Investigation into the utilisation of mobile or handheld devices in a forecourt environment

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The primary objective of this Industry project, performed by Mike Gannaway as a requirement of his Bachelor of Applied Information Systems degree, was to enable a forecourt attendant of a service station to perform various day-to-day point of sale operations on a wireless device.

The primary goals of the project were to:

- Enable a wireless connection to be created and maintained between the wireless device and server
- Enable the forecourt attendant to be able to access systems including
  - Point of sale system (POS)
  - Back office system (BOS)
- Enable the attendant to be able to perform operations including
  - Authorise pumps to deliver fuel
- Collect and register payments

The project required that Mike investigate the devices and protocols available to meet the requirements of the project sponsor. Investigation included review of the appropriate network protocols, topologies and technologies. As part of this research and a feasibility study, he looked at the following factors:

- Safety
- Legality
- Interference
- Availability of design tools

Platforms

He also placed a focus on the .NET compact framework for developing applications for mobile devices.

In addition to the project, Mike performed analysis and designed a prototype as an extension to the agreed upon scope. While the prototype was not an initial requirement, a portion of the developed code has been utilised in the development of a final solution for a related project by the sponsor organisation.

This project won the best project award for the 2002 graduating year based on the extensive research and additional work produced and the fact that it was implemented as a final solution.