

```
#define BTtx 2
#define BTrx 3
#define LED_Red 13
SoftwareSerial BT(BTtx, BTrx); //BT(2,3);
char data = 'F';
void setup()
{
  BT.begin(9600);
  Serial.begin(9600);
  pinMode(LED_Red, OUTPUT);
}
void loop()
{
  if(BT.available()>0)
  {
    data = BT.read();
  }
  if(data == 'F')
  {
    digitalWrite(LED_Red, LOW);
    Serial.println("LED OFF");
  }
  else if(data == 'T')
  {
    digitalWrite(LED_Red, HIGH);
    Serial.println("LED ON");
  }
}
```



TTS : 텍스트를 음성으로 합성하는 기술

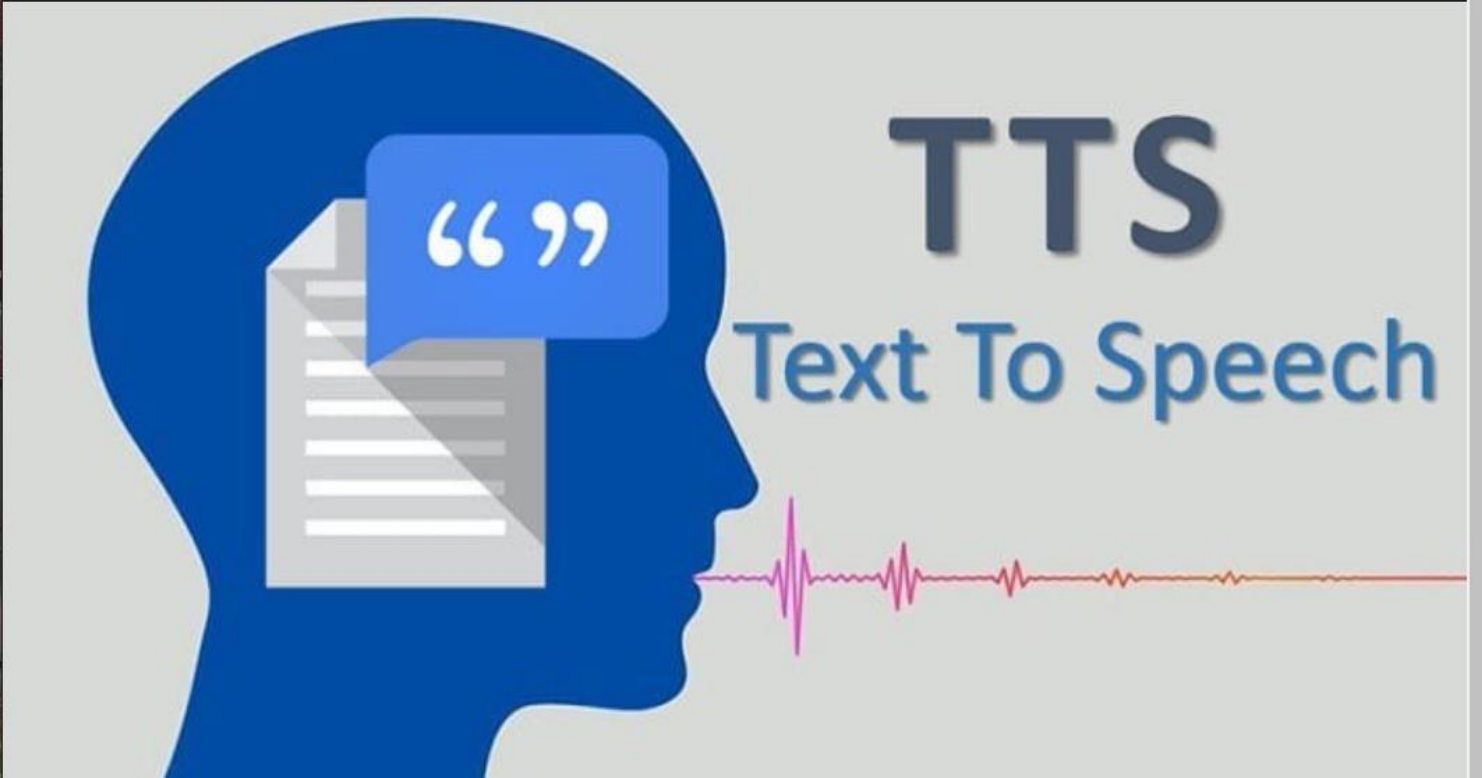
컴퓨터 프로그램을 통하여 사람의 목소리(사전 녹음 목소리 기반)를 구현

TTS의 구성요소

- SAPI : Windows 구성요소
- Voice Engine : CODEC 역할
- Player

코드 + 인코더

복호화



주요 속성

Country : 음성 생성에 사용할 국가 코드

Language : 이 장치에서 사용할 수 있는 언어

Pitch : 음성 피치(0~2 사이, default 1), 낮을수록 톤이 낮음, 높을수록 톤이 높음



Palette

Search Components...

