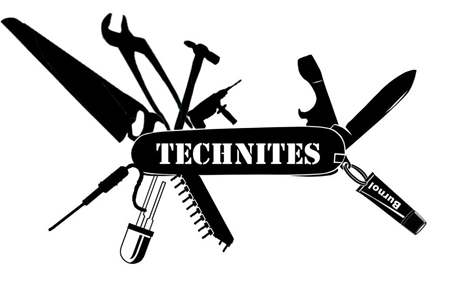
**National Institute of Technology Surathkal Karnataka**

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**MIDI FLUTE**

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**Abstract/Aim of Project:**

IT IS A ELECTRONIC FLUTE WHICH IS PLAYED WITH THE HELP OF 8 BUTTONS CORRESPONDING TO THE 8 SURAS IN MUSIC. THE FLUTE IS CONNECTED TO THE SOFTWARE BY THE MEANS OF A BLUETOOTH MODULE AND ALSO USES MIDI PROTOCOL.

**Parts Needed/Used:**

* PIECE OF A PIPE
* CARDBOARD OR HARDBOARD
* GLUE,FEVICOL,FEVIKWIK,GLUE GUN
* SOLDER GUN
* PEN REFILLS (EMPTY)
* BLUETOOTH MODULE
* ARDUINO
* SOFTWARES : FL STUDIO , LOOP MIDI ,HAIRLESS MIDI ,ARDUINO / CODE COMPOSER STUDIO
* ELECTRONIC COMPONENTS (WILL DEPEND ON THE CIRCUIT)
* CELLOTAPE
* A LAPTOP….

**How it works:**

The flute works basically on the midi protocol (the pdf is in the drive link). The midi creates a link between the received signal from the Arduino and the software ( fl studio).the received signal is the converted into command s that are fed to the software which in turn plays various sounds according to the commands.

**Steps:**

* FIRST LEARN ABOUT BASIC MIDI PROTOCOL.
* LEARN TO WRITE SMALL CODES IN ARDUINO TO PLAY VARIOUS SOUNDS
* NOW TRY TO CODE TO PLAY A SOUND WITH A PUSH BUTTON
* LEARN ABOUT USE OF BLUETOOTH MODULE
* MAKE THE BASIC OUTLINE OF THE PCB
* DESIGN THE PCB IN EASYEDA OR ANY SOFTWARE YOU ARE COMFORTABLE WITH
* SOLDER THE COMPONENTS ON THE PCB WITH A SOLDER GUN
* CONNECT THE BLUETOOTH MODULE AND THE AMPLIFIER(OPTIONAL)
* MAKE THE OUTER COVERING OF THE FLUTE
* STUFF THE PIPE WITH HARDBOARD OR PAPER SUCH THAT THE PCB CAN’T MOVE INSIDE IT
* MAKE THE UPPER BUTTON EXTENSIONS
* MAKE IT LOOK PRESENTABLE…

**Troubleshooting:**

## If there is some problem with Bluetooth try connecting state pin of bluetooth to ground

**Problems Faced**

* BLUETOOTH GOT DISCONNECTED AUTOMATICALLY
* GOT CONNECTED TO SOME OTHER BLUETOOTH ( ALL THE NAMES ARE HC-05)
* FINDING REFILLS OF THE PERFECT SIZE OF THE PUSH BUTTONS
* THE REFILLS COULDN’T BE STUCK PROPERLY BY THE GLUE GUN AND FEVICOL DAMAGED THE INTERNAL CONNECTIONS OF CIRCUIT. SO THE REFILLS USED TO FALL OUT AT TIMES.

**Demo and Pictures**

<https://drive.google.com/drive/folders/13t-z1e4f-awNKtNdSN-NfYTaU_Y5oTv6?usp=sharing>

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