MECHANIC

Problem Statement: We set out to digitize the process of engaging a mechanic to assess the damage to an automobile or the work required to provide vehicle maintenance. Conventionally, this process is manual and requires the owner to spend several hours at garages and workshops. Information regarding the work identified and billing is being done on paper. Vehicle owners need to be physically present to get consultation, provide consent and make payments.

THE SOLUTION

Mechanic app was created using React Native (Frontend) & Firebase (Backend) to provide a platform that digitizes the process of getting vehicles repaired or routine maintenance and makes it time saving and convenient for both the customer (i.e. vehicle owners) and service providers (i.e. mechanics).

There are two sides to the solution, the mobile application which the mechanic uses to identify issues using checklists for different categories of the items to be inspected and the web-based report that serves as a summary of the work identified as well as a consent and payment form for the vehicle owners.

CONVENIENCE...LIKE NEVER BEFORE!

The main objectives for creating Mechanic App were to bridge the communication gap between vehicle owners and service providers, save time and make the process more convenient using technology. The benefits Mechanic App provides over the traditional process are as follows:

- The app creates an organized process for mechanics to follow
- Checklists ensure no item is missed by themechanic during inspections
- Mechanics can showcase & sell multiple variants of the auto-parts & components
- Allows for media sharing (images/videos) to highlight issues
- Report summary shared with customers after complete inspection
- Allows customers to provide consent & make secure payments
- Saves time and the hassle of being physically present for the customers
- App allows multiple users (mechanics) to use the platform under one account (garage/workshop)

HEALTH CHECK

Once the mechanic's profile has been created, the sticky bar at the bottom of the screen can be used to navigate between options. When a mechanic starts a new job, he needs to fill in information about the vehicle and the job.

The information entered in the Health Check module includes the name & email address of the customer, the vehicle model, registration number & mileage, the name of the garage, the check-in time & date, and the name of the technician inspecting the vehicle.

The navigation bar allows the user to switch between the current job, open jobs, closed jobs, mechanic's profile, and also has the option to logout.

INSPECTION CATEGORIES

INTERNAL
Warning Lamps, Internal Lamps, Horns, Instruments, Wipers & Washers, Seatbelts, Clutch, Foot & Hand Brake Operation, and Other.

EXTERNAL
Body Damage, Trim, Glass, Mirrors, External Lights, Wiper Blades & Lock Operation, and Other.

UNDER BONNET
Brake Fluid, Battery, Coolant Level, Engine Oil Level, Power Steering Fluid Level, Drive Belts, Screenwash Level, and Others.

BRAKES
Brake Disks, Brake Hoses, Brake Pads – Front, Brake Pads – Rear, and Other.

UNDER BODY
Steering, Drive Shafts, Hoses, Oil Leaks, Exhaust System, and Other.

OTHER
Service Book, Locking Wheel Nut, Brake Fluid Due, Cambelt Due, and Other.

TYRES
Front Left, Front Right, Rear Left, Rear Right, and Spare.

