

CASE STUDY

TRANSPORT MANAGER APP

redbytesTM
Appify Your Business

TrackSchoolBus : School Bus Tracking Company in Trivandrum, India
Time Period : March 2015 – September 2015

Domain

A comprehensive software management solution to enhance the safety of school students, and help school bus fleet managers to generate a safe and smarter transportation.

Why Mobile App Development?

Mobile technology helps to simplify day to day life routines and its an ideal way to disseminate fully customizable informations in real-time. Development of Transport Manager app can help the fleet managers to communicate to his/her whole fleet, analyse pick-up management, schedule trips for students etc.

Objective:

To create and design an app that aims to help the school bus fleet managers to maintain and control the entire on-the -go travel of students i.e. provide up-to-date information on vehicles, students, and staff on the move and pass informations to parents or school authorities.

Challenge:

During app development, back-end system, design and overall infrastructure showed a major role in the making of the final product.

Following listed functionalities were found to be the main back-end challenges:

- Real-time location using GPS and RFID Integration
- Creating an app available on iOS and Android
- Cost-effective UI/UX designs
- Easily customizable
- Assign pick-ups, payment approvals, maintain student details, attendances, leave applications, decision on bus fares
- See scheduled trips in the next 3 hours
- Push notifications to parents are based on shift times
- Panic alarm, which is a part of push notifications
- Vehicle battery health
- Generate reports, track drivers and passengers
- Billing & Invoicing
- Editable Fare Chart

Strategy

Our main strategy is to get a clear idea on what exactly the client demands regarding the app requirements & specifications. As we had to develop from the scratch, it was important to clearly formulate the client requirements. We focus on priorities and implement tasks according to the detailed business analysis and fair objective settings with the right budget, resources, methodology, testing and marketing plans.

What We Did?

Redbytes, design and develop digital products with user-centric interactive design and scalable software architecture.

Transport Manager App helps school bus fleet managers to analyse and maintain the entire trips, communicate with the whole fleets and carry out other dashboard panel settings. This app is a unique way to control vehicles remotely using the precisely given details. This app, used by the transport manager enables complex functions such as creating trips, allotting vehicles and drivers, real-time location analysis, student attendance, notifications etc. All functionalities are protected via proper authentication and admin panel is only visible to members who are given permissions.

Design

Redbytes, aims to deliver an app that is intuitive, user-friendly and stunningly beautiful. The designing phase starts with an interactive prototype of scoping, specification and wire-framing phase, where we get clarity of the idea. Then our designers analyse the different styles within the app categories to determine how to stand out from other apps.

Application Part

'Transport Manager' is a cross-platform app that works with both Android and iOS. Developing a cross-platform app has higher potential

to tap greater audience and mobile market. It allows the developers to create apps using a single language for scripting including JavaScript, HTML etc. This can increase productivity and accelerate the entire app development life cycle to deliver a high quality app that works on both iOS and Android devices.

Even though we develop for iOS and Android, the development techniques are almost the same for both platforms. The developers used HTTPS (Hyper Text Transfer Protocol Secure) based communication protocol, for speedy exchange of information between the browser and the website. Our developers made use of GPS tracking system and RFID to design an easy navigation pane for the users.

In iOS:

Here, our developers wrote the software application using the programming language-Objective C and use Xcode as the integrated development environment. This is mostly used because of its easy and user-friendly features. For the updates, developers are also using Swift, which is a general purpose, compiled programming language

In Android:

The official IDE of Android, the Android Studio is used on this platform. It accelerates app development and helps to build high quality apps for every Android device. This IDE offer tools for code editing, debugging, testing, and profiling. Here, Java is used as the programming language as it has huge open source support with various libraries and tools, its simple and secure

Steps of Development

- Create New Project
- In Settings give the Bundle ID and App name
- App store certificates are created to upload app to App Store
- Designing of the app
- After development, sent to the QA team for testing
- App launched to the App Store

In Web Part:

In the web part, the server side scripting is done by PHP which is used on all major operating systems. Here, Yii2 is used as the open source, object oriented MVC PHP web application framework which is highly extensible, simplifies security and lowers development time-period

Node.js

Its a platform built on JavaScript which is used for developing the dashboard of the app. It is used to build fast and scalable network applications. The use of event-driven, non-blocking I/O model of Node.js makes it a perfect choice for data-intensive real-time applications

In web part, as same as in the app, the transport manager can check details on the running, available and tracked or untracked vehicles. He/she can also manage trips, be it scheduled or instant ones. During trips, TM can directly call the driver to assign pick-up for single/repeated times. Instant pick-up can also be assigned in case of such one-off instances. The status, location and other details such as name, parked time etc. of buses are graphically represented on the map. Push notifications to parents are based on shift times. The transport manager can also edit/delete the user, student details in the dashboard of the app.

Testing

During this phase, our testers use neoteric collaborative tools to deliver high-end results for the client. All the obtained results are verified and checked by specially trained experts by performing Black box testing, White box testing, Unit testing, Regression testing, Compatibility testing, Alpha and Beta testing etc. We conduct multiple tests to ensure your app is free from crash and layout glitches.

Debugging

In this step, the errors found in the test program is checked by the developers, mistakes are modified and later code are rechecked. After this, the app is launched to the App Store.

Investment: The Transport Manager app is the result of our passionate team and extraordinary technical expertise which includes a Project lead, designers, developers(iOS & Android) and testers. It took almost 6 months for our team to complete this project and updates are still done.

Achievement

Our dedicated team effort, coupled with ideas from our client, enabled us to deliver the Transport Manager app on time which was a huge success. The client was satisfied in achieving their goal of creating a user-friendly app to help the school fleet managers.

