BANNARI AMMAN INSTITUTE OF TECHNOLOGY

SATHYAMANGALAM,ERODE.

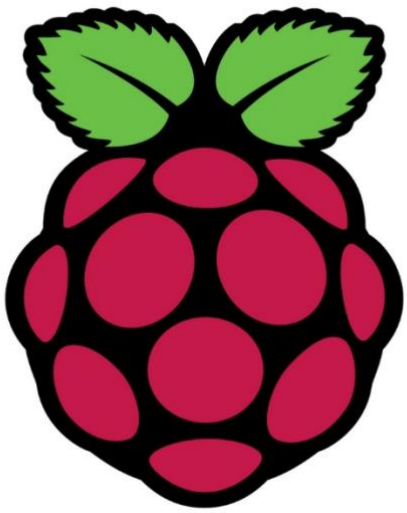
PAPER PRESENTATION

Topic: **AUDIO TRANSFER USING RASPBERRY PI - REMOTELY**

Crew: ASHOK KUMAR M(181CS122) ABISHEK K V(181CS104)

INTRODUCTION:

The Raspberry Pi was created with the goal of education in mind. This ultra-tiny computer was designed to be small and cheap so that schools could easily afford them in order to teach students about computers in the classroom. This is great for two reasons, the first is that it provides extremely cheap access to a computer, and second it is a great tool for learning more about computers.



In the model B, you get an HDMI out, RCA video out, 2 USB ports, an SD card slot, a head phone jack, and an Ethernet port. The board itself has half a gigabyte of RAM and an onboard ARM processor.

COMPONENTS:

- Raspberry pi
- Mic
- Internet Source
- Display

LANGUAGES USED:

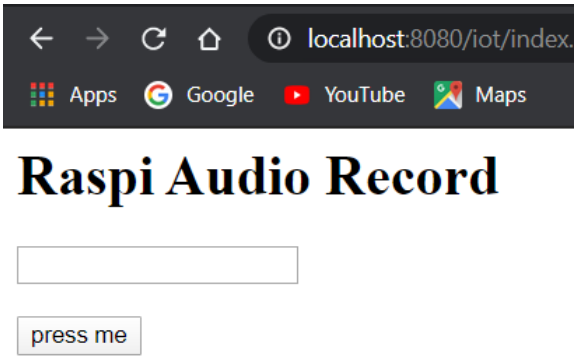
- PYTHON
- HTML
- PHP
- MYSQL DATABASE

PYTHON:

Raspberry pi is based on Python language and python is the most simple, easy to learn and most powerful programming language and it is beginners friendly. All Commands in it is based on Python language. Over 69 percent of machine-learning developers and data scientists now use Python

HMTL:

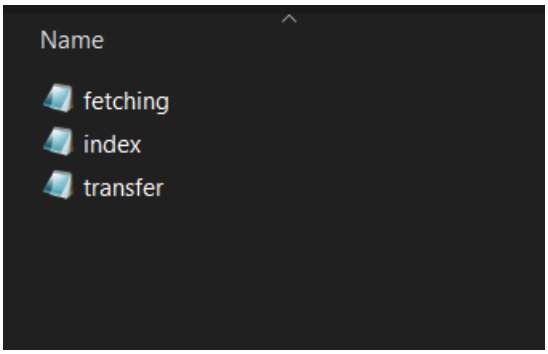
HTML (Hyper Text Markup Language) is the most basic building block of the Web. It defines the meaning and structure of web content. We use HTML to get the on / off status from user by which to get recording done.



PHP:

PHP stands for "Hypertext Preprocessor." It is a recursive acronym, if you can understand what that means. PHP is an HTML-embedded Web scripting language. This means PHP code can be inserted into the HTML of a Web page.

We use PHP to get the data from the user and store it in the mysql database and then from mysql database to python code of Raspberry pi.