User Interface

Button

CheckBox

DatePicker

Image

Label

ListPicker

ListView

Notifier

PasswordTextBox

Slider

Spinner

Switch

TextBox

TimePicker

WebView

Layout

Media

Drawing and Animation

Viewer

Display hidden components in Viewer

Screen1

충북대학교 펄웨어프로그래밍

연결

해제

연결 장치 없음.

Value :

0

TTS

Non-visible components

Components

Screen1

Ib_CBUE

HorizontalArrangement1

Ip_Connect

btn_Disconnect

Ib_DeviceName

HorizontalArrangement2

Ib_Value

Ib_Value_Number

tb_TTS

btn_TTS

BluetoothClient1

Clock1

Serial1

TextToSpeech1

Rename

Delete

Media

compass.png

drsim.jpg

Upload File ...

Properties

Screen1 (Form)

Appearance

AboutScreen

AccentColor

AlignHorizontal

AlignVertical

BackgroundColor

BackgroundImage

BigDefaultText

CloseScreenAnimation

HighContrast

OpenScreenAnimation

PrimaryColor

PrimaryColorDark

ScreenOrientation

when Screen1 ▾ .Initialize

do

set Ip_Connect ▾ . Elements ▾ to BluetoothClient1 ▾ . AddressesAndNames ▾

set Clock1 ▾ . TimerEnabled ▾ to false ▾

when btn_Disconnect ▾ .Click

do

call BluetoothClient1 ▾ .Disconnect

set lb_DeviceName ▾ . Text ▾ to " 연결 장치 없음. "

set Clock1 ▾ . TimerEnabled ▾ to false ▾

when Ip_Connect ▾ .AfterPicking

do

if call BluetoothClient1 ▾ .Connect address Ip_Connect ▾ . Selection ▾

then set lb_DeviceName ▾ . Text ▾ to " 연결 잘 되었음. "

set Clock1 ▾ . TimerEnabled ▾ to true ▾

when Clock1 ▾ .Timer

do

if call BluetoothClient1 ▾ .BytesAvailableToReceive > 0

then set lb_Value_Number ▾ . Text ▾ to call BluetoothClient1 ▾ .ReceiveText numberOfBytes call BluetoothClient1 ▾ .BytesAvailableToReceive

when btn_TTS ▾ .Click

do

set TextToSpeech1 ▾ . Country ▾ to TextToSpeech1 ▾ . Country ▾

set TextToSpeech1 ▾ . Language ▾ to TextToSpeech1 ▾ . Language ▾

call TextToSpeech1 ▾ .Speak message tb_TTS ▾ . Text ▾

when btn_Input .Click

do

set TextToSpeech1 . Country to TextToSpeech1 . Country

set TextToSpeech1 . Language to TextToSpeech1 . Language

if

tb_Input . Text = " 점등 " and tb_Input . Text = " 불켜 "

then

call BluetoothClient1 .SendText
text " T "

else if

tb_Input . Text = " 소등 " and tb_Input . Text = " 불꺼 "

then

call BluetoothClient1 .SendText
text " F "

call TextToSpeech1 .Speak

message tb_Input . Text





음성인식 : 구성요소를 사용하여 사용자가 말하는 것을 듣고 디바이스의 기능을 사용하여 음성을 텍스트로 변환

주요 속성

Language : 음성인식에 사용할 언어

Result : 음성인식이 생성한 마지막 텍스트

UseLegacy :

True : 음성을 인식하는데 별도의 대화가 사용(default)

False : 백그라운드에서 음성이 인식되고 단어를 인식하면서 업데이트



User Interface

- Button
- CheckBox
- DatePicker
- Image
- Label
- ListPicker
- ListView
- Notifier
- PasswordTextBox
- Slider
- Spinner
- Switch
- TextBox
- TimePicker
- WebView

