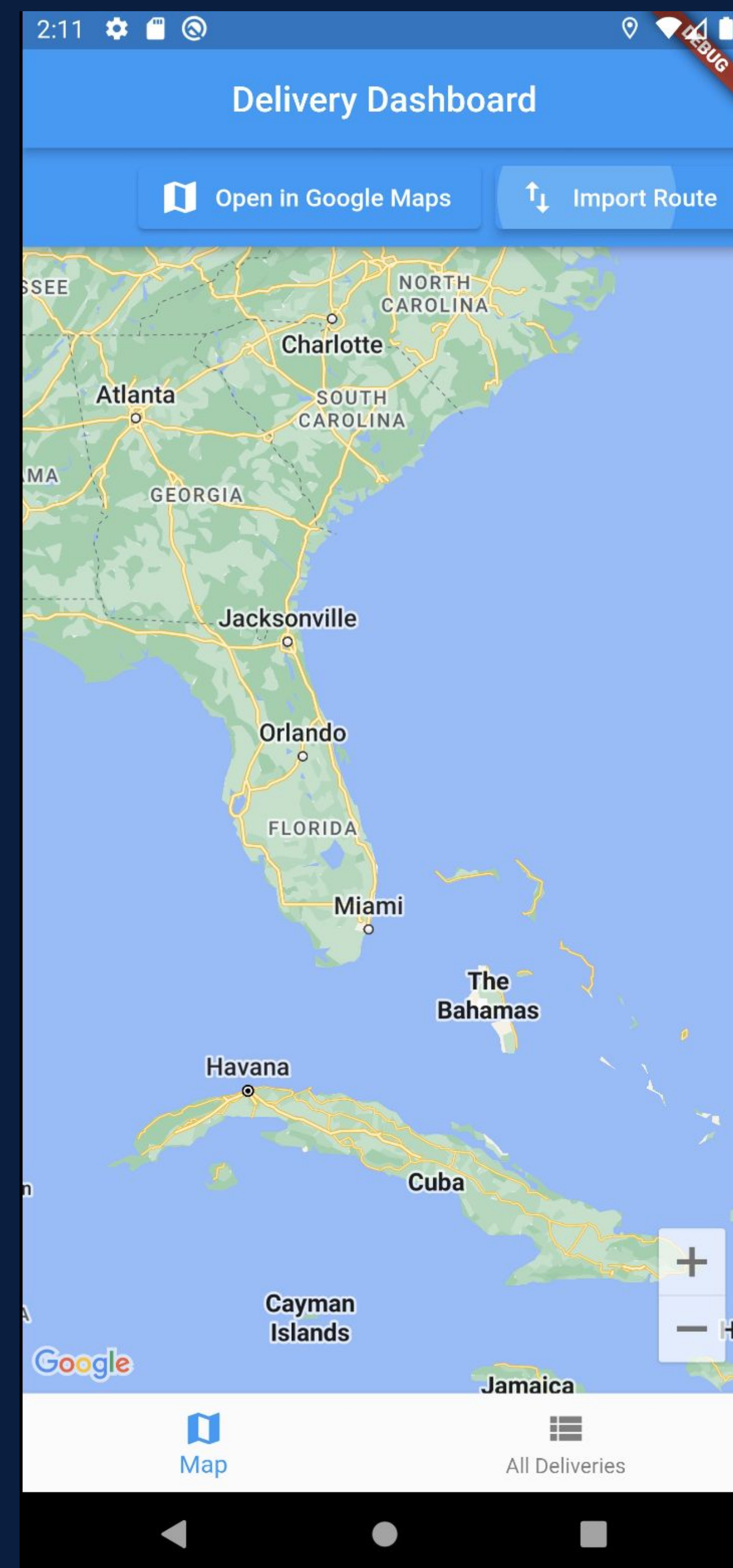
CONTRIBUTIONS

My work focused primarily on the front end integration of populating the map shown below. I worked on allowing users to upload an excel file with the route details and automatically show drivers their routes using the Google Maps API in Flutter. User's also have the ability to populate the Google Maps application on their device with the imported route to seamlessly begin the navigation. This is a core feature for the functionality of this application and it will eliminate the need for drivers to constantly refer to physical papers as their source of navigation. The driver's location can be constantly monitored which will allow the dispatch team to better assist them if they encounter issues on the road.

FRONT-END DESIGN



IMPLEMENTATION



SUMMARY

The current Ukay Furniture Delivery ecosystem is overly reliant on manual methods to make their deliveries. The system currently utilizes spreadsheets, physical papers, and manual calls by drivers to customers, which often causes challenges for the team in which deliveries are delayed or not successful. To remedy these problems our team has developed a cross-platform mobile application that seamless automates the delivery process. Drivers are able to get a complete picture of their routes and automatically populate it on Google Maps. Real-time tracking allows dispatchers to be cognizant of the driver's route status. My main contributions focused on the front-end integration of Google Maps to allow drivers to seamless populate their routes. Driver's are able to upload an excel file with all the information necessary to make their deliveries. This feature will eliminate the aforementioned problem driver's currently face of relying on a stack of physical papers as their source of navigation. This is an integral feature that will allow the team to be more efficient, increase the success rate of on-time deliveries, and help the dispatch team troubleshoot problems that driver's encounter as they make their deliveries.

ACKNOWLEDGEMENT

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