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/* OPTIONAL:To reduce the library compiled size and limit its memory usage,
you can specify which shields you want to include in your sketch by defining
CUSTOM_SETTINGS and the shields respective INCLUDE_ define. */#define
CUSTOM_SETTINGS#define INCLUDE_INTERNET_SHIELD#define
INCLUDE_VOICE_RECOGNIZER_SHIELD#define INCLUDE_TEXT_TO_SPEECH_SHIELD#define
INCLUDE_MUSIC_PLAYER_SHIELD#define INCLUDE_CLOCK_SHIELD/* Include 1Shield
library. */#include <OneShield.h>/* create an initial value for the millis
counter. */unsigned long previousMillis = 0;/* create an initial state for
calling alexa. */bool state = 0;/* Call an api that will return the weather
status in cairo,egypt. */HttpRequest
request1("http://api.openweathermap.org/data/2.5/weather?q=Cairo,EG&appid=43d
95b4cf5d0573e2dfe5186c160017a");/* define the 3 transistors on pins 3,5 and
6. */#define strip1 3#define strip2 6#define strip3 5/* define the lamp on
pin 13. */int lamp = 13;/* define the variable that will hold the hours and
minutes . */int hour, minute;/* Create 2 character arrays to catch the string
you want from the sentence. */char b[4];char c[4];/* define variables to hold
the hour and minutes in string. */String strh, strm ;/* define variable to
hold the day status am or pm. */String noon;/* Voice commands set by the
user. */const char mainCommand[] = "alexa";const char weatherCommand[] = "how
is the weather today";const char playCommand[] = "play music";const char
clockCommand[] = "what time is it";const char stopCommand[] = "stop";const
char lightonCommand[] = "turn on the lights";const char lightoffCommand[] =
"turn off the lights";void setup() { /* Start Communication. */
OneShield.begin();/* set the led strips and the lamp to output. */
pinMode(strip1,OUTPUT);    pinMode(strip2,OUTPUT);
pinMode(strip3,OUTPUT);    pinMode(lamp,OUTPUT);    /* Subscribe
to success callback for the request. */ request1.setOnSuccess(&onSuccess1);
/* Subscribe to json value replies. */
request1.getResponse().setOnJsonResponse(&onJsonReply1);/* on a voice
recognized call the function "myfunction". */
VoiceRecognition.setOnNewCommand(&myFunction);}void loop (){ /* make a delay
for 5 seconds using millis counter to keep the voice detection alive. */
unsigned long currentMillis = millis(); if (currentMillis - previousMillis
>= 5000) { previousMillis = currentMillis; /* get the current time in
your phone. */ Clock.queryDateAndTime(); /* start voice recognition.
*/ VoiceRecognition.start(); }/* save the smartphone hour and minutes in
variables. */ hour = Clock.getHours(); minute = Clock.getMinutes(); /*
detect the time status if it am or pm. */ if (hour > 12) { hour -= 12;
noon = "P M"; } else { noon = "A M"; }/* save the hour and minutes as
string. */ strh = String(hour); strm = String(minute);/* save the string in
a character array. */ strh.toCharArray(b, 4); strm.toCharArray(c, 4);}/*
This function will be invoked each time a new command is given. */void
myFunction (char *commandSpoken){/* check if any one call alexa or not. */
if (!strcmp(mainCommand, VoiceRecognition.getLastCommand())) { alexon();
MusicPlayer.setVolume(5); /* if yes make the state =1 . */ state = 1;
} /* check if you asked to play music after calling alexa. */ if

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(!strcmp(playCommand, VoiceRecognition.getLastCommand()) && state == 1) {
alexoff(); MusicPlayer.play(); delay(10000); MusicPlayer.stop();
state = 0; }/* check if you asked to get the weather status after calling
alex. */ else
if(!strcmp(weatherCommand,VoiceRecognition.getLastCommand())&& state == 1)
{ alexoff(); Internet.performGet(request1); /* Wait for 5 seconds.
*/ OneSheeld.delay(5000); state = 0; }/* check if you asked for the
time after calling alexa. */
if(!strcmp(clockCommand,VoiceRecognition.getLastCommand()) && state == 1)
{ alexoff(); /* 1Sheeld responds using text-to-speech. */
TextToSpeech.say("time in cairo is"); delay(1300);
TextToSpeech.say(b); delay(600); TextToSpeech.say(c);
delay(800); TextToSpeech.say(noon); delay(500);
state = 0; }/* check if you asked to turn the lamp on after calling
alex. */ if (!strcmp(lightonCommand, VoiceRecognition.getLastCommand()) &&
state == 1) { alexoff(); digitalWrite(lamp,HIGH);
TextToSpeech.say("the lights turned on"); delay(6000); state = 0; }/*
check if you asked to turn the lamp off after calling alexa. */ else if
(!strcmp(lightoffCommand, VoiceRecognition.getLastCommand()) && state == 1)
{ alexoff(); digitalWrite(lamp,LOW); TextToSpeech.say("the lights
turned off"); delay(3000); state = 0; }}void onSuccess1(HttpResponse &
response1){ /* Using the response to query the Json chain till the required
value. */ /* i.e. Get the value of 'main' in the first object of the array
'weather' in the response. */ /* Providing that the response is in JSON
format. */ response1["weather"][0]["main"].query();delay(200); }void
onJsonReply1(JsonKeyChain & hell,char * output){ if(hell ==
request1.getResponse()["weather"][0]["main"]) { TextToSpeech.say("the
weather today in cairo is"); delay(2000); /* 1Sheeld responds using text-
to-speech shield. */ TextToSpeech.say(output); } }void alexon(){ /* Turn
on the strips in order like the same oder of amazon echo. */
digitalWrite(strip1,HIGH); delay(200); digitalWrite(strip2,HIGH);
delay(200); digitalWrite(strip3,HIGH); } void alexoff(){ /* Turn
off the strips. */ digitalWrite(strip1,LOW);
digitalWrite(strip2,LOW); digitalWrite(strip3,LOW); }

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