How to program an application simple

Write by Tommy

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Today let us talk about how to program an application <u>simple</u> for control our system (<u>S-BUS System</u>), I will give three examples (<u>VB6.0</u> and <u>Delphi7</u> and <u>C#.NET</u>), that you can choose any platform which you like

1. Download and install the library

- 1> Download link as below:
- 2> Install the library step by step: Click the "Setup.msi" to install the library

퉬 DotNetFX40Client	2014/7/3 10:44	文件夹	
骨 SBUS Library.msi	2014/7/3 10:44	Windows Install	457 KB

Notice:

If it appear the warning as below, please click "No" and install the "dotNetFx40_Client_x86_x64.exe", it is under the "DotNetFX40Client\" folder





Click "Next"

岁 SBUS Library	• X
Welcome to the SBUS Library Setup Wizard	5
The installer will guide you through the steps required to install SBUS Library on your con WARNING: This computer program is protected by copyright law and international treative	nputer.
or criminal penalties, and will be prosecuted to the maximum extent possible under the law	жана ступ W.
Cancel < <u>B</u> ack	Next >

Select installation folder and click "Next"







岁 SBUS Library	
Select Installation Folder	5
The installer will install SBUS Library to the following folder.	
To install in this folder, click "Next". To install to a different folder, enter it belo	w or click "Browse".
<u>F</u> older:	
C:\Program Files (x86)\SBUS Library\	Browse
	<u>D</u> isk Cost
Install SBUS Library for yourself, or for anyone who uses this computer:	
© <u>E</u> veryone	
O Just me	
Cancel < <u>B</u> ack	Next >

Click "Next" to start the installation

岃 SBUS Library	(internet		
Confirm Installation			
The installer is ready to install SBUS Library	on your computer.		
Click "Next" to start the installation.			
	Cancel	< <u>B</u> ack	Next >





Installing the library

岃 SBUS Library	
Installing SBUS Library	
SBUS Library is being installed.	
Please wait	
Cancel < <u>B</u> ack] <u>N</u> ext >

Installation complete, click "Close" to exit







闄 SBUS Library	
Installation Complete	
SBUS Library has been successfully installed.	
Click "Close" to exit.	
Please use Windows Update to check for any critical updates to the .NET Fram	ework.
Cancel < <u>B</u> ack	<u>C</u> lose

Well, you can see the two files under the folder

名称	修改日期	类型	大小
isbus.dll	2014/7/3 10:40	应用程序扩展	27 KB
□ sbus.tlb	2014/7/3 10:44	TLB 文件	24 KB

Notice:

"SBUS.dll": It is for .NET platform

"SBUS.tlb": It is for VB6.0 and Delphi7 platform, it just like the "COM" as you know

2. How to use the library in your project

1> <u>VB6.0</u>

<i> How to reference the library

Start "Visual Basic" and create a new "Standard EXE" project









In proper order click "Project" -> "Reference"







SMART-BUS

Click "Browse"



Browse your library's installation path, choose "SBUS.tlb" and click "Open"





後 、添加引用	×
查找范围(I):]] SBUS Library 🔽 💌	← 🗈 📸 ▼
名称	修改日期
🚳 SBUS.dll	2014/7/3 10:40
SBUS.tlb	2014/7/3 10:44
	4
文件名 (M): SBUS. tlb	打开(0)
文件类型(T): 所有文件 (*.*)	▼ 取消
	帮助(H)

Notice:

Change the "File Type" to "All files (*.*)", then you can see the "SBUS.tlb" file

Then you can see a reference named "SBUS" in your project, click "OK"

引用 - 工程1			×
可用的引用 (A):			确定
□rvsIM □rvsProgressDialog □SAFELIVELib □SBEServer 1.0 Type Library ✔SBUS	*		取消 (浏览 (B))
Scanprofiles 1.0 type library SchGrid OLE Custom Control module scp 1.0 Type Library ScriptedDiagHostLibrary ScriptedDiagLibrary ScriptingObjectModel scripto 1.0 Type Library ScriptSigner		◆ 洗级 ◆	帮助(H)
-SBUS 定位: C:\Program Files (x86)\SBUS Library 语言: 标准	SBUS.	tlb	

<ii> Program yourself application

Double click anywhere on the from, and write some code as below





堤工程1 - Form1 (Code)	
(通用)	•
Dim com As New Dimmer	-
Dim WithEvents com Event As Dimmer	
Private Sub Form_Load() Dim localIPAddress() As String	
localIPAddress = com.GetLocalIPAddressList	
com.localIPAddress = localIPAddress(0)	
com.InitSocket SBUS.PortType_PT_LAN	
Set com_Event = com End Sub	
Private Sub com_Event_DataArrival (ByVal subnetID As Byte, _ ByVal deviceID As Byte, _ ByVal deviceType As Long, _ ByVal cor As SDNS.OperateCodeResponse, _ ByVal iengthOfAddtional As Long, _ ByDaf addional O As Byte)	
Select Case our Case SBNS OperateCodeResponse <u>OCR_SINGLE_LIGHT_CONTROL</u> MegBox submetID & ", " & deviceID Fed Schemic	
End Sub	
三三 (
	· //

