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People | Technology | Results

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National Hackathon Series

WEARABLES EDITION

 AB Emporium Hotel and Events Center, Ado Ekiti

 26th-28th July, 2018

4 case

Wearable/Mobile back-vibration massager

Sarah was only 10 years old but she walked like an 80-year old woman. Sarah suffered severe back pain since birth. At less than two months, her nanny began to force her to sit. This deformed Sarah. At age 4, she started to walk but she could barely bend forward or backwards. All attempts to correct her health challenge through physiotherapy proved futile. Sarah dropped out of school as she could no longer cope with the challenges of schooling.

Several children and adults suffer like Sarah, Wearing a back-vibration massage kit would save a lot of them.



our **SOLUTION**

to design a

mobile wearable back-pack massager

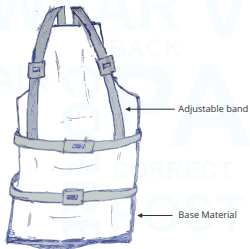


Materials | Tooling

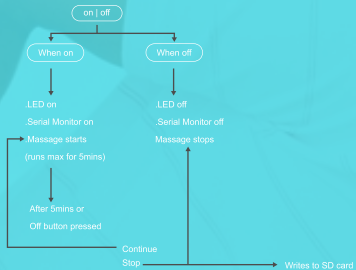
- Arduino Board
- Vibrating Sensor
- Serial Monitor
- LEDs, Jumper wires, Push Buttons
- Leather Clothing



sketches



our WORKFLOW



Vibrating sensor position structure
A smart wearable to allow ease and comfort for students

procedure



Vibrating sensors
connection to base material



Covering layer

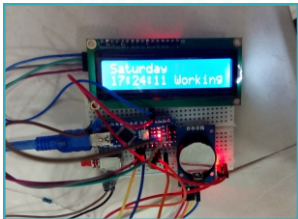
- Cover up with leather
 A hard leather cover was placed on and at the back of the positioned sensors to allow well proper vibration distribution while wearing the device.
- Connect the vibrating sensors together on the base material.
 A total of 8 vibrating sensors were connected in parallel to allow equal voltage distribution among them all.



Wearable massager with strips



procedure



Massager device hardware controller

Hardware components

The micro-controller where the codes to handle the controlling of the device while be stored and functioning

The Real time controller to allow real time handling for the device

Micro SD care to log all the activities of the devices onto a file so as to do much and better analysis in the later future

Indicators to show activities of the wearable massage device

Batteries for power



Thank
You

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