



# ***Car Dismissal App For Schools***

By: David Rowland, Gabriel Del Carmen,  
Khern Toussaint, Ange-Thierry Ishimwe,  
Tomas Stevens, Tory Adderley

# Current Existing Problems

- Challenges of Primary School Dismissal
  - Long wait times
  - Traffic jams
  - Student safety
- Existing Tools
  - Expensive
  - Subscription Based
  - Require ongoing support
- Traditional Workflows
  - Inefficient
  - Prone to human error





# Objective of the Application

- **Safety of the Application**
  - Increase safety of children from traffic and reduce risk of injury and reduces chance of abductions
  - Provides a secure and recorded database of drop off times for recording child attendance
- **Traffic Management**
  - Reduces risk of children being hit by traffic
  - Reduces the congestion of traffic near school areas
  - Organizes and controls flow of traffic to prevent confusion of parents.
- **Time Management**
  - Will speed up all dismissals offs of students
  - Better showcases times for parents to pick up students
  - Reduces time required for teachers and faculty to spend organizing students
- **Cost of schools**
  - Reduces cost paid for time not needed for schools
  - Reduces the cost of buses, cars, and parents time/gas due to less time spent waiting

# Full Stack Application

- Consist of Client-side and Server-side components
- Communication between components via Http requests
- Data will be passed back and forth in JSON Format
- Multiple clients will be able to communicate with server
- Database for data persistence



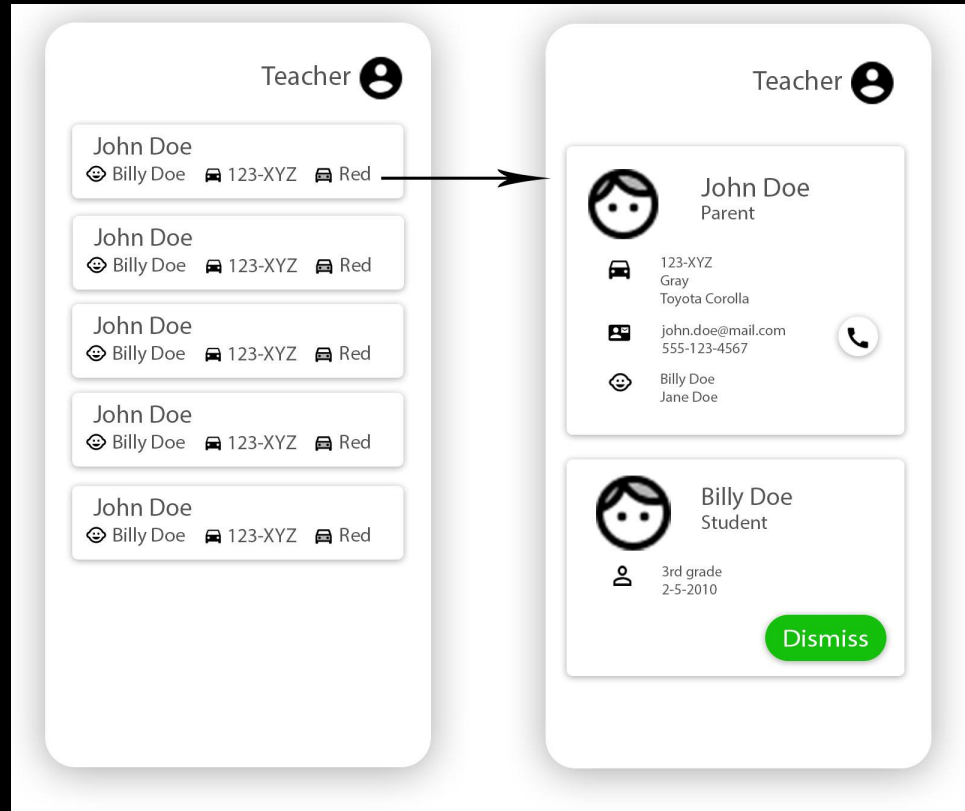


# Server-side Component

- MongoDB database
  - Multiple collections
  - Cloud hosted
  - Accessible by client web and native phone applications
  
