

LAUNDRIS RFID ANALYTICS

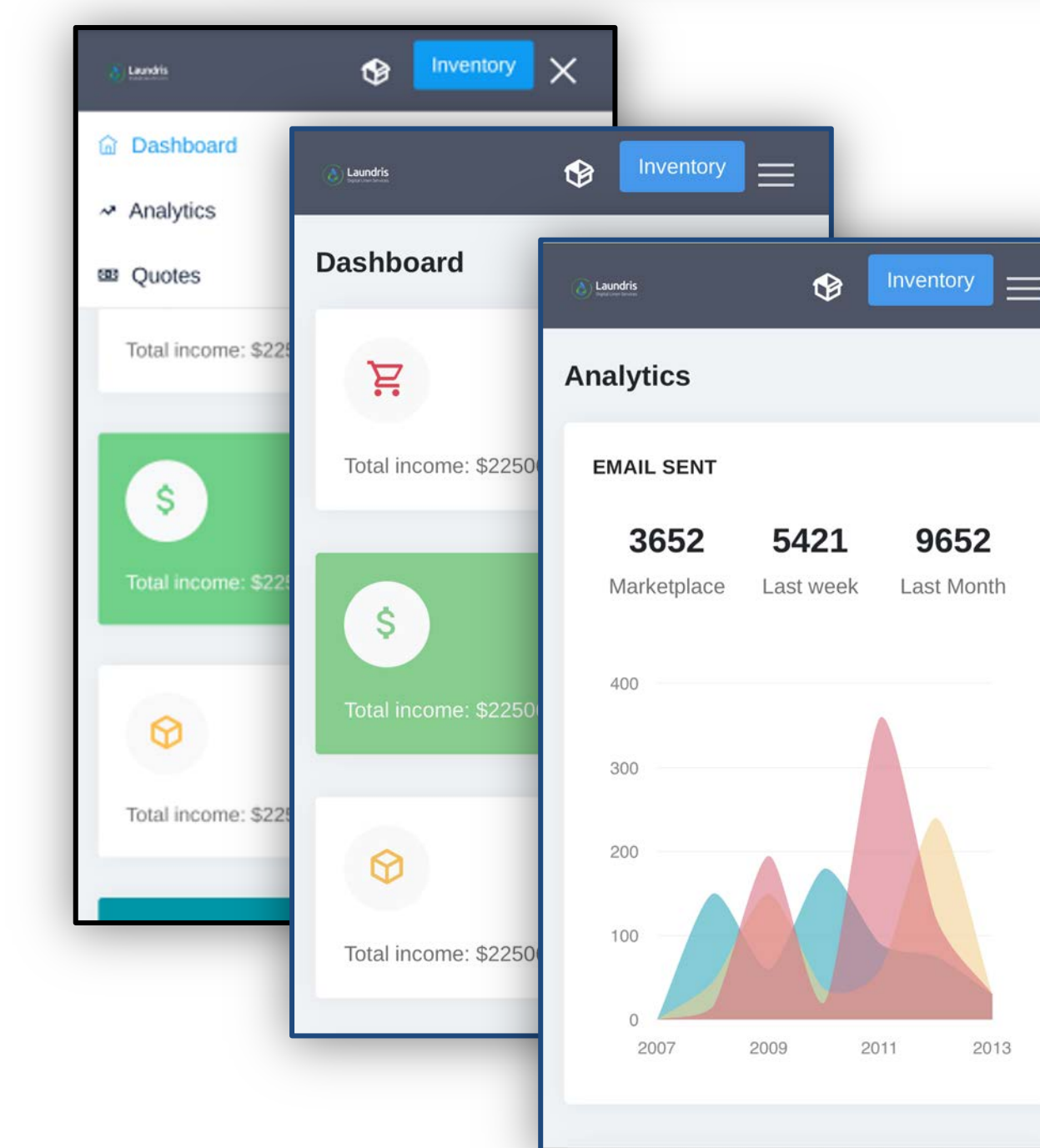
