

Spotlight on Victoria

Think Melbourne, Australia for ICT

Case Study: Unique Micro Design

Company Profile

Unique Micro Design (UMD) is an Australian company, which 'engineers ICT solutions' in data capture and supply chain technologies. This motto reflects the company's ability to design, manufacture, distribute and integrate data capture hardware, software and services in and around enterprise systems encompassing:

- Data capture including barcoding and RFID
- Industrial automation
- Payment technologies
- Point of Service/Sale technologies
- Warehousing and logistics
- Wireless infrastructures

The company's focus is to support system integrators and value-added resellers, who offer complimentary products, services and support in a broad range of industries, with the selection, integration and provisioning of technologies in data capture and supply chain applications. To support these processes, UMD is divided into five divisions:

- IT Products (for product distribution)
- Engineering Services (for electronic design and engineering)
- Service & Maintenance (for quality after sales support)
- eCommerce (for payment technologies)
- Technology Integration (for professional services)

The company's unique ability in 'engineering ICT solutions', to supply, modify or design solutions to meet customer's requirements, has positioned UMD as the first choice of many professional systems integrators in the supply of data capture and supply chain solutions.

Company History

UMD was established in 1983 by Engineering and Science graduates from Monash University at Clayton, Victoria. Initially focused on the design and manufacturing of microprocessor-based devices and interfaces, the company has now evolved to be a major provider of information and communication technology solutions in data capture and supply chain applications. The company headquarters and manufacturing facilities are located in Clayton, Victoria and primarily employ qualified engineers and IT professionals. In 2000 the company restructured its operations and expanded its design, manufacturing and distribution business to include the Technology Integration Division which focuses on assisting IT professionals with the integration of the company's diverse technology offerings.

Major Projects and Customers

- Australia Post – point of sale peripherals
- Mobil Petrol – point of sale peripherals
- AWA Gaming – Keno betting terminals
- Honeywell – specialised data entry terminals
- KFC and Hungry Jacks – UMD custom keyboards
- NSW State Rail – UMD custom keyboards
- Sydney Olympics – turnstile controllers.

Turning Point

'The emergence of RFID technology encompasses all the elements that we have specialist skills in, especially our engineering capabilities, which we collectively call 'Engineering ICT'. It presents a fantastic opportunity for our company to grow and reach untapped export markets'. Geoffrey Ramadan, Managing Director, UMD.



Project Focus: eMitt – Racing Victoria

As of 2003, all thoroughbreds born in Australia require an RFID microchip to be inserted near its neck to assist with identification. As a consequence, equipment, techniques and systems needed to be developed to read these microchips. The traditional device to read the microchips was too large and obtrusive for the horses, causing them to stir. Racing Victoria was searching for a solution that would allow the microchip to be read without scaring the horse. UMD, in consultation with Racing Victoria developed the eMitt microchip reading solution.

Methodology

Over recent years UMD has developed expertise in RFID, particularly with animal tag readers and interfaces. UMD worked closely with Racing Victoria and Biowatch to develop a solution that best suited the requirements of the reading operation. Factors considered included the 'flighty' nature of horses on race day, the tendency for horses to rear and shift about whilst in a nervous state and the natural inquisitiveness of horses to anything unusual in their environment. Once UMD understood Racing Victoria's needs, it used its 'engineering ICT solutions' skills to develop a mobile RFID reader in the form of a glove called 'eMitt', to meet exact needs. A glove reader design was chosen due to its ability to be operated with both hands free, in turn removing the possibility of the reader dropping to the ground or being stepped on by the horse. With this novel design, the user wears the eMitt glove and strokes the horse. Once it passes over the embedded RFID microchip, it will read the unique identification number. This number is then wirelessly transmitted via Bluetooth to a mobile computer for processing.



Herald & Weekly Times Photographic Collection

Nuts and Bolts

From inception to rollout, the project took six months and four staff.

Outcomes and Benefits

- Portable RFID readers
- Unobtrusive for the user and the animal
- More efficient – identification is quicker and easier
- The glove form provides safety benefits for both the user and animal (allows hands-free operation by the user)
- Uses Bluetooth to transfer data to a pocket computer

Customer feedback

'Microchips are a great assistance to stewards in monitoring horse identification. On race day all that the stewards need to do is run the eMitt scanner on the horse's neck and its details will come up on the hand-held computer. When we get to the stage where it is accessible and easy for stable hands to use scanners, then down the track we might do away with branding.' Des Gleeson, Chief Steward, Racing Victoria.

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