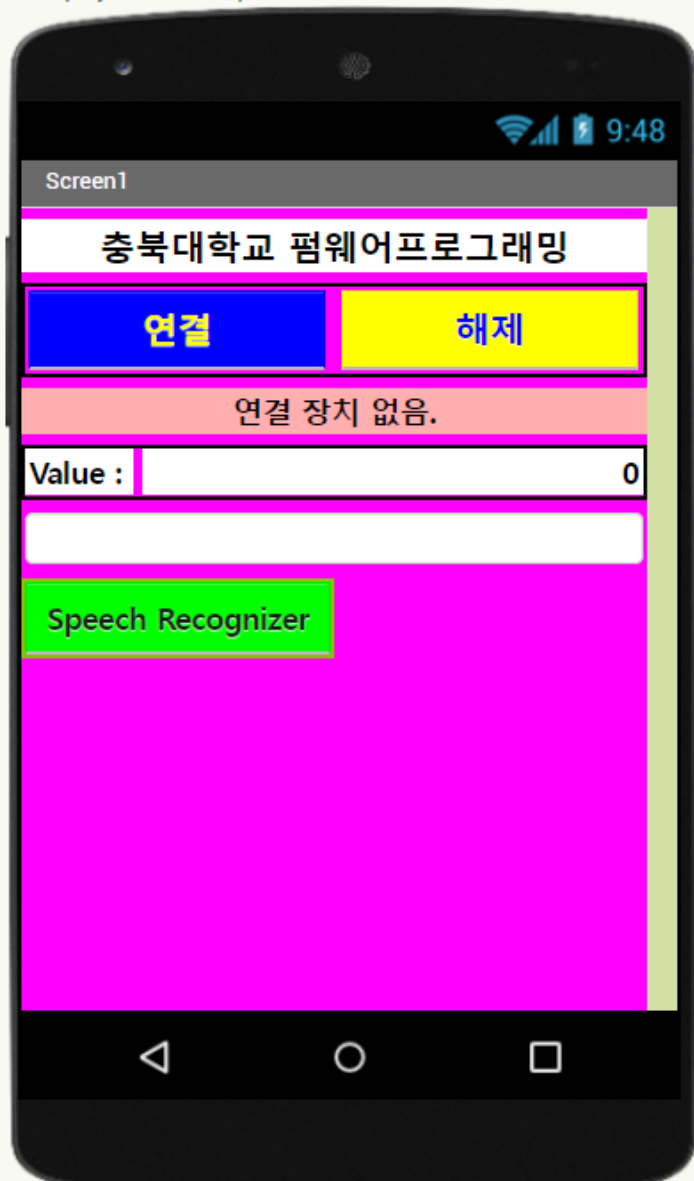
Layout

Media

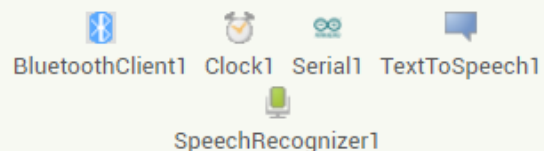
Drawing and Animation

Maps

Charts



Non-visible components



Screen1

- lb_CBUE
- HorizontalArrangement1
 - lp_Connect
 - btn_Disconnect
- lb_DeviceName
- HorizontalArrangement2
 - lb_Value
 - lb_Value_Number
- tb_TTS
- btn_TTS
- BluetoothClient1
- Clock1
- Serial1
- TextToSpeech1
- SpeechRecognizer1

Rename

Delete

Media

- compass.png
- drsim.jpg

Upload File ...

btn_TTS (Button)

Appearance

BackgroundColor

Green

FontBold



FontItalic



FontSize

17

FontTypeface

default...

Height

Automatic...

Width

Automatic...

Image

None...

Shape

default

ShowFeedback



Text

Speech Recognizer

TextAlignment

center : 1

TextColor

Default

Visible

when Screen1 ▾ .Initialize

do

set Ip_Connect ▾ . Elements ▾ to BluetoothClient1 ▾ . AddressesAndNames ▾

set Clock1 ▾ . TimerEnabled ▾ to false ▾

when btn_Disconnect ▾ .Click

do

call BluetoothClient1 ▾ .Disconnect

set lb_DeviceName ▾ . Text ▾ to " 연결 장치 없음. "

set Clock1 ▾ . TimerEnabled ▾ to false ▾

when Ip_Connect ▾ .AfterPicking

do

if call BluetoothClient1 ▾ .Connect
address Ip_Connect ▾ . Selection ▾

then set lb_DeviceName ▾ . Text ▾ to " 연결 잘 되었음. "

set Clock1 ▾ . TimerEnabled ▾ to true ▾

when Clock1 ▾ .Timer

do

if call BluetoothClient1 ▾ .BytesAvailableToReceive > 0

then set lb_Value_Number ▾ . Text ▾ to call BluetoothClient1 ▾ .ReceiveText
numberOfBytes call BluetoothClient1 ▾ .BytesAvailableToReceive

when SpeechRecognizer1 ▾ .AfterGettingText

result partial

do set lb_Value_Number ▾ . Text ▾ to get result ▾

when btn_STT ▾ .Click

do call SpeechRecognizer1 ▾ .GetText

when SpeechRecognizer1 .AfterGettingText

result partial

do set Ib_ValueNumber . Text to get result

if Ib_ValueNumber . Text = " 불켜 "

then call BluetoothClient1 .SendText

text " T "

else if
then call