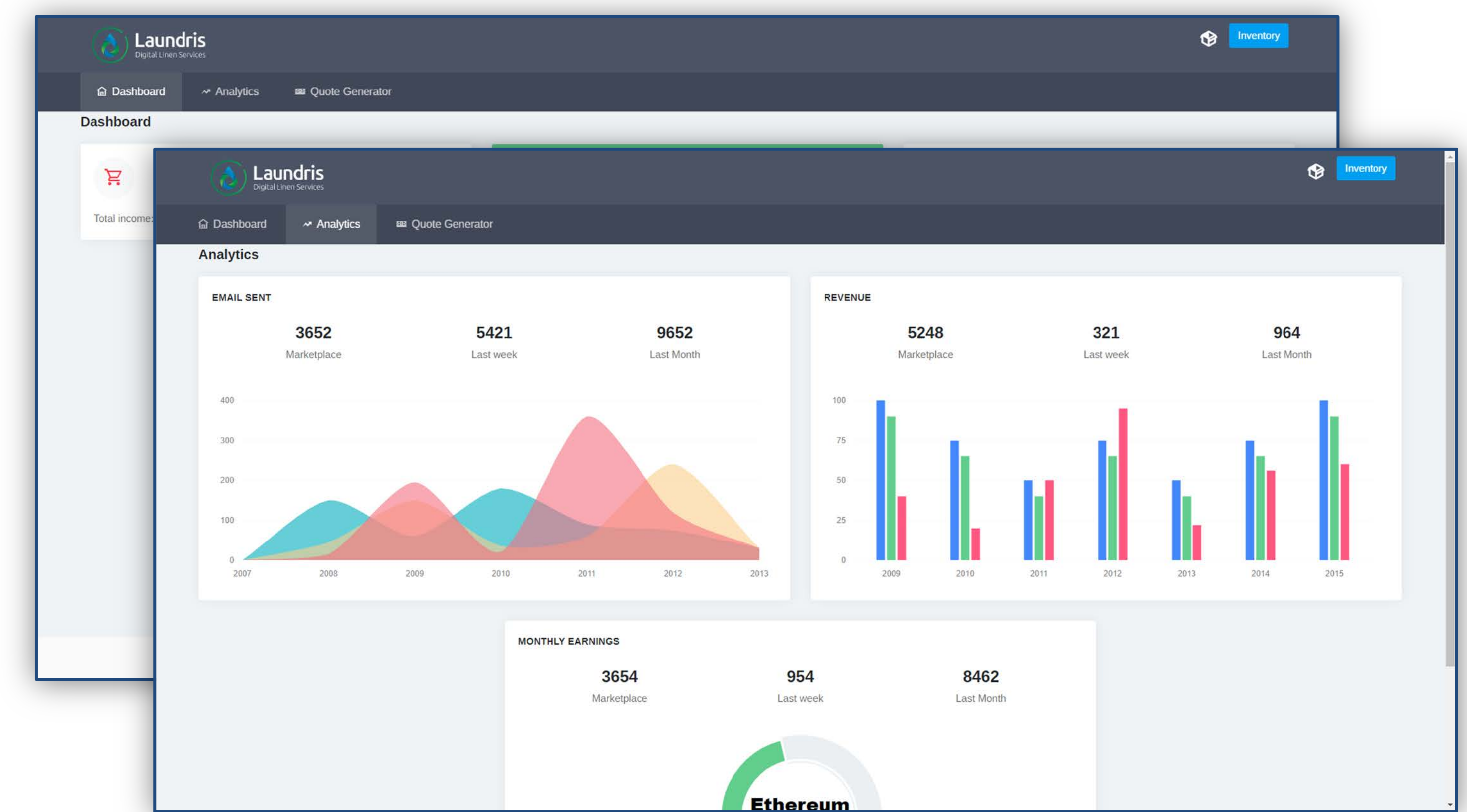
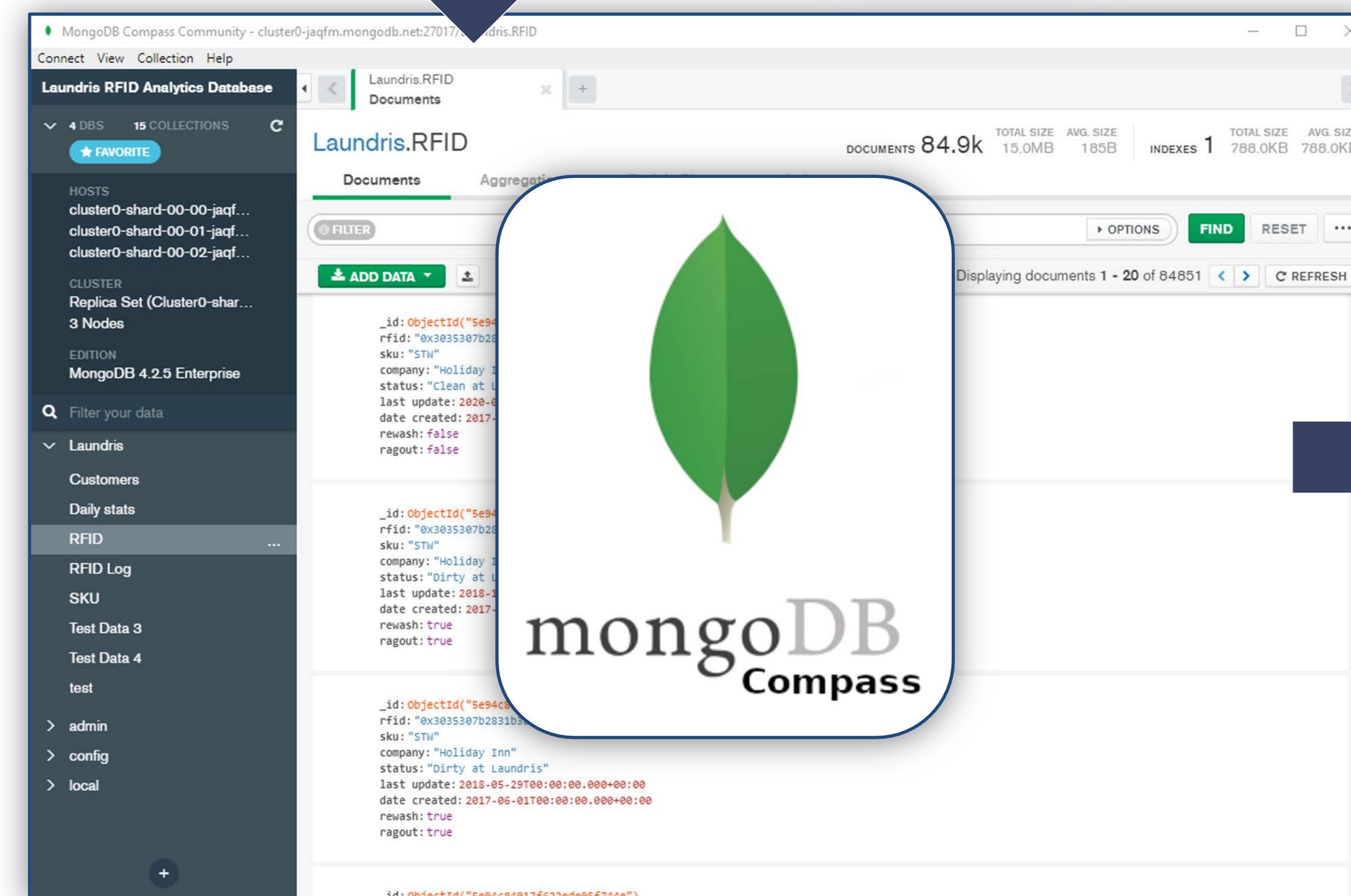
by The Mean Green Programming Team
Computer Science CSCE 4905/4925 IT Capstone

