SSSIT Computer Education
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DOTNET

.NET FRAMEWORK

- Intro to .NET
- Platform for the .Net
- Drawbacks of Current Trend
- Advantages/Disadvantages of Before .Net
- Features of .Net
- .NET Framework
- Net Framework – BCL & CLR, CTS, MSIL, & Other Tools
- Security in .NET – CAS
- GAC, Strong Names
- Language Interoperability
- Reflection

.Net Installations

- .NET Versions
- Hardware/Software Requirements

Visual C#.Net

- Advantages/Disadvantages
- Why C#/ Why Not C#
- Where does C# Fit in
- C, C++ to Visual C#
- Features of C#
- .NET Namespaces
- FAQ's with detailed answers

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Programming Using Visual C#.Net

- The start of the application
- C#.Net Program Design
- Variables and types
- Value types and reference types (CTS)
- Strings and arrays
- The Console class
- String formatting
- Statements and flows
- Programming Structures
- VS.NET to Create C#.NET Apps
- Implicit types , Extention Methods and more
- C# 5.0 features

Introduction To Windows Forms

- Windows forms library – WinForms
- Forms and controls – Hierarchy
- Creating simple GUI by hand
- Event handling
- Basic controls
- Windows forms – buttons, check boxes, radio buttons, panels, group boxes, list boxes, picture boxes…
- Menus
- Built-in dialog boxes and printing
- Extender Controls
- ToolStrips, StatusStrips and progress bars
- A new MDI forms strategy
- Inheritance with forms

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- New Controls – Web Browser, Property Grid etc

Object Oriented Concepts

- Classes & objects
- Abstract & override methods
- Creating and using your own classes l Data members and member methods l Instantiate an object
- This keyword
- Properties – Read Only Write Only…
- Build process using windows class library l Generate classes for other clients
- How to use classes as part of project

Object Oriented Concepts (Advanced)

- Accessibility levels, specifiers
- Constructors
- Method overloading
- Class (static) variables & methods
- Object destruction
- 'ref' and 'out' parameters
- Constant values
- Enumerations
- Inheritance and Polymorphism
- The root of all classes
- Creating derived classes
- Method overriding and hiding
- Polymorphism and virtual functions
- Casting objects
- Abstract classes
- Sealed classes
- Static classes

Error Handling

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- Unstructured error handling support
- Structured error handling
- Error categories
- Debugging the application
- Debug and Trace classes
- Code Optimization
- Testing and strategies

Ado.Net

- History and background
- From DAO to ADO.NET
- ADO.NET LINQ
- ADO.NET design goals
- The ADO.NET architecture and its components
- ADO.NET in relation to the other .NET tools
- DataSet

Ado.Net Components

- Connected and disconnected environment
- ADO.NET object model
- Data sources, providers and connections
- Commands and data readers
- Data sets and data adaptors
- Data tables, rows and columns
- Constraints and relations
- Data-centric applications – New ADO.Net Hierarchy

Data Sources And .Net Data Providers

- Connecting to a data source
- SQL Server .NET data provider
- OLE-DB .NET data provider

- Connections and connection strings
- SQL-Server integrated security
- Connection pooling
- ADO.NET exceptions

Accessing Data In The Connected Environment

- Commands
- Creating and executing commands
- Reading data using a data reader
- Batch queries & single result queries
- Parameterised queries (input & output parameters)
- Adding, editing and deleting data
- Stored procedures

Accessing Data In Disconnected Environment

- Why using a disconnected environment?
- DataSet and DataAdapter features
- Filling data sets using data adapters
- Read data using data tables, rows and columns
- Batch queries and data sets
- Visual Studio Data Menu & tools
- DataSet Navigation
- DataSet Functionality
- DataSet Optimistic Concurrency

Sorting, Searching And Filtering

- Searching in data sets
- Find on primary keys
- Searching on any column
- Searching on row state

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- Wildcard searches
- Sorting and filtering using data views
- Searching in a data view

XML

- XML Basics – Importance in Todays world
- XML designers/support in VS.NET
- XML Derived Technologies – XSD ,XSL , SOAP ,WSDL

XML IN .NET

- System.Xml Namespace
- Stream Model XML
- XML DOM
- XmlTextReader,TextWriter
- XmlTextReader, TextWriter XMLDocument/ XmlDataDocumentClasses
- Dom Objects – XMLNode/XMLNodeList
- XPATH- Query Language for XML
- DOM – Navigation & Access Case Studies

Creating Custom Windows Controls

- About user – defined controls
- Understanding the control class with Container
- Add Properties/Methods/Events to Control
- Pack & use control in other windows applications
- Create & implement a windows control

Windows Services

- Understanding services
- Creating windows services
- Setting properties
- Compile, run & install services
- Event log services

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.Net Remoting

- About Distributed Applications
- COM/DCOM in Distributed Environment
- Drawbacks of DCOM
- .NET Remoting – New distributed environment
- Advantages & Disadvantages
- Remoting – Web Services comparisons

Crystal Reports*

- Reporting Need in the application
- Crystal Reports – Reporting Tool
- Different Versions of Crystal Reports
- Developing a Crystal Report
- Different ways to Invoke/Deploy Crystal Reports