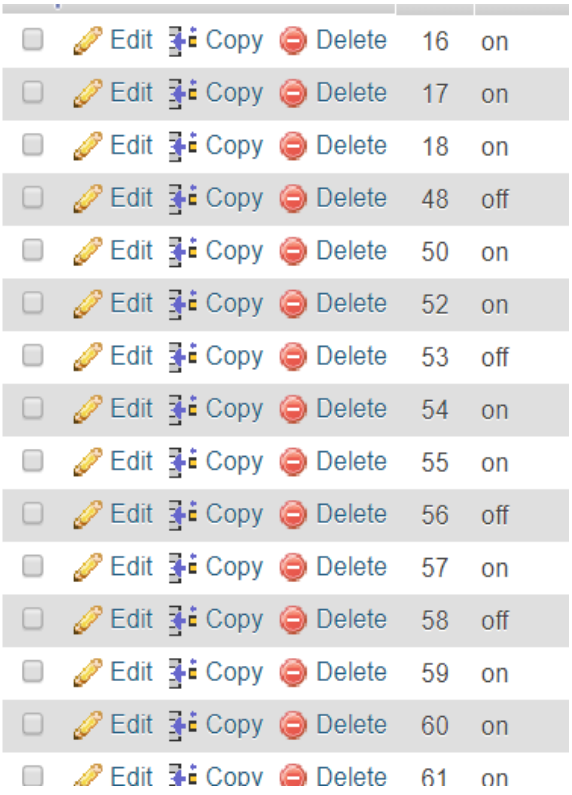
MYSQL DATABASE:

A database is a separate application that stores a collection of data. Each database has one or more distinct APIs for creating, accessing, managing, searching and replicating the data it holds.

Other kinds of data stores can also be used, such as files on the file system or large hash tables in memory but data fetching and writing would not be so fast and easy with those type of systems.

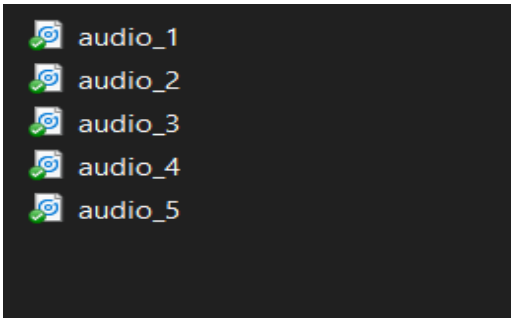
Nowadays, we use relational database management systems (RDBMS) to store and manage huge volume of data.

We use mysql database to store the status of the switch, which can store n number of data.



PYTHON ALGORITHM:

First import dropbox package then fetch user command that he put in the database. If the data that user stores in database is ‘on’ the record will start and if the user stores as ‘off’ it stops recording and connect your dropbox using API key and paste the api key in the code and code the program to stores the audio file to get stored in the dropbox



WORKING:

Connect all your peripherals in your Raspberry pi. Connect your Raspberry pi with your monitor and install some package like DROPBOX in the terminal and then sign up with dropbox so that you can store the audio files in the dropbox (free storage offered by microsoft). Then get the API key from the dropbox. Paste it in the python code of recording audio in Raspberry pi.

Now for remote access, create a HTML FORM and a localhost DATABASE for storing the on/off command and PHP code to connect database and HTML form. Host that code in any server or localserver so that you can get the url. And paste it in the PYTHON code to fetch the on/off state that we provide in the HTML form. When we type (on) in HTML form it starts recording, when we type (off) it stops recording.

And the recorded file are uploaded to the Microsoft dropbox with the duration of 5 seconds each file.

DROPBOX is a free storage offered by Microsoft after sign up with gmail account, create a folder to get things organized and get the API key by which you can connect two devices or programs like Raspberry and Dropbox.

API is the acronym for Application Programming Interface, which is a software intermediary that allows two applications to talk to each other.

USES:

- Used for live transfer of audio where video recording is not permitted
- Used in the place where humans couldn't able stay there
- Record sound of some rare Animals
- By updating this we can able to turn on or off led using voice
- Advantage is it is cheap

CONCLUSION:

As a conclusion, the Dropbox and the raspberry pi are connected successfully and with the help of HTML, mysql database and PHP we achieved remote access. It's also helped to learn about many mini project which modern computers failed to succeed. This gained knowledge of working of this audio transfer will have a significant impact on future work. In our future over 90 percent of electronics are IOT based and particularly in connectivity.so implementing these kinds of projects will helps in to succeed in future.

FURTHER IMPLEMENTS:

Further we are going to implement voice recognition like when we say 'turn on' recording it will turn on and if we say 'turn off ' it will turn off . And also access with google assistance, siri, and alexa, etc.