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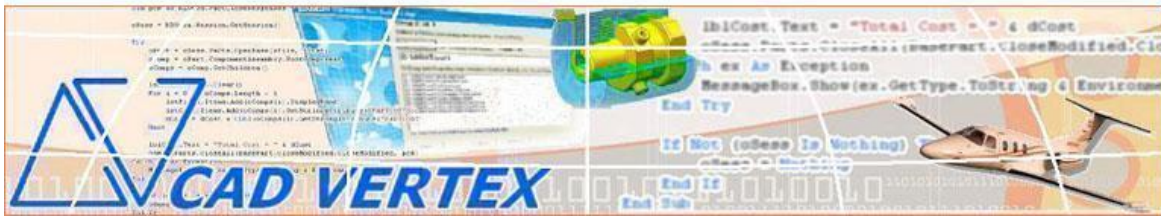
Inventor Automation
Language: VB.NET or CSharp

Training Structure

Module 1: VB.Net or CSharp In-depth
Module 2: Inventor Files and UI Automation
Module 3: Drawing Automation, Part Automation, Assembly Automation

Fees Check website: **https://www.cadvertex.com/training.htm**

Phone   **+91 9890611694**

eMail: **info@CADVertex.com**

Features:

- ✓ Personal coaching - no recorded videos.

- ✓ Flexible timings.

- ✓ Weekday batches.

- ✓ Weekend batches.

- ✓ CSharp or VB.Net programming - indepth training included.

- ✓ Unlimited support after training - at no extra cost!

- ✓ 10 industry projects – as listed on next page.

- ✓ Resume Preparation.

- ✓ Interview Preparation.

- ✓ Job referrals.

Training Highlights

Online Training   Flexible Timings   Trainer: 25 yrs Exp.   Duration: 6 Wks   1 Hour Daily

Basic to Advanced   10 Industry Projs   Certificate   Support after Training   CuttingEdge Tech

List of Projects

1. Geometric Calculator

2. Batch Processor

3.Paper Estimation

4. Create 3 Standard Dwg Views

5. Modify Dimensions in Bulk

6. Automatic Title Block Update

7. Estimate Cutting Cost

8. Estimate Machining Cost

9. Parametric Parts

10. Product Configurator

Module 1: VB.Net or CSharp In-depth

1. Installing Visual Studio

- Installing an older version.
- Setting the default language.
- Setting the environment and preferences.
- Customizing the layout.
- Solution Explorer, output and error windows.

2. Console applications and introduction to programming

- Selecting a project template.
- Setting up user interaction and collecting inputs.
- Mathematical libraries, calculations and display outputs.
- Using the .Net Math library functions.
- Various files and their meaning in the project structure.
- Separating source code from the executable.

3. Creating a Windows Forms Application

- Setting dialog box properties.
- Toolbox and the Properties window.
- Adding controls: Button, TextBox, Label, Checkbox, RadioButton.
- Adding images to PictureBox and other controls.
- Aligning text and images on controls.
- Composite controls: ListBox and ComboBox.
- Adjusting various properties for each type of control.
- Variable types - Double, Integer, String and Boolean.
- Acquiring user input from textboxes into variables.

4. File Open dialog and File Save dialogs

- Creating basic, compound and composite file filters.
- Dialog properties and startup paths.
- Reading single and multiple files from a file dialog.
- Opening various type of files using a file dialog.

5. Folder Selection Dialog

- Getting files from folder.
- Filtering file types in a folder dialog.
- IO.Directory functions.
- Anchoring controls to the Form.

6. Message Boxes

- Configuring single line and multiline messages.
- Button and icon selection.
- Using If-Then-Else statements.
- Checking message box responses.

7. Arrays

- Filling arrays and reading array elements.
- Filling ListBoxes with array elements.
- For Loop and ForEach loop.

8. Functions and Subroutines

- Arguments in functions.
- Return types in functions.
- ByRef or out arguments.
- Function overloading.

9. Object Oriented Programming

- Creating a class.
- Adding member functions.
- Public and Private methods.
- Encapsulation.
- Polymorphism and function overloading.
- Class libraries.
- Creating objects and invoking methods.
- DLL and EXE - differences and usage.

10. Multi-Form Projects

- Adding Forms to a Winforms project.
- Adding Forms to a console application.
- Form Objects and invoking Forms.
- Default Constructor and modified constructor.
- Exchanging data between Forms.

