.Net Framework: A Survey of Important Libraries

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Software Modeling

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System Namespace

- Provides basic services required by most programs.

- Important objects:
  - AppDomain, Array, Console, Convert, DateTime, Environment, EventArgs, Exception, MarshalByRefObject, Math, MulticastDelegate, Object, Random, String, Type

- Important interfaces:
  - ICloneable, IComparable, IDisposable

System.Collections

- Provides data structures that are typed to hold objects.

- Important objects:
  - ArrayList, BitArray, Hashtable, Queue, SortedList, Stack

- Important interfaces:
  - ICollection, IComparer, IDictionary, IDictionaryEnumerator, IEnumerable, IEnumerator, Ilist

System.Collections.Specialized

- Provides specialized containers and containers for specific types.

- Important objects:
  - HybridDictionary, ListDictionary, KeysCollection, StringCollection, StringDictionary, StringEnumerator

System.Collections.Generic

- Provides data structures with parameterized type.
- Important objects:
  - Comparer<T>, Dictionary<TKey,TValue>, List<T>
- Important interfaces:
  - ICollection<T>, IComparer<T>, IDictionary<TKey,TValue>, IEnumerable<T>, IEnumerator<T>, IList<T>

System.IO

- Supports use of directories and files
- Important objects:
  - BinaryReader, BinaryWriter
  - Directory, DirectoryInfo
  - File, FileInfo
  - FileStream
  - FileSystemInfo, FileSystemWatcher
  - Path
  - TextReader, TextWriter

System.Text

- Supports building strings and converting blocks of characters to and from blocks of bytes.

- Important classes:
  - Decoder, Encoder, StringBuilder

System.Net

- Supports web-related network operations

- Important classes:

  - Dns, HttpWebRequest, HttpWebResponse, IPAddress, WebClient, WebProxy, WebRequest, WebResponse

System.Net.Sockets

- Supports network programming with sockets.

- Important classes:
  - Socket
  - TcpClient, TcpListener
  - UdpClient

System.Runtime.Remoting

- Supports the abstraction of calls to a remote object.
- Important classes:
  - RemotingServices, WellKnownClientTypeEntry, WellKnownServiceTypeEntry
- Important enumeration:
  - WellKnownObjectMode

System.Windows.Forms

- Supports Windows GUI programming
- **Important objects:**
  - Application, Control, Form, Form.ControlCollection, Menu, MenuItem, MessageBox, NativeWindow, Screen, Timer

  - **Dialogs:**
    - ColorDialog, FileDialog, FolderBrowserDialog, FontDialog, OpenFileDialog, PrintDialog, SaveFileDialog

  - **Controls:**
    - Button, CheckBox, ComboBox, DataGrid, DateTimePicker, GroupBox, Label, ListBox, ListView, MonthCalendar, Panel, PictureBox, ProgressBar, RadioButton, RichTextBox, ScrollBar, Splitter, StatusBar, TabControl, TabPage, TextBox, ToolBar, ToolTip, TrackBar, TreeView

System.Xml

- Provides support for reading, parsing, and writing XML.

- Important classes:
  - XmlDocument, XmlElement, XmlNode, XmlNodeList, XmlNodeReader, XmlTextReader, XmlTextWriter

System.Threading

- Supports the creation and synchronization of threads.
- Important classes:
  - Thread, ThreadPool, Timer, WaitHandle
  - Interlocked, Monitor, Mutex, ReaderWriterLock

System.Runtime.InteropServices

- Provides access to native APIs and COM objects
- Important objects:
  - DllImportAttribute

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