[IIIT\_B]  
[31 October 2017]

**PROJECT PROPOSAL**

[Portable Music Player]

Summary

We aim to create a portable and affordable music tool for everyone. As our tool is motion controlled,the user need not the nuances and technicalities of music.

Working:

* Altering the distance between the hands will change the pitch.
* Changing the orientation will vary the amplitude.
* Cutoff frequency of digital low pass filter will also be varied.
* There will be different modes of operation that can be accessed with the help of a button.

Introduction

We thought of this because we wanted to make something fun that can be used by the common man,kids for educational as well as recreational purposes.

We hope to implement four different modes of operations. They are :

**1. Continuous mode**: 2 octave range (C4 - C6), chromatic scale with 8 increments between each half step.

**2. Chromatic 2oct mode:** 2 octave range (C4 - C6), chromatic scale.

**3. Chromatic 1oct mode**: 1 octave range (easier to play) (C4 - C5), chromatic scale.

**4. Major mode:** 2 octave range (Bb3 - Bb5), Bb major scale.

This project requires a good deal of hardware and significant sofware .

Needs/Problems

• It will help in recreation.

• Also help in education . Can be further developed to incorporate speech.

Procedures/Scope of Work

We will be using ultrasonic transducers to calculate the distance between our hands and 3 axis accelrometers to calculate the

Provide detailed information about proposed procedures, if available, and the scope of work. Include information on activities such as recruiting, training, testing, and actual work required.

Budget

Some components are available in CEEMs Lab,HiDes Lab while we personally have some sensors. The budget given below is approximate.

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| **Sl No.** | **Components** | **Price(Rs.)** |
| 1. | Ultrasonic transducer | 149 |
| 2. | Three access accelerometer | 155 |
|  |  |  |
|  | **Total** | **Rs. 304.00** |

Project Members

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