Application Deployment

- Packaging Code
- ClickOnce Deployment
- Configuring the .Net framework
- Deploying the application in Web Server
- Deployment – other methods

ASP.NET
INTRODUCTION

- Shifting from ASP to ASP.Net, Asp.net to web 2.0 (new)
- ASP.Net as Framework, Namespaces
- ASP.Net – New Scenario in development process with IDE – VS.NET
- Web Pages to Web Forms, HTML – ASP.NET, State management- an Important Objective

- Understanding the ASP.NET Execution Scenario
- C#.Net role in ASP.NET Development
- HTML, HTML Controls, ASP.NET Controls
- Client-side & Server-side Controls
- Consuming HTML Client/Server Controls in WebForms
- Consuming ASP.Net Controls in WebForms

ASP.NET WEB FORMS – THE NEW TECHNOLOGY

- Introducing Web Forms, Worker process
- Working with Server Controls
- Applying Styles to Controls, Themes, Skins etc

FORM

- Page Directives and its use
- Separating Code & Design
- New Code behind Techniques
- Implementing ASP.NET Server Controls
- Types of ASP.NET & their need/render
- Intrinsic – Validation – Bound – DataSource
- Navigation – Login – Web Parts & AJAX.-as building blocks Asp.net.

WEB FORMS – INTRODUCTION TO INPUT VALIDATION

- Validating Form with Validation Controls of Asp.net
- Using RequiredFieldvalidator control
- Using CompareValidator Control Using RangeValidator Control
- Using CustomValidator control
- Create Server-side / Client-side functions for – CustomValidator Control
- Group Validations & avoiding Validations.
- Finally – Client Targets & ValidationSummary control

SQL SERVER INTRODUCTION

- DDL Commands

- DML Commands
- DQL Command
- JOINS
- STORED PROCEDURES, STORED FUNCITONS

ADO.NET I – DATABASE SERVICES

- XML, XML to HTML, XML & Databases
- Overview of ADO.NET/ XML Support in .NET
- Connect/Insert/Update/Delete,Query data -using ADO.NET
- Retrieve data with datasets
- Data Adapters, Understanding Data tables
- Build Data table programmatically
- Filter and sort Data table, Data Relations
- ADO.NET LINQ

ADO.NET – II

- Parameters with Command Object
- Stored Procedures with ADO.NET using –output parameters
- Develop a Registration form using ADO

PRESENTING DATA USING ASP.NET BOUND CONTROLS (USING VB.NET/C#)

- ASP.Net bound controls
- DataSource Controls
- Repeater & its uses.
- DataBound and DataAware Controls
- Bind data to Dropdownlist Control
- Datalist control
- DataGrid(1.1/2.0) Control
- GridView & its importance in Development
- GridView(Basic) – simple uses

- GridView (Advanced) –Runtime Fields, Empty DataRows, NTier …
- FormView & DetailsView
- ListView

AJAX

- Introduction to Microsoft AJAX.
- XML Http object
- Programming with XML HTTP Object
- Advantages and Disadvantages of AJAX.
- Features of AJAX.
- MS Implementation of AJAX

ASP.NET ERROR HANDLING & DEBUG.

- Error Handling & .NET Runtime
- Avoid Errors before they occur
- Structured Error Handling
- Catching General Exceptions
- Catching Specific Exceptions
- Throwing Exceptions
- Custom Exceptions
- Page Level Error Handling
- Application Level Error Handling

USER CONTROLS

- Creating User Controls
- Adding member to user controls.
- Registering User Controls
- Properties & Methods
- Dynamically loading user controls
- Master Pages

CONFIGURING ASP.NET APPLICATION

- Web Application configuration-Advantages.
- New Configuration Model, ASP.NET Confn Tool

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- Web Application Machine Configuration
- Global Assembly Cache, Strong Names VS2005.
- Working with Assembly Info
- Web.Config, Machine.Config
- Process Model –System Configuration.

ASP.NET WEB APPLICATIONS

- About Session & Application object
- Comparison between Session & Application
- Using the Global.asax file
- Managing Application State
- Http Handlers
- Application & Session Variables
- Application & Session Events

CACHE SERVICES

- Caching Overview
- Advantages of Caching
- Comparing with Application & Session var's
- Page Output Caching
- Page Data Caching

Fragment Caching

SECURITY

- Security Overview
- Authentication & Authorization
- Windows-based Authentication
- Passport Authentication.(WebServices)
- Forms-based Authentication
- Memberships
- Authorizing Users and Roles
- User Account Impersonation

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DEPLOYMENT

- Deploying ASP.NET Application

ASP.NET XML WEB SERVICES

- Introducing XML Web Services
- Differences Between DCOM / Remoting / Web Services
- Asp.net Webservices.
- Writing a Simple Web Service
- Xml web services stack, SOAP,WSDL,UDDI,Sync an
- Async calls
- Web Service Type Marshalling
- Using Data in Web Services
- Using Objects and Intrinsic
- HTML Pattern Matching
- WCF

WEBPARTS

- New concept in Web Apps.
- Advantages and Disadvantages.
- Predefined/ user defined controls with webparts

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