REPORT SUMMARY

Upon completing the inspection categories, the mechanic arrives to the Report Summary module. This is where the information entered in the Health Check module is automatically displayed along with the image & video galleries for that job. The mechanic needs to enter the job type (routine check, maintenance, or repair etc.) and status (Completed, Pending, and Posted). The mechanic can view all the items that have been inspected and can add comments against each item to highlight issues and actions needed. Finally, the mechanic can view the work sold tab, which needs approval from the customer in order to display the approved action items and their respective prices.
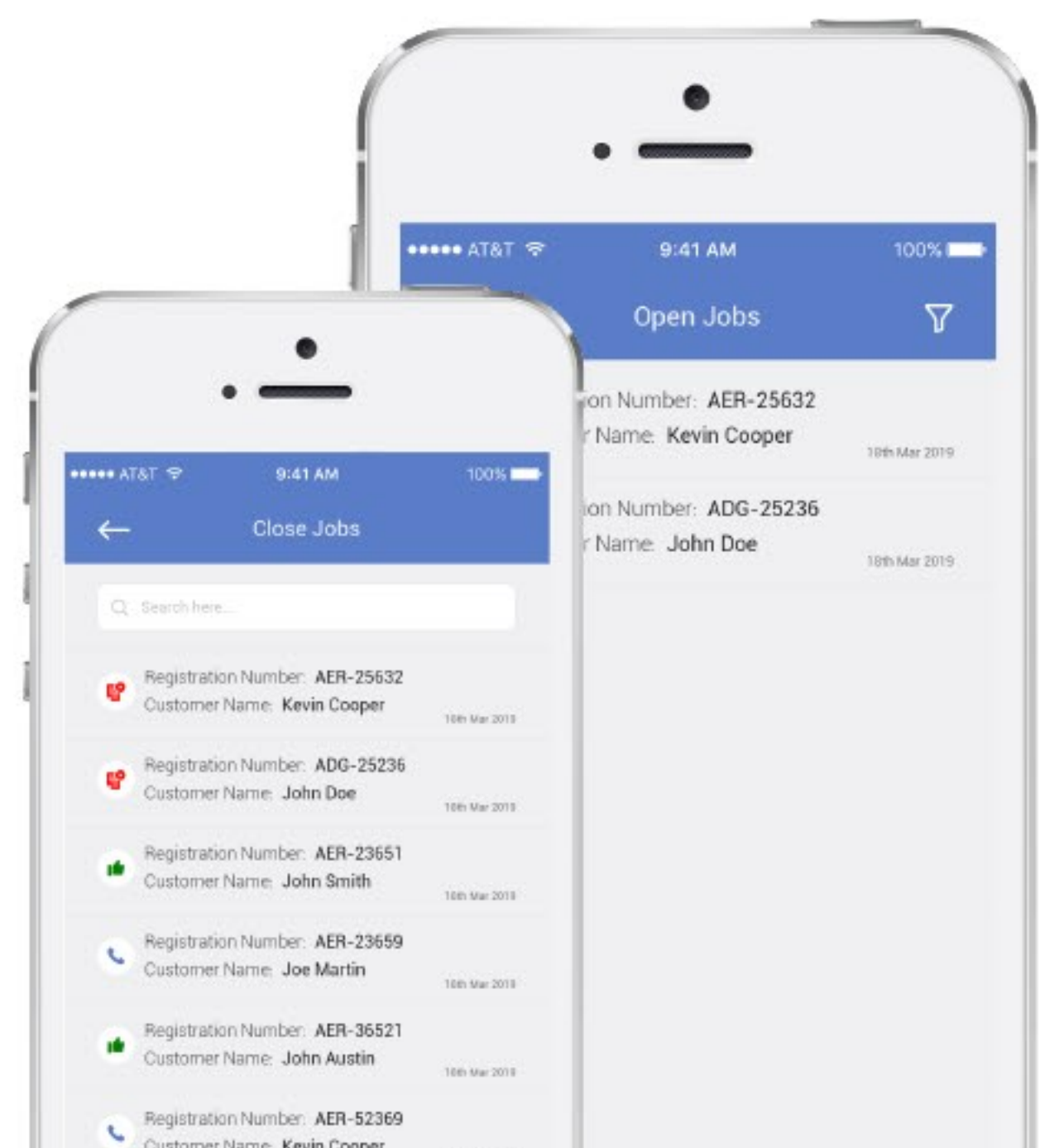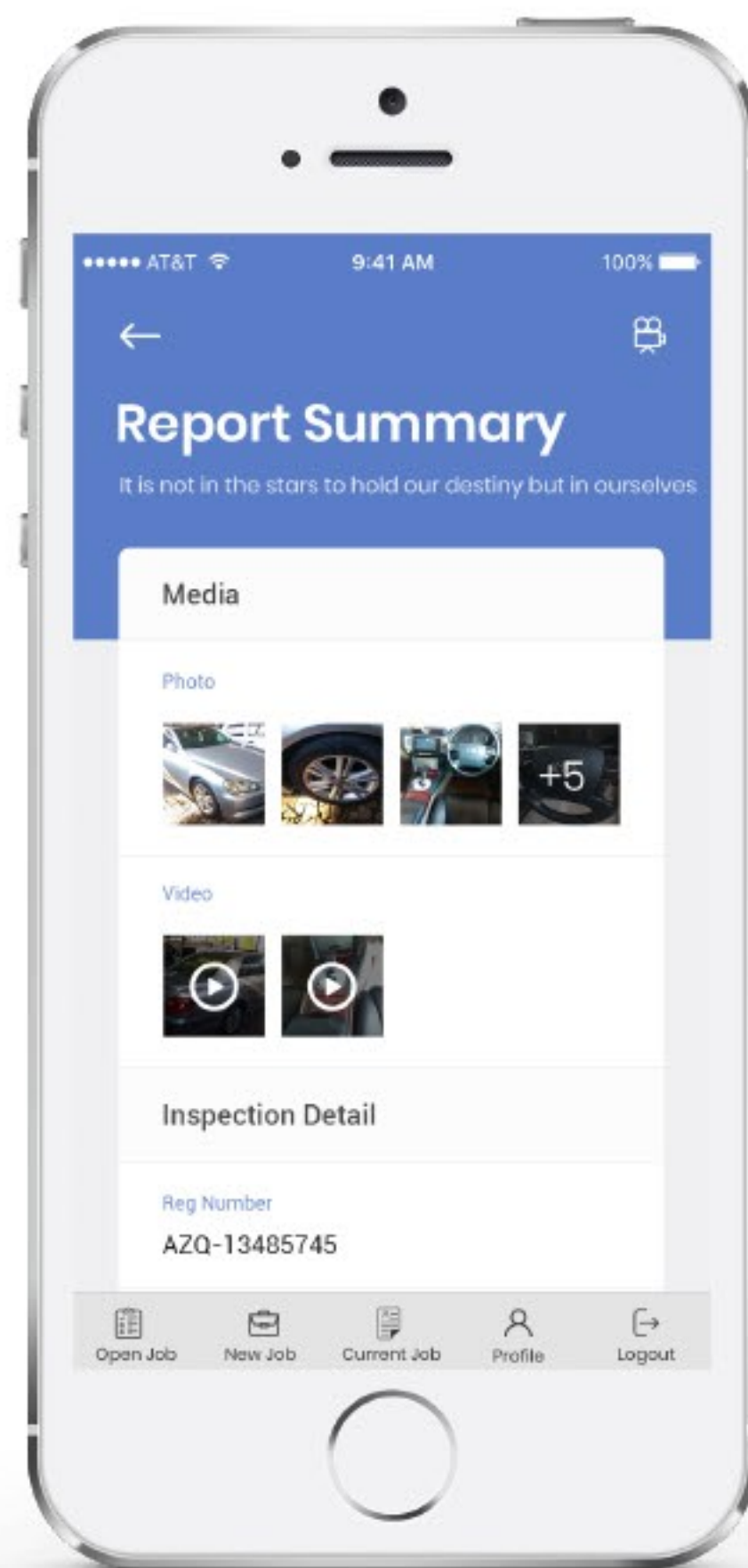
OPEN & CLOSED JOBS

The application stores the details of all the jobs which allows the mechanic to access any report by searching using two filters (Last name of the customer or registration number). The mechanic can make changes to any job until it has been accepted by the customer. The mechanic also has the option to delete any job if necessary. An open job is an ongoing job or a job for which all the fields have not been filled. A closed job is one which has been completed by the mechanic and a web-based report summary that is awaiting the customer's approval has been shared with the customer.

REPORT SUMMARY - WEB

Upon completion of the inspection by the mechanic, the report summary will be generated and the job will be classified by the app as a closed job. At that moment, a link to a web-based report summary will be emailed to the customer. This web version of the report will highlight all the low priority (advisory) and high priority (urgent) issues. Customers have the option to select the tasks they deem important or approve all the work. With every selection they make, the price of the item adds to the total price of the services on the very same screen. They may also choose to discuss their options over a call with the mechanic. Once approved, the customers are guided to the payment screen where they can make the secure payment for the work sold.