



Introductory Course on Symbian OS Application Development

(Mobile Software Development)

Fees: 7000

Introduction to Symbian OS

1. Symbian OS features
2. Summary of high-level system components: user-side and kernel side.
3. Overview of Symbian OS development: SDKs: what they're used for
4. Mobile memory issues
5. Symbian System Memory Structure and handling.

Symbian OS development tools

1. SDK installation, usage and documentation
2. Developer studio basics
3. Using makmake and other exe's
4. UIDs and concepts

Application development

1. Building programs: EIKON vs console apps
2. Using simple programs as templates
3. Debugging and testing techniques
4. Coding conventions

E32 user library

1. Overview of E32 ()
2. Threads, processes and context switches
3. Types of function call

Resource management

1. Overview of memory leaks
2. Memory leak and alloc failure tools
3. New (ELeave) and CBase 0 initialization
4. TRAPD and Cleanup Stack
5. New L () and NewLC ()

Descriptors

1. Motivation for Descriptors
2. Descriptor Classes
3. Constructing from a string literal: `_LIT ()` macro
4. ASCII and Unicode variants
5. Descriptor functions
6. Summary of use of Descriptors

Arrays

1. Fixed length arrays: flat and segmented buffers
2. Variable length arrays: flat and segmented buffers
3. Packed array: flat buffer

File Server and Stream Store

1. Using file server sessions
2. Basic direct stream store functionality
3. Overview of different stream stores

Active Objects

1. Background: asynchronous event-handling
2. CActive Class and CActiveScheduler Class
3. Summary: motivation for AOS

Creating GUI application framework

1. What the GUI application framework supplies and how to use it
2. How the different reference designs affect UI design

Designing handheld UI

1. Considering the issues of handheld design
2. Putting together handheld UI designs

Writing graphics views

1. Write basic views
2. Use graphics contexts
3. View architecture design and view server mechanics
4. Initiating a view switch

Writing menu

1. Menu design issues
2. Implementing menus, strings and shortcut-keys
3. Dynamic menu initialization

Writing compound controls

1. Includes observer issues and pattern reuse
2. Reusing common control views: EDWIN and Listbox
3. MVC reuse and observer patterns
4. Implementing a basic EDWIN as a control as a resource
5. A basic listbox and its derivatives

Using dialogs and message boxes

1. Predefined dialogs and how to use them
2. Predefined info-prints and error dialogs, and their usage style

Writing dialogs

1. Defining your own dialogs and implementing them
2. Multipage dialogs
3. Reusing buttons
4. Resources and controls

Client-server architecture

1. Using client-side API
2. Socket programming
3. Bluetooth API programming