Construction Site – In the field, remote clocking point.
Biometric finger print authentication for time-keeping in remote "zero-infrastructure" sites.

Location:
Nottingham

Industry Segment:
Construction

Application:
Access Control, Time &
Attendance

Technology:
Biometrics, 3G, Finger Print

The Problem
Sometimes you need to be able to track personnel working hours and certification requirements accurately where the infrastructure required to run an access control system cannot be provided. In addition, ensuring the identity of personnel using biometrics, eliminating the possibility of fraudulent activity.

One of our clients had just that problem in front of them during a major construction project in Nottingham. Their site consisted of a 16km long passage from a city centre to the outskirts, cutting through roads, housing estates, rivers, etc, and meant a traditional site compound is not possible. Instead, they tackled this by setting up a main compound, several sub-compounds and many micro-sites through-out the length of the proposed route, right in the heart of suburbia.

While the main and sub-compounds had the infrastructure available (power and comms) to run Herongrange's fully comprehensive access control software, our client needed the same ability to clock in and out using secure biometrics from the micro-sites (where power or comms is not always feasible), but also maintaining the same powerful reporting and Time & Attendance back at the main compound.

The Solution
So it was obvious from the outset that our finger print readers, which are already ruggedised as standard, made the right starting point. The challenges were to package it into a go anywhere, use anywhere remote clocking point.

Next we added a 3G router and a SIM with a fixed IP Address capable of supporting bonded 3G and dual mobile operators in one unit. Being a fixed IP and operating on our own secure APN, we have complete control over the entire case where ever it has a mobile signal. The router can also be controlled by SMS so we can schedule tests, diagnostics and reporting while it is offline for processing later.

HERONGRANGE

Herongrange made remote clocking points a reality. They are simple for the operatives to use, and head office get the same feature rich reporting from them as with the main compounds and it's totally transparent.

During normal operation, clocking events are sent to and processed by the server live, and in turn any updates are transmitted to the case in real-time.

However, we also added onboard memory so that the unit can work independently of the server at times when even 3G coverage is poor or not available. The unit holds an encrypted algorithm of the finger prints with no link to personal information, but can store over 25,000 clocking events while offline.

Once the unit restores a 3G connection to the server, all pending events are transmitted to the server and any updates from the server are received.

We included a compact light-weight long life battery able to provide enough power to allow the unit to be used without a mains supply for in excess of 10 hours. A built in charger allows the unit to be used and charged when mains power is available, or overnight at the nearest sub-compound.

Benefits
Personnel who are enrolled on the multi-site access control system are automatically able to use any of the clocking points at any of the sub-compounds using traditional wall mounted finger print readers, or at any micro-site using a remote case.

Since the finger print readers are the same model, the operatives use them in exactly the same way, and apply the same regime as to when to clock. Operatives are also able to clock in at one site, and subsequently clock out at another site or remote case. Their times and location are always logged.

Time & Attendance reporting includes data from the cases in the same way as with those at sub-compounds.

Herongrange then monitors the whole solution remotely to ensure issues are prevented or dealt with immediately.