

VC++

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Corporate Trainer's Profile

Corporate Trainers are having the experience of 4 to 12 years in development , working with TOP CMM level 5 companies (Project Leader /Project Manager) qualified from NIT/IIT/IIM and work exp in USA and UK.



CMM (Capability Maturity Model) level Project Standard:-

The Capability Maturity Model (CMM) is a method for evaluating the maturity of organizations on a scale of 1 to 5. Get the Opportunitites to work on Client Projects Of US/UK, which follow the all standard of CMM level 5 Company.

Projects



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Course Contents:

Part-I

Introduction to Window 32 bit Programming Environment

- Ø Windows architecture overview.
- Ø What are APIs? How API provide flexibility to the architecture.
- Ø Structure of the windows programming and flow of control in the paradigm
- Ø Tips to write professional coding, Hungarian notation, correct use the Preprocessor Directive, Calling Convention, Comments, Data Types.
- Ø Migration from C/C++ to Window Programming
- Ø First Scratch program in window API and the Significance of the Program.
- Ø Migration from Win32 Programming to MFC programming in VC++.
- Ø First Scratch Program in MFC without using App Wizard.
- Ø Mapping of the above program with the MFC App Wizard.
- Ø Guide Lines for Practical Session Home Work
- Ø Development of a 64 bit calculator.
- Ø Development of Tic-Tac-Toe Application Game.

Part - II

Gearing Up To MFC AppWizard

- Ø Sequence of Steps take place when MFC based Windows program get execute in MFC.
- Ø What is Message Map?
- Ø How to use Message Map in MFC?
- Ø What are Messages and How they are connected to message Map?
- Ø Difference b/w Queued and Non-Queued Message.
- Ø Concept of Handle.
- Ø Working with Edit, Button Control.
- Ø Creating Edit and Button Control Dynamically and Statically.
- Ø How to Create Modal Dialog in MFC?

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- Ø Developing a chat application without using IPC mechanism in a Same Dialog Box.
- Ø Developing a chat application using two different dialogs, one dialog work as server and another work as client. Use Handle to make communication possible b/w client and server.

Part -III

Handling Mouse and Keyboard

- Ø Interaction .with Mouse and Keyboard Event Programming.
- Ø Concept for the mouse programming and uses.
- Ø Mouse Events.
- Ø Concept for keyboard programming.
- Ø Keyboard Events.
- Ø Working With Timers, Application of Timers.
- Ø Using Status Bar & Toolbar.

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- Ø Developing a drawing Application with mouse events, displaying the cursor position in the status bar and use timer to display system current time.
- Ø Developing Editor Application using keyboard events.

Part - IV

The Frame - Document View Architecture

- ØRelation b/w Frame-Document-View Architecture.
- ØDiscussion of Base Classes of Frame-Doc-View.
- ØHierarchy of the MFC classes Frame Work.
- ØRole of virtual function in Hierarchy of MFC classes.
- ØPrecedence of function in the App, Doc, View and Frame classes.
- ØRelation b/w Doc View architecture.
- ØCreating Menu and Handling Functions for App, Doc, View and Frame.
- ØCreating Context Menus.
- ØHow to Create Dialogs in the Doc-View Environment.

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- ØCreate SDI application, make a menu named MyMenu under this create a submenu named Show Timer. On clicking the menu a dialog box open containing a edit control or static control to display the timer. Right click on the Dialog to popup a context menu having two buttons- START TIMER, STOP TIMER. Click these buttons to Start or Stop the Timer.

Part - V

Playing With Graphic Device Interface

- ØWhat is GDI.
- ØWhat is Device Context?
- ØType of Device Context.
- ØDifference b/w CClientDC, CPaintDC, CWindowDC, CMetaFileDC and there practical use.
- ØWriting in the View Area.
- ØDrawing in the View using GDI tools like Pen, Brush.
- ØDrawing a Bitmap in View as Background.
- ØUsing TextMetric Class

Guide Lines for Practical Session Home Work

- ØDeveloping an application which makes the full use of the GDI tools, the best option is to develop a Paint Application which completely behave as the original Microsoft paint application.

Part - VI

Window Common Control Programming

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- ØDeveloping an integrated application which makes the use of all the controls in it.
- ØDevelop a Font Viewer which looks like same as the original Font Viewer.

Part - VII

Window Memory Management for 32 bit Platform

- ØDifference b/w Thread and Process.
- ØAddress Space of Process.
- ØHow virtual memory Works.
- ØConcept of Heap & Stack.
- ØDifferent dynamic memory allocation technique and function, there difference and uses

- Ø Malloc, New, Free, Delete
- Ø VirtualAlloc, GlobalAlloc
- Ø HeapAlloc, VirtualFree
- Ø Memory Mapped Files.
- Ø Some Tips for Managing Dynamic Memory

Part - VIII

Multithreaded Environment

- Ø Window Message Processing.
- Ø Single Thread Application
- Ø Parent Thread and Child Thread relationship.
- Ø Flow of Execution of a program with Threads.
- Ø Communication b/w Worker Thread and Main Thread

Guide Lines for Practical Session Home Work

- Ø Create a MFC Chat Application using client/server programming in which all clients execute in the multithreaded environment. Any message send from one client or by server will be broadcast to all the clients and to the server also.

Part - XI

Process Synchronization in Win32 Environment

- Ø What is Process Synchronization?
- Ø Need of Process Synchronization.
- Ø Multithreading: How to use Synchronization Classes
- Ø Mutex, Semaphore, Events, Critical Section
- Ø Thread Blocking Functions?
- Ø WaitForSingleObject, WaitForMultipleObject

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- Ø Developing an integrated application which make the use of the synchronization classes and thread blocking function in order to maintain the synchronization b/w processes.

Part -X

Dynamic Link Libraries

- Ø Concept of DLL and LIB
- Ø Advantage and Disadvantage of DLL and LIB
- Ø Type of DLL, Regular DLL , Extended DLL
- Ø Difference b/w Regular DLL and Extended DLL.
- Ø Creation and Calling DLL directly through Win APIs.
- Ø Creation of the LIB.

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- Ø Developing a paint application in which apply all the special affects in the DLL and Call the DLL function from the program.

ActiveX Controls and Connection Points

- Ø Understanding ActiveX Controls and Related Concepts
- Ø Implementing ActiveX Controls with ATL

- ØUsing ActiveX Controls in Containers
- ØCOM Code Reuse Techniques

COM Threading Models

- ØThread Re-entrance and Apartments
- ØComparing Free- and Both-threading Models

Distributed COM Applications

- ØDistributed COM (DCOM)

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