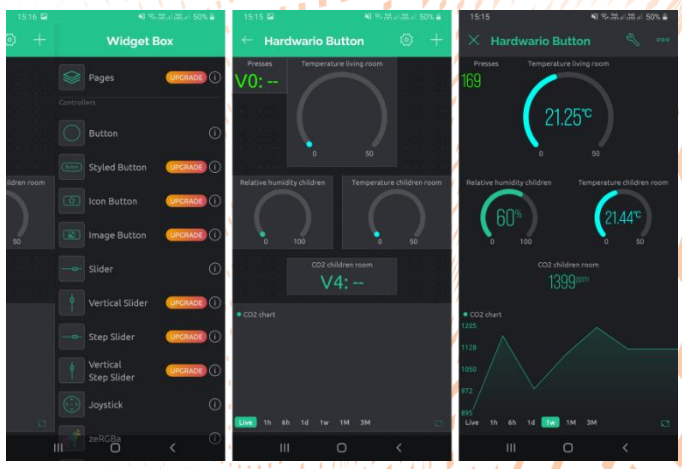
KCG
COLLEGE OF TECHNOLOGY
AFFILIATED TO ANNA UNIVERSITY | AUTONOMOUS

HACKFEST·23
By AXISCADES-MISTRAL

Development of a prototype which generates electricity through Foot-Step



TM

TEAM Kinetic Tile

SOLUTION

- The system is designed to efficiently convert footstep-induced mechanical energy into electrical power through the use of copper coils and neodymium magnets, maximizing energy extraction from pedestrian movement.
- The AC to DC conversion process and subsequent battery recharging are optimized for efficiency, ensuring minimal energy loss during storage and retrieval.
- Integration of solar panels further enhances efficiency, supplementing energy generation during periods of low pedestrian activity and reducing reliance on grid power.
- Similarly, the efficiency of the solar panels can be calculated by comparing the solar energy input to the electrical energy output. If the solar panels receive 500 watts of solar energy and produce 400 watts of electrical energy, the efficiency would be 80% (400/500 * 100).

MEMBERS

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TECH STACK

- The Energy generated can be measured using voltage and current sensors.
- Once the data receives to the sensors it pushes to the esp32 microcontroller.
- From microcontroller it connects the APIs such as sheets,firebase,Blynk and thinkspeak.
- Through the api's we can monitor and visualizes the data into the screens

Firebase

Blynk

Google Sheets

USE CASES

- Kinetic tile can be used in many public places like pavements, offices, malls, parks in many places which are visited by the public commonly.
- It can also be used in speedbreakers that could help in generating energy when vehicles pass on them.

USER FLOWS