

Multimedia Navigation Device

Case Study

Our Customer : **A Leading Navigation Device Manufacturer**

Project Description:

Our Customer with the international market as target partnered with SPA for design and development of A multimedia Navigation Device based on Samsung S3C2440A 400MHz. The development platform was Windows CE 5.0.

What was provided to SPA?

Customer has provided SPA with a basic BSP and the related hardware as reference board along with a detailed SRS.

What was the scope of work?

Using the basic drivers for the on board chipset of the hardware. SPA was responsible for testing, verification, and necessary development and further modification of supplied drivers to meet the operating specification and acceptance test standard.

SPA Project Execution Process :

SPA has proposed to execute this project with a modularized approach with a team of one project leader and two senior software engineers supported by one test engineer. Below are the modules

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Device Driver.

- Battery Driver
- Display Driver
- Touch Driver
- Serial Driver
- Keypad Driver
- Button Driver
- Nand Flash Driver
- SDMMC Driver
- Backlight

Application

- Navigation Software interface
- Image viewer
- Audio Player
- Video/Media Player

Module Details

Module	Bootloader
Environment	Windows XP(sp2), PB 5.0, Target Board
Tasks	<ul style="list-style-type: none"> • Boot loader development. • File system • Kernel configuration.

1.Driver	Display Driver
Tasks	<p>Samsung 3.5inch TFT LCD (320x240 pixels, 16bpp mode)</p> <ul style="list-style-type: none"> • Development of DDI functions to initialize the display driver and block image transfer (blit) to display.

2.Driver	Battery Driver
Tasks	<ul style="list-style-type: none"> • Battery driver to guage voltage, current, temperature. • Development of application and control panel applet to monitor and display all battery readings. • Handles power management in low battery and battery fault conditions.


3.Driver	H/W Button
Tasks	<ul style="list-style-type: none"> H/W key drivers include drivers for Power button, Volume up/down keys ,Hold key, Home Key Power Button handles sleep/wake up and reset functions. Hold key Controls all the keys and touch screen.

3.Driver	Serial Driver
Tasks	<ul style="list-style-type: none"> Controls serial communication and GPS port enabling and disable.

1.Application	Video/Media Player
Tasks	<ul style="list-style-type: none"> Application developed using Embedded Visual c++ for Mp3 player and supporting libraries

2.Application	Image Viewer
Tasks	<ul style="list-style-type: none"> Application developed using Embedded Visual C++ for Image codecs and libraries

3.Application	Navigation Interface
Tasks	<ul style="list-style-type: none"> User interface to select and run navigation software.

The top of the page features a blue header with the company name 'SPA Computers Ltd.' in white, bold, sans-serif font. To the right of the text is a collage of images showing computer monitors, a person's hands typing on a keyboard, and a person sitting at a desk. The entire page is enclosed in a thin black border.

SPA Computers Ltd.

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