INNOVATION IN ACTION: REVOLUTIONISING FLEET SAFETY THROUGH MOBILE APPLICATIONS
Daily Vehicle Inspection App

THE SITUATION FACED - The traditional pen-and-paper-based process of completing a vehicle inspection no longer deemed satisfactory for McGee

As part of a driver’s daily vehicle inspection they were required to complete a paper-based defect book - which had the potential for vehicles to not be thoroughly inspected. Any vehicle defects found were reported to the Transport Office via a phone call or defect note, which typically led to a series of additional calls and e-mails, before the appropriate maintenance could be arranged.

We therefore wanted to revolutionise our daily vehicle inspections with a primary focus on improving the safety of the McGee fleet whilst ensuring compliance and exceeding legal requirements.

THE TASK UNDERTAKEN, ACTIONS & TIMESCALES

So as part of our drive to improve safety and increase efficiency, we have designed a unique mobile application which automates and digitises daily vehicle inspections, using NFC technology.

50 HGV’s
7,000+ digital inspections so far

What one Officer at the City of London Police thought when given a demonstration of the app

"It is great to see that McGee has developed a mobile app to enhance their daily driver vehicle inspections. The app helps to make sure that their lorries are thoroughly checked and don’t go out on the road with any defects, which is setting a great example for the transport industry and in helping to protect vulnerable road users."

Stuart Ford, City of London Police

INNOVATION IN ACTION

- We deliver a historically paperbased process, on a mobile platform (smartphone or tablet).
- We use NFC (Near Field Communications) technology built into the devices with ruggedized tags located on each vehicle - under the bonnet, on the nearside, off-side and inside the cab. An additional two tags are fitted to vehicles with trailers.
- Every driver has to scan their device against their vehicle’s NFC tags, ensuring a full physical inspection of their vehicle, is carried out.
- We GPS track and record the location of every single inspection, making the process fully auditable.
- We’ve created mandatory fields in the intuitive digital form, and content is validated against a pre-defined criteria.
- If the driver reports a vehicle defect during the inspection, this can be recorded on the device with a photograph via the in-built photo capture feature to clearly identify the defect.
- To help reduce administration, an automated defect management workflow is created to effectively track and resolve the issue promptly, reaching the Transport Manager within a matter of seconds. This robust and simple solution gives McGee a complete audit trail of the defect history and complete confidence that every vehicle is thoroughly inspected daily.
- If there are no defects to report, the driver simply signs to say the vehicle has been checked and will ‘save and submit’ the report.
- We capture a PDF report of every single inspection within a minute of it being completed - ensuring compliance and total records management.
- We automate the delivery of reports into our Content Management System, without human intervention.
- A daily report is generated, to ensure all working vehicles are inspected by the app, daily.
- All content relating to the application is held in the cloud.

McGee lorry drivers - around 50 in all - now in 2016 carry out their daily vehicle inspection using a tablet with Near Field Communication technology. This means we know that 7,000+ thorough vehicle inspections have been carried out on our fleet so far.
Inspection point 1
Under the bonnet

Inspection point 2
Nearside

Inspection point 3
Offside

Completion tag
Inside the cab

Above: Vehicle inspection GPS feature
Above: Vehicle inspection photo upload feature
THE RESULT
The primary objective of the vehicle inspection app is to improve vehicle and road safety. The system ensures that every vehicle is leaving the transport facility in a fully compliant condition.

As a byproduct of the app’s implementation, it improves the workflow and allows for the whole process to be entirely visible and governable; it improves driver engagement due to a positive user experience, and ensures a fast execution. Every transaction is recorded, therefore traceable and fully auditable.

The mobility of the solution enables the Transport Manager to be aware of all matters concerning our fleet whenever and wherever. This is especially important because of our ongoing work to help protect vulnerable road users.

"It is remarkable how NFC technology has transformed the way we carry out daily vehicle inspections. All our drivers are able to capture their vehicle’s data by simply scanning their phone against a number of NFC tags which are fitted to the vehicle. With the introduction of this technology, drivers are prompted of everything they need to check; ensuring vehicle and road safety."

- John Kelly, Group Transport Manager

Driver input, testing and feedback has been crucial to the development of the system. Feedback from the McGee drivers has been positive. One driver commented:

"Since the mobile app was introduced daily vehicle inspections have become a lot more efficient, particularly if a defect is found. From a driver’s point of view, once a defect is recorded, it is immediately sent to the correct person to rectify immediately, with no loss of paperwork or delay."

- Andy Weston, Tipper Driver
IMPORTANCE OF THE PROJECT TO McGEE

THE FIVE W’S
who, what, where, when and why of the process...(or Six – how)

_We know who completed the inspection, what inspection was carried out, where this happened, when it happened, why it was being inspected, and how - using what device._

SUMMARY

- The app utilises innovating NFC technology to ensure full compliance
- The app has improved safety as we know 7,000 full physical inspections have taken place so far - totally revolutionising the daily vehicle inspection and meeting our number one objective for safety
- The app has helped to increase driver engagement whilst continually improving safety
- The app is fully auditable and driver authenticated
- The app’s automated defect management workflow effectively tracks and resolves issues promptly

SOME OF THE KEY FEATURES & BENEFITS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
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<tbody>
<tr>
<td>NFC Tagging</td>
<td>Promotes a physical inspection of the vehicle</td>
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<tr>
<td>Fully integrated workflow</td>
<td>Confidence that every vehicle is leaving in the proper condition</td>
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<tr>
<td>GPS track and record</td>
<td>Fully auditable and driver authenticated</td>
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<td>Photo capture</td>
<td>Quickly and clearly identifies the defect</td>
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<td>Reporting</td>
<td>Automated reporting ensures compliance and records management</td>
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<td>Audit trail</td>
<td>Tag can confirm inspection and/or defect history</td>
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<td>Pre-defined check list</td>
<td>An intuitive form that ensures nothing is missed or forgotten</td>
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<tr>
<td>Automated defect management</td>
<td>Instant notification regarding defects and quarantined vehicles</td>
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What the City of London Corporation thought when given a demonstration

"It is good to see McGee leading the way with app technology for driver vehicle inspections. The app helps with compliance for the Transport Manager and workshops to make sure that the vehicle is actually checked and doesn’t go out on the road with defects which I believe is the way forward for the transport industry and compliance with regards to Work Relate Road Risk. Well done and I look forward to seeing this technology being used by every organisation."

Vincent Dignam, City of London Business Improvement & Performance Manager
McGee is a broad based construction company and multi-disciplined specialist contractor. Family owned and managed for over 50 years, we continue to build on considerable technical capabilities and upon a reputation for excellence and innovation.

With an annual turnover over £100m, across 25+ sites and utilising upwards of 1,000 employees to self-execute on major projects, predominately in the London area and Home Counties.

We deliver a wide spectrum of decontamination, demolition, construction and civil engineering services – operating as a specialist sub-contractor or main contractor. We also provide telecommunications, recycling and land engineering services.

The breadth of our expertise and the depth of our specialist knowledge provides a welcome guarantee of quality to our customers.