

Course Info

Number

AI - BCD – 300

Length

270 Hours

Prerequisites

Sound knowledge of C language.
Basic concepts of OOPS using C++.
Good hands on experience in implementing data structures using C.
Basic concepts of operating system and Networking.

Skill Level

Beginner / Intermediate

Course Overview

Summary

The Goal of this course is to provide developer with the knowledge and skills to develop mobile application on BREW platform. It also teaches the pointer concepts of C in depth and gives a clear understanding of developing window based program in VC++. Knowledge and skills to develop mobile application on BREW platform using the different APIs provided (ISHELL, IDISPLAY, IMENUctl). It also teaches in-depth APIs Like File, Database, Sound and Networking. Hands on experience on real devices, From development to porting to troubleshooting and commercialization, covering a full life cycle of a product development.

Standard Modules

1. C with pointers
2. SDK Programming with VC++
3. Wireless industry Overview
4. BREW Basics
5. BREW Architecture
6. Building BREW Application
7. BREW API
8. ISHELL, IDISPLAY, IMENUCTL
9. EVENT Handling
10. File Database, Sound API
11. IGRAPHICS and Networking API
12. Porting on actual devices
13. BREW Application - A case Study
14. Troubleshooting and Commercialization
15. Project Covering the full life cycle

Detailed Module Breakdown

C with pointers

Pointer and Multidimensional Arrays
Pointers and Strings
Pointers and Structures
Pointers to arrays
Pointers and dyn. allocation of mem.
Pointers to Functions

SDK Programming With VC++

Overview of Windows Programming
Dynamic Link Libraries
Event Driven Programming Concepts
Implementing OOPS Techniques
Exception Handling
Testing and Debugging techniques
Using Visual Studio

Wireless industry Overview

Wireless Terminology
Brief History of the Wireless Industry
Wireless Industry
Unprecedented Adoption Rate
Wireless Takes over the internet
Wireless Internet Landscape
Welcome to Small form Factor (SFF)

BREW Basics

Event Overview
Event with IApplet
Event Handling Tips
Event Delegation

BREW Architecture

- BREW Is
- Fundamental BREW Concepts
- BREW Advantages
- BREW History
- BREW System Overview
- BREW Benefits
- BREW Revolutionizes Wireless
 - Application Development
- BREW Architecture Overview
- BREW Leverages Advanced ASIC Features
- Device Architecture (Layering)
- BREW Application Execution Environment
- BREW AEE Application Model
- Interfaces and Classes
- BREW Applications
- BREW SDK Components
- Module Information File (MIF)
- How It All fits Together
- Device Information
- Resources and Languages
- Application Issues
- Current SDK Limitations
- Starting to Write a BREW Application

Building BREW Applications

- BREW Development & Distribution Process
- Tools for Developing BREW Applications
- BREW Module Components
- Application Directory Structure
- Setting up a Project
- M/F Editor Overview
- BREW Classes and MIFS
- Using a MIF Editor User Interface
- BREW Applets and ClassIDs
 - Applet Actions
- Adding General Information

BREW API

- Purpose of the BREW APIs
- The BREW API Reference
- BREW API Data Structures
- API Data Structure Types
- API Helper Functions
- API Interface Services
- Future BREW Development

- MIFs and Component Sharing
- Resource Editor Overview
- BREW Resource Type
- BREW Control Types
- BREW Resource Editor Process

ISHELL, IDISPLAY, IMENUCTL

- IShell Overview
- The IBase interface
- Application Management
- Application Management Functions
- ISHELL_CreatelInstance()
- Resource Files and File Handlers
- Resource File Management Functions
- ISHELL_LoadResString
- Device and Application Configuration
- ISHELL_GetDeviceInfo
- Notifications
- Alarms
- Timers
- Alarms and Timer Functions
- Dialogs, Message Boxes and Prompts
- Dialog, Message Box and Prompt Functions
- IDisplay Overview
- Common IDisplay Functions
- Working with text
- Font metrics
- Common Issues for IDisplay
- IMenuCtl Interface
- IMenuCtl Types
- IMenuCtl Properties
- Multi-Select Menus
- Manipulating IMenuCtl

EVENT Handling

- Event Overview
- Event with IApplet
- Event Handling Tips
- Event Delegation

File Database, Sound API

- File and Database Management
- Introduction to File I/O
- The IFileMgr Interface
- Common IFileMgr Function
- The IFile Interface
- Common IFile Functions
- Introduction To Database Operations
- The IDBMgr Functions

The IDatabase Interface
Common IDBRecord Functions
Sound Service
Sound Interfaces
ISound Interface
Common ISound Functions
Playing a Tone

IGRAPHICS and Networking API

Graphics Overview
IGraphics Coordinate Systems
Common IGraphics Primitive Functions
Drawing a Line
IGraphics Clipping Functions
Common IGraphics Attribute Management Functions
Graphics Attribute Management
Viewing Transformation
Common IGraphics Functions
General Program Structure
BREW Connectivity Options
Networking Overview
INetMgr and Socket API Overview
The INetMgr Interface
Common INetMgr Functions
ISocket vs “sockets”
Common ISocket Functions
Web Overview
IWeb Overview
IWeb Methods
Calling IWEB_GetResponse
IWeb Usage Example
IWebResp Overview
IWebResp Methods
IWebResp Usage Example
IWebResp Overview
IWebResp Methods
IWebResp Usage Example
ISource Overview
ISource Methods
ISource Usage Example

Porting on Actual Devices

BREW Device Process Tasks
Tools and Concepts
Device Directory Structure

BREW Applications-A case Study

Application design Guidelines
Programming for Constrained Environments
Programming Efficiently

Troubleshooting and Commercialization

Running Applications in the SDK
SDK Troubleshooting
Running Applications on the Device
ARM BREW Builder
Developer Tools Suite
The Development and testing process
TRUE BREW Testing
BREW Application Distribution Process
The BREW Developer Alliance Program