

## Overview

**Point of Sale (POS)** terminals are commonly used in retail stores or restaurants at checkout counters. Most POS terminals include peripherals such as display, printer, magnetic stripe reader, barcode reader.

**Interactive kiosk** systems are usually unattended, self-service systems that provide access to information and web applications. Kiosk applications include wide variety of services such as public utility bill payment, ticketing, vending, security, financial services, directory and informational services.

## Afttek Expertise

Afttek has wide expertise in design, development and testing of a POS and Kiosk terminals. Afttek has served industry leaders as well as start-ups for terminals like pay-at-table terminal, handheld terminals. Afttek's skills include:

### Hardware Designing

- ◆ Afttek has experience of hardware system architecture design, board layout design and prototyping of POS and Kiosk terminals based on processors like XScale and Atmel SecurCore series.
- ◆ Experience of interfacing standard POS peripherals like magnetic stripe reader (MSR), barcode scanner, smartcard reader, printer
- ◆ Expertise with common communication interfaces like PCMCIA, Ethernet, USB, WLAN
- ◆ Expertise in building systems with LCD displays and touch-pads
- ◆ Implementation of security mechanisms such as mechanical switch and Hall Effect sensor for tamper-proof system
- ◆ Smart PCB layout using signal mesh to avoid any tapping of secure signals
- ◆ Designing of tamper-proof mechanical enclosure
- ◆ Reliability and environmental testing of the hardware
- ◆ Compliance testing and certification for FCC, CE etc.
- ◆ Building POS systems that are compliant with payment card industry's security standards like PCI PED

### Board Support Package and Firmware

- ◆ Creation of customized board support packages (BSP) including OS porting, boot loader and device drivers
- ◆ Migration of an existing terminal to a different / newer OS
- ◆ Experience with embedded OS like Windows CE, Linux
- ◆ Device drivers for peripherals like magnetic stripe reader (MSR), barcode scanner, smartcard reader and thermal printer
- ◆ Drivers for communication interfaces like PCMCIA, USB, WLAN, Ethernet
- ◆ Drivers for LCD, touch-screen, wave audio etc.
- ◆ Integration of third party file-systems like Datalight FlashFX by implementing flash interface module
- ◆ Integration of components like standard shell, web browser, communication and networking services
- ◆ Implementation of firmware support for remote upgrade of platform and applications
- ◆ Implementation of firmware support for remote management of device including remote trouble-shooting, remote provisioning and maintenance activities like scheduled device restart



### Expertise

- ◆ Developing POS hardware prototypes
- ◆ Developing BSP and firmware
- ◆ Device drivers for :
  - MSR
  - Barcode reader
  - Smartcard reader
  - Printer
  - Communication interfaces
- ◆ Device applications
- ◆ MICROS, Brinker interface
- ◆ Security implementation
- ◆ Backend and web applications
- ◆ Remote Management
- ◆ Automated testing
- ◆ PCI PED compliance
- ◆ FCC certification



### About Aftek

Aftek Limited is a full spectrum technology services company from India. Over last 20 years Aftek has gained significant exposure to variety of technologies. Rich technological capabilities, focused investments in Research & Development and industry exposure enables us to reach beyond the basic IT services to design and deliver projects, products and implement end-to-end solutions to customers in variety of industries. Our service spectrum covers key services as Hardware Development, Firmware Development, Embedded Systems, Application Development, Application Maintenance, and Testing Services.

### Device Applications

- ◆ SDK software to provide API libraries for functionalities like security module, signature capture, smartcard reader and MSR
- ◆ Implementing transaction security for credit / debit card based payments using standard mechanisms like SSL, WPA2, DUKPT, 3DES, IPsec and 128-bit RSA
- ◆ Security implementation compliant with payment card industry's best practices
- ◆ Developing highly configurable GUI for easy customization
- ◆ Rich, interactive and responsive GUI applications
- ◆ Integration of FlashLite and streaming audio-video players
- ◆ Implementation of plug-in based architecture for integration with third party systems like MICROS and Brinker. Integration using third party API libraries or direct access to data source.
- ◆ Specifications like UPOS and its Microsoft .Net and Java implementations
- ◆ Creation of automated test suites using tools like TestQuest and carrying out system, load and stress testing



### Backend Applications

- ◆ Interfacing with third party systems like MICROS and Brinker
- ◆ Applications for data synchronization and content upgrade from server to device & vice versa
- ◆ Value added features like collection of usability statistics, remote patch management (for firmware, application, content upgrade) and remote configuration and monitoring
- ◆ Integration of loyalty based system to support customer loyalty programs