'Define a variable for the type of "Dimmer" Dim com As New Dimmer

'Define an event to catch the feedback Dim WithEvents com_Event As Dimmer

'Form load event

Private Sub Form_Load() 'Define local IP address array Dim localIPAddress() As String

> 'Get local IP address from the "com" localIPAddress = com.GetLocalIPAddressList

```
'Set the "com"'s "localIPAddress" property, if you have more than one network
card, you can choose one from the list which is current you need
com.localIPAddress = localIPAddress(0)
```

'Initialise the socket module for Ian com.InitSocket SBUS.PortType_PT_LAN

```
'Set the event for com
Set com_Event = com
End Sub
```

'When you receive feedback from the "Single Light Control" function, this event will be trigger

Private Sub com_Event_DataArrival(ByVal subnetID As Byte, _

ByVal deviceID As Byte, _ ByVal deviceType As Long, _





	ByVal	ocr	As
SBUS.OperateCodeResponse, _			
	ByVal lengthOfAddti	onal <mark>As Long</mark> , _	
	ByRef addtional() As	s Byte)	
Select Case ocr			
Case			
SBUS.OperateCodeResponse_OCR	_SINGLE_LIGHT_CO	NTROL	
MsgBox subnetID & ", "	& deviceID		
End Select			
End Sub			
********	*****	*****	****

Add two "CommandButton" into the form, then change their "Caption" property like "Open Light" and "Close Light"

Double click the "Open Light" button and "Close Light" button, and write some code as below



Open Light event

Private Sub Command1_Click()

'Calll "Single_Light_Control" method

'Single_Light_Control subnetID, deviceID, channelNo, brightnessLevel

com.Single_Light_Control 1, 75, 255, 100

End Sub

Also, you can use the same way to develop yourself application with the VBA platform in Microsoft Office

2> Delphi7

<i> How to reference the library Start "Delphi 7"



In proper order click "Project" -> "Import Type Library..."







🍺 Delphi 7 - Project1			- • • ×
<u>File Edit Search View</u>	Project Run Component Datab	pase Iools Window Help None>	
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	<u>Remove from Project</u>		
	🐚 Import Type Library		
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Click "Add"

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Add <u>R</u> emove
Class names:
Palette page: ActiveX
Unit dir name: D:\Program Files (x86)\Borland\Delphi7\Imports'
Search path: \$(DELPHI)\Lib;\$(DELPHI)\Bin;\$(DELPHI)\Impor
Install Create Unit Cancel Help
<u>e</u> onorate component wrapper

Browse your library's installation path, choose "SBUS.tlb" and click "Open"







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Then you can see a reference named "SBUS (Version 1.1)" in your project, click "Create Unit"







mport Type Libra	ry alog (Version 4.0) (Version 1.0)	•
SBUS (Versio SBUS (Versio scanprofiles 1 SchGrid OLE scp 1.0 Type	n 1.1) n 1.1) .0 type library (Version 1.0) Custom Control module (Version 1.0) Library (Version 1.0)	-
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	<u>A</u> dd	<u>R</u> emove
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Unit <u>d</u> ir name:	D:\Program Files (x86)\Borland\Delphi	/\Imports'
Search path:	\$(DELPHI)\Lib;\$(DELPHI)\Bin;\$(DELP	HI)\Impor
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Then the "SBUS_TLB" is added in your project, you can view its property, function or event and so on

D:\Program Files (x8	6)\Borland\Delphi7\Imports\SBUS_TLB.pas
	Unit1 SBUS_TLB
CoCommunication CoDataArrivalHandle CoDB CoDB CoDB CoDommer CoRelay CoReceiveDataComplet CoSendDataComplet CoSendDataComplet CoSendDataComplet TDimmer TDimmer TDimmerProperties THVAC TACProperties TRelay TRelayProperties TRelayProperties TZoneAudioPropertie TZoneAudioPropertie TzoneAudioPropertie TzoneAudioPropertie TzoneAudioPropertie TzoneAudioPropertie Types Variables/Constants Uses	<pre>// ***********************************</pre>
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<ii> Program yourself application

Reference unit and define variable





🖹 Unit1.pas		x
	≝ Unit1 SBUS_TLB ← ¬	$r \rightarrow \tau$
	unit Unit1;	-
⊞- 🛄 Uses	interface	
	uses	
	Windows, Messages, SysUtils, Variants, Classes, Graphics, Controls, Forms, Dialogs, SBUS TLB;	-
	Type Peference the "SBUS TUB" Unit	=
	TForm1 = class (TForm)	
	(Private declarations)	
	public	
	{ Public declarations } end;	
	Form1: TForm1; Pofine the veriable for the type of	
	com: TDimmer; Define the valiable for the type of	
	implementation "TDimmer"	
	{\$R *.dfm}	
	• end.	
		-
	24: 1 Modified Insert Code (Diagram /	•