- RESTful API
  - Made with Spring Boot
  - TSL encryption
  - Secure endpoints with Oauth2

# Client-Side Components

- Web and Mobile (iOS and Android) Client Applications
- Web Application to Edit DB from a Browser
- Responsive and Rich Graphical User Interface





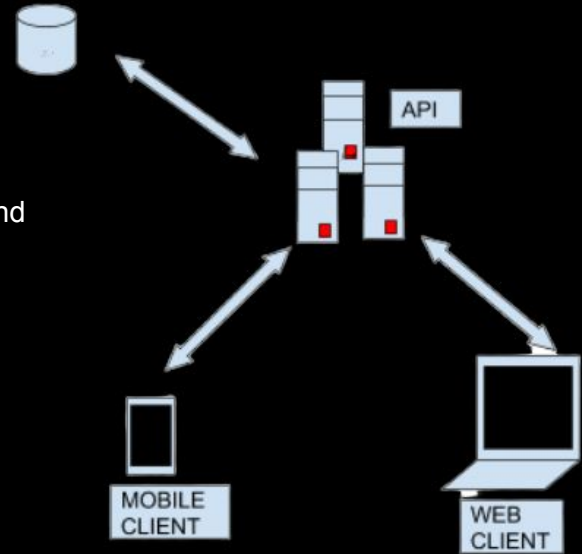
# Features and design

## Feature Requirements

1. Administrators must be able to build and modify the core database with important data without any database query experience.
2. Teachers on duty will be able to view and edit the car-line queue by entering numbers displayed in parent vehicles.
3. A second on duty teacher will be given a continuously updating list of the students whose parents are waiting, in order, and be able to delete a student from the list when they safely enter their ride.
4. Parent companion app/service to notify parents when the child is picked up.
5. Allow parents to add their names, address, phone, email, child names, guardian names(those who are allowed to pick up the student), emergency contacts.
6. Allow parents to notify teachers how the student will get home. Choices would include: to be picked up, ride the bus, and others(when a parent allows a student to just walk home).

# Higher Level Architecture

- Database (ex. MongoDB)
  - Registrar inputs and updates student info.
  - All relevant to individual students
  - Simple queries by teachers for dismissal
- Mobile implementation
  - The Android/iOS application, using React Native
  - Real time notifications indicating when parents arrive and students picked up
- Web implementation
  - Web Application with rich interface used by registrar to quickly update and enter student information
  - Administration can maintain their own database
- Api implementation
  - RESTful API created with the help of the Spring Boot framework
  - Handle any requests from the client side.





# Conclusion

- Simple to implement
- Ease of use
- Cost effective
- Safe
- Reliability



## REFERENCES:

“Spring Projects.” Spring, <https://spring.io/projects/spring-boot>.

“The Most Popular Database for Modern Apps.” MongoDB, <https://www.mongodb.com/>.

“React Native · A Framework for Building Native Apps Using React.” React Native Blog ATOM, <https://facebook.github.io/react-native/>.

“React – A JavaScript Library for Building User Interfaces.” – A JavaScript Library for Building User Interfaces, <https://reactjs.org/>.

“What Is Full Stack?” What Is Full Stack, [https://www.w3schools.com/whatis/whatis\\_fullstack.asp](https://www.w3schools.com/whatis/whatis_fullstack.asp).

“The Ultimate Carline Management System.” School Dismissal Manager, <https://www.schooldismissalmanager.com/>.

“Develop a Quicker, Safer End-of-Day Process for Student Pick Ups.” FetchKids School Pickup App – California, <https://fetchkids.com/>.

“The Number One School Safety Platform.” PikMyKid, <https://www.pikmykid.com/>.