

## Enhancement: Mobile Browser

**Client:** Manufacturer of Consumer Electronics products  
**Location:** UK

### Client Description

A global Consumer Electronics player, the client markets and sells products such as Digital Set Top Boxes, Mobile Devices, Answering machines and Audio-Video Systems.

### Business Need

A newly launched product, the Digital Telephone Answering Machine had the capability of functioning as a PC. To increase the market appeal of this product, the client wanted to add Internet Access and printing capabilities to it.

### Solution Offered

The heart of the system was the ARM7TDMI processor; optimal usage of the memory is a key aspect while developing solutions for mobile devices. One of Blue Star Infotech's (BSI) key objective was to develop a highly modular and configurable code that would allow scaling of applications.

BSI developed a number of modules for addressing the client's need:

- **Task Manager:** Central to the architecture is a task manager. This module apportions the available resources between various components and routes each message to the module that can process it. The Mobile Explorer can be implemented as a single task, process or thread on the target device.
- **Printing:** This capability was added to support printing of web pages from the digital telephone. This involved developing generic printer drivers that could be used across major printer device manufacturers. The code was structured as a message-based application where modules communicate with each other by passing messages and calling API functions. This was analogous to the Microsoft Windows applications.
- **User Interface:** This was written in HTML and stored in the phone ROM. It was designed in such way that it was extendable and the cache size could be configured to read larger pages when required

- **Messaging and display:** POP3 and SMTP standards based email client was implemented to allow sending and receiving email messages. Apart from this, SMS facilities, support for multi-lingual display and fonts were also provided.
- **Testing:** Comprehensive tests including Proxy connectivity, OS Testing, Web Browser Testing, ETSI standards testing, Programming Setup and Preferences, PPP (Point-to-Point protocol) and SMS testing were carried out. The team carried out load, Stress and Performance testing.

### TECHNOLOGY

- Micropanel communication using MODBUS
- Microsoft Mobile Emulator, Visual Studio on NT,
- Microsoft Mobile Browser, ARM7TDMI processor,
- ARM IDE, ARM "C" Cross Compiler,
- ARM AXD Debugger with Multi-ICE

### Benefits to the Client

- With the additional features of Internet Access and Printing facility, the client was able to provide VAS (Value Added Services) to its end consumers
- With a generic printer driver, the client was able to provide compatibility to almost every leading printer device manufacturers, hence reducing the cost overhead involved in supporting separate printers

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