Project description:

The use of CFC gas has contributed a lot towards global warming through ozone layer depletion. So, we thought of eliminating the use of CFC gas in refrigeration through thermo-electric coolant. The idea is to build an instant cooler which can cool liquids upto 12 degrees which is optimum for drinking cold liquids for human , also our idea is to make the cooler unmanned using the concept of Iot message queueing telemetry transport (MQTT).

Our system comprises of three parts:
Firstly, the android app. which is integrated with MQTT broker, Adafruit cloud service, UPI payment gateway . The user when pays a defined amount of currency and the payment success is acknowledged by the payment gateway, the user can then dispense the cold liquid for atmost once . After that the user needs to pay more for more no. of glasses of dispensed liquid, i.e. at a time for only one transaction the user can dispense atmost 1 glass of liquid .

Secondly, the keyword " Ok Google" when triggered followed by a defined phrase say "Give me a glass of cold drink ." will trigger IFTT service and which will send a feed onto the Adafruit cloud service .

Finally , the ESP 32 microcontroller when connected to the internet and is subscribed to the MQTT broker service will get current feed that he is subscribed to and the published feed from the Adafruit cloud will be pushed onto the microcontroller and accordingly the microcontroller will turn on the DC pump which will led to flow of liquid through the block attached to 127015 Peltier IC , which is maintained at -5 degree celsius and after a stipulated time the flow of liquid will be cut-off by the relay unit attached to the motor .

Why system is needed and why is it better?

The system is needed for unmanned dispense of fluids during nights(for example in college campuses , where there is no seller physically present to sell those cold liquids).

It is better because it will consume a minimum amount of power(125watts) for its operation , unlike the conventional refrigerators (min 1Kw).