Double click anywhere on the from, and write some code as below

Unit SBUS_TLB Variables/Constants Uses Form1: TForm1; Uses Com: TDimmer;	• • • •
Variables/Constants Form1: TForm1; Com: TDimmer;	*
Uses com: TDimmer;	
_	
implementation	
{\$R *.dfm}	
procedure TForm1.FormCreate(Sender: TObject);	
var	
begin	
com := TDimmer Create(self):	
<pre>localIPAddress := com.GetLocalIPAddressList(2);</pre>	=
<pre>com.localIPAddress := VarToStr(localIPAddress[0]);</pre>	
com.initSocket(SBUS_TLB.PortType_PT_LAN);	
ena;	
end	
	T
	•
25: 1 Modified Insert \Code/Diagram/	11.

procedure TForm1.FormCreate(Sender: TObject);

var

localIPAddress: OleVariant;

begin

com := TDimmer.Create(self);

locallPAddress := com.GetLocallPAddressList(2);





com.locallPAddress := VarToStr(locallPAddress[0]);

```
com.InitSocket(SBUS_TLB.PortType_PT_LAN);
```

end;

Add two "Button" into the form, then change their "Caption" property like "Open Light" and "Close Light"



Double click the "Open Light" button and "Close Light" button, and write some code as below

```
procedure TForm1.Button1Click(Sender: TObject);
 begin
     com.Single_Light_Control(1, 75, 255, 100, 0, SBUS_TLB.PortType_PT_LAN);
 end:
 procedure TForm1.Button2Click(Sender: TObject);
 begin
     com.Single Light Control(1, 75, 255, 0, 0, SBUS TLB.PortType PT LAN);
 end;
                                           *****
procedure TForm1.Button1Click(Sender: TObject);
begin
   com.Single_Light_Control(1,
                                  75,
                                            255,
                                                    100,
                                                                 0,
SBUS_TLB.PortType_PT_LAN);
end;
procedure TForm1.Button2Click(Sender: TObject);
begin
   com.Single_Light_Control(1, 75, 255, 0, 0, SBUS_TLB.PortType_PT_LAN);
end:
                                        ****
```







3> <u>C#.NET</u>

<i> How to reference the library Start "Microsoft Visual Studio 2010"

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Click "New Project...", expand the tree "Visual C#" -> "Windows", select "Windows Form Application" and set your project name "Test", then click "OK"

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In proper order click "Project" -> "Add Reference...", and change to the "Browse" tab

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SMART-BUS G

Browse your library's installation path, choose "SBUS.dll" and click "OK"







∞ 添加引用			? X
.NET COM	项目 浏览 最近		
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名称	A	修改日期	类型
SBUS.dll		2014/7/3 10:40	应用程
SBUS.tlb		2014/7/3 10:44	TLB 文
•			Þ
文件名 (M): 文件类型 (D):	SBUS. dll 组件文件 (*. dll;*. tlb;*. olb;	;*.ocx;*.exe;*.manifest)	• •
		确定	取消

Then you can see a reference named "SBUS" in the "Solution Explorer"



Then the "SBUS.dll" is added in your project, you can double click it to view its property, function or event and so on







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	▷ + System						
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<ii>> Program yourself application

Reference dll and define variable

Form1.cs [设计]*	Form1.cs* 🗙			
✤ Test.Form1				
📃 using System;				
using System.	Collections.Generic;			
using System.	ComponentModel;			
using System.	Data;			
using System.	Drawing;			
using System.	Ling;			
using System.	Text;			
using System.	Windows.Forms;			
using SBUS;				
<pre>enamespace Tes { f public pa { f f public pa f f f</pre>	<pre>mamespace Test { public partial class Form1 : Form { public Form1() { InitializeComponent(); } Dimmer com = new Dimmer(); }</pre>			

Double click anywhere on the from, and write some code as below







Add two "Button" into the form, then change their "Caption" property like "Open Light" and "Close Light"





Fo	rm1.cs [设计]* 🗙 Form1	l.cs*
	🖳 Form1	
	Open Light	Close Light
		0

Double click the "Open Light" button and "Close Light" button, and write some code as below

```
private void button1_Click(object sender, EventArgs e)
   {
      com.Single_Light_Control(1, 75, 255, 100);
   }
   private void button2_Click(object sender, EventArgs e)
   ł
      com.Single_Light_Control(1, 75, 255, 0);
   }
                           *********
private void button1_Click(object sender, EventArgs e)
{
    com.Single_Light_Control(1, 75, 255, 100);
}
private void button2_Click(object sender, EventArgs e)
{
    com.Single_Light_Control(1, 75, 255, 0);
}
```

Now, you finish all of the "SBUS Library"'s teaching and





studying, you can try to make an application simply by yourself!