

Case Study



Providing Better Transport Services: College Deploys NFC Technology To Gather Vital Usage Data

- **Vision West Nottinghamshire College** has begun collecting data from the bus services it provides to student
- **Gemini 2000 Ltd** provided hardware and software to power the solution
- The device deployed for this project is **GA Reader**, a portable battery-powered Android smart card reader

Overview

Vision West Nottinghamshire College provides a comprehensive bus service to all of its students via over a dozen routes across Nottinghamshire and Derbyshire. To start collecting data about the journeys made, the college turned to Gemini 2000 Ltd to deliver a contactless smart card solution. The package consisted of portable smart card readers that were fitted to all of the college's buses. Custom software was developed for the readers to record the data that was needed together with a graphical user interface as specified by the college.

About West Notts

Vision West Nottinghamshire College is a popular and highly regarded college based in Mansfield. Each year it provides education and training to 30,000 full and part-time students across all major industry sectors and at pre-GCSE to university-level. West Notts offers comprehensive college bus services to all of its sites with routes across Derbyshire and Nottinghamshire.

Why Collect Journey Data?

The college was looking to gather detailed passenger data in order to understand the usage patterns for the bus fleet. Billie Jo Woodiwiss, Campus Services Manager at the college, says "The data is required to ensure that the buses are used to their maximum potential."

To collect the data, all students boarding the buses now tap their student smart cards on portable GA Readers from Gemini 2000. The devices log user and route data, as well as date and time, and make the records available for analysis to college staff. "The data will be able to show via a time stamp which stops on the routes are being used," explains Billie.

Hardware Solution

For this project the college was after a standalone contactless smart card terminal and Gemini 2000's GA Reader proved an ideal candidate for the job. A portable yet capable device, it could read the college students' Mifare 4k smart cards and store the data on its internal memory. All records are immediately available for download via a USB cable, or WiFi and 3G.

The GA Reader's rugged IP65 grade casing ensured it can operate reliably in the demanding environment of a busy bus service. Its long-life battery means it runs for up to 3 days on a single charge. The readers are placed in secure holders on the buses for students to tap on.



Tailored Software

Gemini 2000 and West Notts worked together to design a custom Android application for the GA Reader. When launched, the app displays current bus route and time and date onto the 3.5" colour display, while a confirmation icon flashes once a student's smart card has been read successfully.

All journey data is stored on the reader's internal memory, where they are downloaded from daily at the bus depot. The reader's log files are formatted and saved by the application in a way that allows them to be immediately available to staff using the spreadsheet software available at the college.

" Gemini 2000 were a great company to work with and found solutions for any questions raised. I wouldn't hesitate in working with them again in the future. "

- Billie Jo Woodiwiss
Campus Services Manager

Results

The college deployed GA readers on all of its buses and has been able to begin recording a wealth of granular usage data straight away. On top of providing suitable hardware, Billie Jo Woodiwiss explains that the readers' software application "was tailored to meet our needs by Gemini 2000." West Notts now plans to use the data "to ensure that the bus routes are working to the requirements of the passengers."

About us

Gemini 2000 is a United Kingdom based manufacturer of NFC solutions. We develop systems for contactless payments, smart ticketing, access control, membership management and more.

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