GSM library for GTM-201

User Manual

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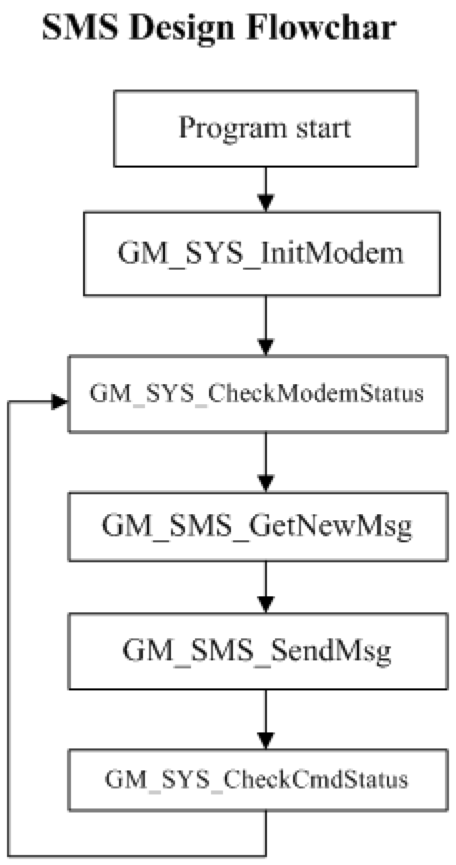
Chapter 1 Introduction

1.1 Design Flowchart



Chapter 2 GSM Library

2.1 Data structure define

There are some data structure that is useful when you program with GSM library.

VC

SMS:

```
//-- structure for sending/reading SMS
typedef struct STRENCODE_MSG{
        char phoneNumber[30];        //phone number
        char time[20];               //sms_time_stamp
        char msg[161];               //message's content
        unsigned char dataLen;   //Message's length,
                                     // Max length: 7-bit=160 words, UCS2=70 words(140 bytes)
        char mode;                   //encode style: 0=GSM_7BIT, 8=GSM_UCS2(uni-code)
} strEncode_Msg;
```

SYSTEM:

```
//-- structure for setting system parameters
typedef struct SYS_PROFILE
{
        char PINCode[5];    //The pin code of SIM card, ex: "0000"
        int modemPort;      //modem port number.
        int hardware;       //hardware type. 0: GTM-201
}SYSProfile;
```

C#

SMS:

```
//-- class for sending/reading SMS
public class Encode_Msg
{
        public string phoneNumber;          //phone number
        public string time;                 //sms_time_stamp
        public string msg;                  //message's content
        public int mode;                        //encode style: 0=GSM_7BIT, 8=GSM_UCS2(uni-code)
}
```

2.2 Function

--SYSTEM Function--

2.2.1 GM_SYS_GetLibVersion

VC
int GM_SYS_LibVersion(void);
C#
public static string GM_SYS_GetLibVersion()

Prototype:

Description:

Get Lib. version

Parameter:

no

Return:

VC
Version format = A.BC
C#
“A.BC”

Prototype:

2.2.2 GM_SYS_GetLibDate

Prototype:

VC
void GM_SYS_GetLibDate(char* libDate);
C#
public static string GM_SYS_GetLibDate()

Description:

Get the library’s date

Parameter:

The library’s date, format="Jul 21 2010"

Return:

no

2.2.3 GM_SYS_InitModem

Prototype:

VC
int GM_SYS_InitModem(SYSProfile sysProfile);
C#
public static int GM_SYS_InitModem(string PinNum, int modem)

Description:

Initialize Modem

*must use GM_SYS_CheckModemStatus() to check modem status later

Parameter:

VC
sysProfile: set system profile
C#
PinNum: PIN code
modem: port number of the modem

Return:

GM_NOERROR:	success
GM_COMERROR:	comport error
GM_INITERROR:	init fail error

2.2.4 GM_SYS_CloseModem

Prototype:

VC
int GM_SYS_CloseModem(int mode);
C#
public static int GM_SYS_CloseModem(int mode)

Description:

Close the modem

*Please call GM_SYS_InitModem() to wake up modem after using GM_SYS_CloseModem(1) to shut down the modem.