ABSTRACT

Laundris came to UNT with a specific problem--improving the concept of scanning RFID tags in laundry and using that information to update a database to show pertinent and value-creating information. We have taken that launchpad and created a web application to be used internally and as a proof of concept to connect an RFID scanning tool to said web application that updates a database.

This information, once properly displayed and connected, can be used to forecast and create projections of future laundry needs. The algorithms behind the forecasting, projections, and data that is being displayed on the web application were created by a separate Computer Science Capstone Team that we worked in tandem with.

A system like this does not exist in the current market. Its value can be shown through the projections and inventory tracking capabilities. This system will save a large portion on time and effort that is already used in laundering linens, making business more efficient.



The system as it is currently planned will connect the RFID scanning tool to the database directly for updating several different pieces of information related to each RFID tag.

The database is then used to populate graphs and charts that represent valuable data and we hope to eventually forecast linen order requirements given enough data.

IN THE FUTURE

- ❖ Improve complexity of analytics
- ❖ Improve functionality of graphs in webapp
- ❖ Update RFID tag functionality
- ❖ Determine future order cost based on data
- ❖ Predict changes in operation cost based on data

EXPERIENCE GAINED

As a team, we were a bit under experienced but quickly decided who was best at what and learned all of the software and tools used. Most of the technologies we used, our team had no prior experience working with, so picking up so many technologies was one of our largest challenges. As a team, we also learned scope creep is a real issue for big projects and communication is incredibly important.

List of Software Tools Used:

- ❖ **Atom.io**: a text editor to create and edit webpage assets
- ❖ **Visual Studio Code**: used with VSC Live to provide code collaboration
- ❖ **Github**: inter-team collaboration tool for file management
- ❖ **MongoDB Compass**: used to query and edit database
- ❖ **Amazon Web Services**: S3 web hosting
- ❖ **Express JS**: provides endpoint communication with web application

UNDER DEVELOPMENT

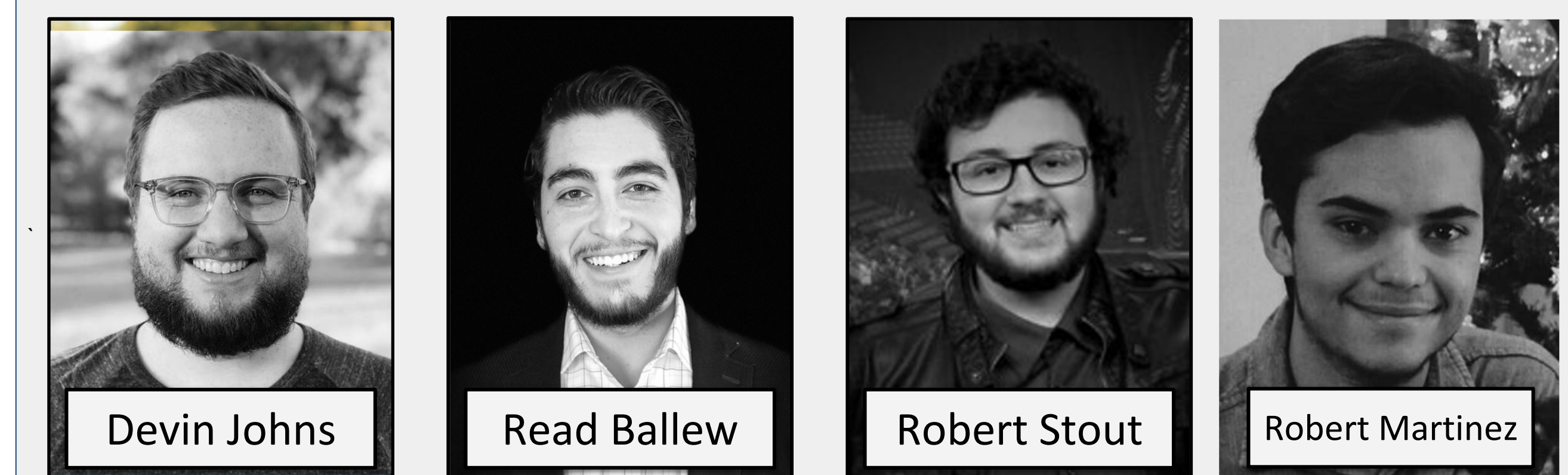
- ❖ Connection for RFID scanning tool and database
- ❖ Connection for MongoDB and Laundris web app
- ❖ Dynamic graphs in web application to accurately represent data from database

SPONSORED BY



Don Ward & Jamar Beall

MEET THE TEAM



Made possible by Professor David Keathly