Module 2 : Inventor UI and Documents Automation

11. Getting Started

❖ Connect to Inventor
❖ Traversing the Inventor object model
❖ Inventor interface elements
❖ Start and stop Inventor
❖ Show and hide the Inventor main window
❖ Read-write various properties of the Inventor interface

12. Inventor Environments

❖ Inventor document constants
❖ Determine active document type

13. Inventor Documents:

❖ Create new Inventor files
❖ Open, Close, Save and SaveAs Inventor files
❖ Export Inventor documents to other formats
❖ Activate files in a session

14. File Handling

❖ Windows standard file Open/Save dialogs to select Inventor files.
❖ Setting Inventor file filters and validations
❖ Single and multiple file selection
❖ Invoke Inventor's standard file Open and Save dialogs.

15. Batch Processing

❖ Industry Project - Create a Batch Processor for Handling Inventor Documents
❖ Use the Windows 'Browse for Folder' dialog, gather all files of a specified type into a .Net collection, selectively remove unwanted files from the list
❖ Export the batch of documents to formats like DWG, STP, etc.

Module 3 : Inventor Drawing, Part and Assembly

16. Managing Sheets In Drawings

- ❖ Creating drawing sheets
- ❖ Accessing, counting sheets and extracting sheet info
- ❖ Switching between sheets
- ❖ Deleting sheets
- ❖ Exporting sheets to DXF, etc.
- ❖ Industry Project - Estimating Paper Requirement for Printing Drawings

17. Drawing Views

- ❖ Create drawing views - base views and projected views.
- ❖ Transient Geometry and view scale and styles
- ❖ Industry Project - Creating Standard Views of a Model in Inventor

18. Handling Text In Drawings

- ❖ Access text objects in a drawing document
- ❖ Industry Project - Automatic Title Block Updater Program

19. Part Features

- ❖ Traversing the features of a Inventor model
- ❖ Determine type of features like hole, extrusions, draft, fillet, etc.
- ❖ Inventor Component Definition
- ❖ Feature sub-type like various hole types
- ❖ Industry Project - Estimate Machining Cost for a Plate with Various Holes

20. Parametric Parts

- ❖ Create and control parametric part in Inventor
- ❖ Parameters table - dimensions and variables
- ❖ Industry Project - Update the features of a parametric Shaft with Keyway.

21. Advanced Part Features

- ❖ Creating variations of a part by manipulating features
- ❖ Industry Project - Build a Part Configurator from Scratch

22. Inventor Document Properties

- ❖ Read and write standard file properties
- ❖ Create, read and write custom properties

23. Inventor Assemblies

- ❖ Traverse through all components of a Inventor assembly
- ❖ Industry Project - Material Estimation for Spray Painting

24. Inventor Model Data

❖ Extract physical properties like area, mass, volume, etc.

25. Product Configurator

❖ Industry Project - Create a Inventor Product Configurator
❖ Automatically generate custom assemblies
❖ Create and set up a parts library
❖ Build a UI to choose parts from the library
❖ Traverse through a Inventor product and build the product configuration as specified by the user

Other eBooks and Training Programs from CADVertex:

❖ CATIA Automation: VB.Net or CSharp or Python
❖ SolidWorks Automation: VB.Net or CSharp or Python
❖ Solid Edge Automation: VB.Net or CSharp or Python
❖ Inventor Automation: VB.Net or CSharp or Python
❖ NX Open: VB.Net or CSharp with Win Forms
❖ NX Open: VB.Net or CSharp with Block UI Styler
❖ Knowledge Fusion
❖ Knowledge Fusion with Block UI Styler

❖ Revit Automation using CSharp.Net
❖ Tekla Automation using CSharp.Net

❖ cMayoCAD: Learn to build a new CAD program
   from scratch using a Geometric Modeling Kernel and CSharp

❖ Machine Learning for Engineers with Python

❖ CATIA Automation with Python and Machine Learning
❖ Solid Edge Automation with Python + Machine Learning
❖ SolidWorks Automation with Python + Machine Learning
❖ Inventor Automation with Python + Machine Learning

❖ Fast track course in Python with Machine Learning for VB.Net experts
❖ Fast track course in Python with Machine Learning for CSharp experts

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Phone & Chat   **+ 91 9890611694**

eMail   **info@CADVertex.com**

Website   **www.CADVertex.com**