Parameter:

mode:	0:	close modem, but maintain it power on
	1:	close modem and set it power off (only for MiniOS7)

Return:

GM_NOERROR:	no error
GM_CMDERROR:	command error

2.2.5 GM_SYS_CheckModemStatus

Prototype:

VC
int GM_SYS_CheckModemStatus(void);
C#
public static int GM_SYS_CheckModemStatus();

Description:

Check modem status, and suggest you check it in your loop every time

Parameter:

no

Return:

GM_NOERROR:	modem register success, can service
GM_NOREG:	modem not registered, can't service

2.2.6 GM_SYS_CheckCmdStatus

Prototype:

VC
int GM_SYS_CheckCmdStatus(void);
C#
public static int GM_SYS_CheckCmdStatus();

Description:

Get the status of the command you sent

Parameter:

no

Return:

GM_BUSY:	modem busy, you can't send other command
GM_NOERROR:	success
GM_TIMEOUT:	time out
GM_CMDERROR :	command error
Other:	please refer to error codes of GSM.h

2.2.7 GM_SYS_CheckSignal

Prototype:

VC
int GM_SYS_CheckSignal(void);
C#
public static int GM_SYS_CheckSignal();

Description:

Check signal quality

Parameter:

no

Return:

Signal: signal quality

0	-113 dBm or less
1	-111 dBm
2...30	-109... -53 dBm
31	-51 dBm or greater

2.2.8 GM_SYS_CheckReg

Prototype:

VC
int GM_SYS_CheckReg(void);
C#
public static int GM_SYS_CheckReg();

Description:

Check register

Parameter:

no

Return:

Register flag

0:	not registered
1:	registered, home network
2:	not registered, and searching...
3:	registration denied
4:	unknown
5:	registered, roaming

--SMS Function--

2.2.9 GM_SMS_SendMsg

Prototype:

VC
int GM_SMS_SendMsg(strEncode_Msg* strMsg);
C#
public static int GM_SMS_SendMsg(Encode_Msg strMsg)

Description:

Send a message

* must use "GM_SYS_CheckCmdStatus()" to check status later

Parameter:

strMsg:	the message

Return: None

GM_NOERROR	no error
GM_NOREG:	not registered, or can't service
GM_BUSY:	modem busy

2.2.10 GM_SMS_GetNewMsg

Prototype:

VC
int GM_SMS_GetNewMsg(strEncode_Msg* msg);
C#
public static int GM_SMS_GetNewMsg(ref Encode_Msg strMsg)

Description:

Get a new sms message

Parameter:

msg: new sms message

Return:

0:	no new message
1:	new message coming

--GPS Function--

2.2.11 GM_GPS_Set_type

Prototype:

VC
int GM_GPS_Set_type(int type);
C#
public static extern int GM_GPS_Set_type(int type);

Description:

Set the type of the "GSP data" that get by the 3G modem.

Parameter:

type: The type of the GPS Data.

1: GGA

2: RMC

3: GSA

4: VTG

5: GNS

Return: None

Command sort number.

2.2.12 GM_GPS_Get_data

Prototype:

VC
void GM_GPS_Get_data(LPSTR szResult);
C#
public static extern void GM_GPS_Get_data(byte[] ByteResult);

Description:

Get a new GPS data

Parameter:

VC
LPSTR szResult: GPS receive string array
C#
byte[] ByteResult : GPS receive byte array Use the “PACNET.MISC.WideString” functino to transform the Byte array to string

Return:

no

Version Record

Version	By	Date	Description
1.0.0	Malo	2011/04/18	release
1.0.1	Tunglu	2017/06/30	release