**Start (WinMain):**

* Create general windows configurations and display it
* Loop:
  + - Send window message to WndProc

Functions: *Initialize\_Window, Initialize\_WNDCLASSEX*

**Process User command (WndProc) :**

* Captures messages send from the window and process it
* Detect menu events:
  + - Connect: Switch to *connect* state
    - Help: Switch to *Help* state
    - Clear List: Switch to *Clear* state
    - Disconnect: Switch to *Disconnect* state
* Process WM\_PAINT message:

Functions: *Connect, Display\_Help, Clear\_List, Disconnect*

**Connect:**

* Open a subwindow to select the communication port
* Switch to *Open USB Comm Port* state
* Create a thread for reading
* Switch to *Read* state

Functions: *Choose\_Comm, Read\_From\_Serial*

**Open USB Comm Port:**

* Open communication port (CreateFile) to perform I/O operations asynchronously
* Open a subwindow for user to set protocol parameters
* Switch to *Set Timeouts* state

Functions: *Initialize\_Serial\_Port, Setup\_Comm\_Config*

**Set Timeouts:**

* Sets the reading timeouts on the serial port

Functions: *SetCommTimeouts*

**Read (Event-Driven):**

* Specify a EV\_RXCHAR event to be monitored on the serial port
* Loop as long the system is in ‘connect’ mode:
  + - Wait for the event to occur
    - Clear serial port’s error flag to enable additional I/O
    - Switch to *Retrive Tag* state
    - Clear out all characters on the serial port

Functions: SetCommMask, WaitCommEvent, ClearCommError, Read\_Tag, PurgeComm

**Retrive Tag:**

* Attempt to read from the serial port
* Switch to *Display Tag*

Functions: ReadFile, Draw

**Display Tag:**

* Store each tag’s name in a list
* For each tag in list:
  + - Display the tag if it hasn’t been displayed on the screen yet