

Team Name: Health Band for Seizures

	Name	Branch and Semester	Contact Number	Email- ID
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Note:

1. One can participate either as a part of a team or an individual basis. Switching teams is not allowed.
2. The uploaded ideas will be screened to go to the second round.
3. Judging : competition entries shall be judged, or winners selected based on the following criteria
 - Is the problem worth solving
 - How innovative or novel is the idea
 - Scientific accuracy
 - Social impact
 - Scalability
4. Decisions of IIC JSSSTU in respect of all matters to do with the competition will be final and no correspondence will be entertained.
5. In second round, the selected teams will have to present their idea in front of the jury panel.
6. Payment of INR 50 should be made to the UPI ID anju.marina.lobo@oksbi and submit the transaction ID above.
7. Idea should be submitted in **.pdf** format.

Abstract: (not more than 150 words)

A generalized tonic-clonic seizure, sometimes called a grand mal seizure, is a disturbance in the functioning of both sides of your brain. This disturbance is caused by electrical signals spreading through the brain inappropriately. Often this will result in signals being sent to your muscles, nerves, or glands. The spread of these signals in your brain can make you lose consciousness and have severe muscle contractions. This causes a lot of problem for the patients when they are alone. This idea is to prepare a health band for such people in order to alert their family members or friends or just to activate an alarm in the public places considering the abrupt changes in bp and pulse rate.

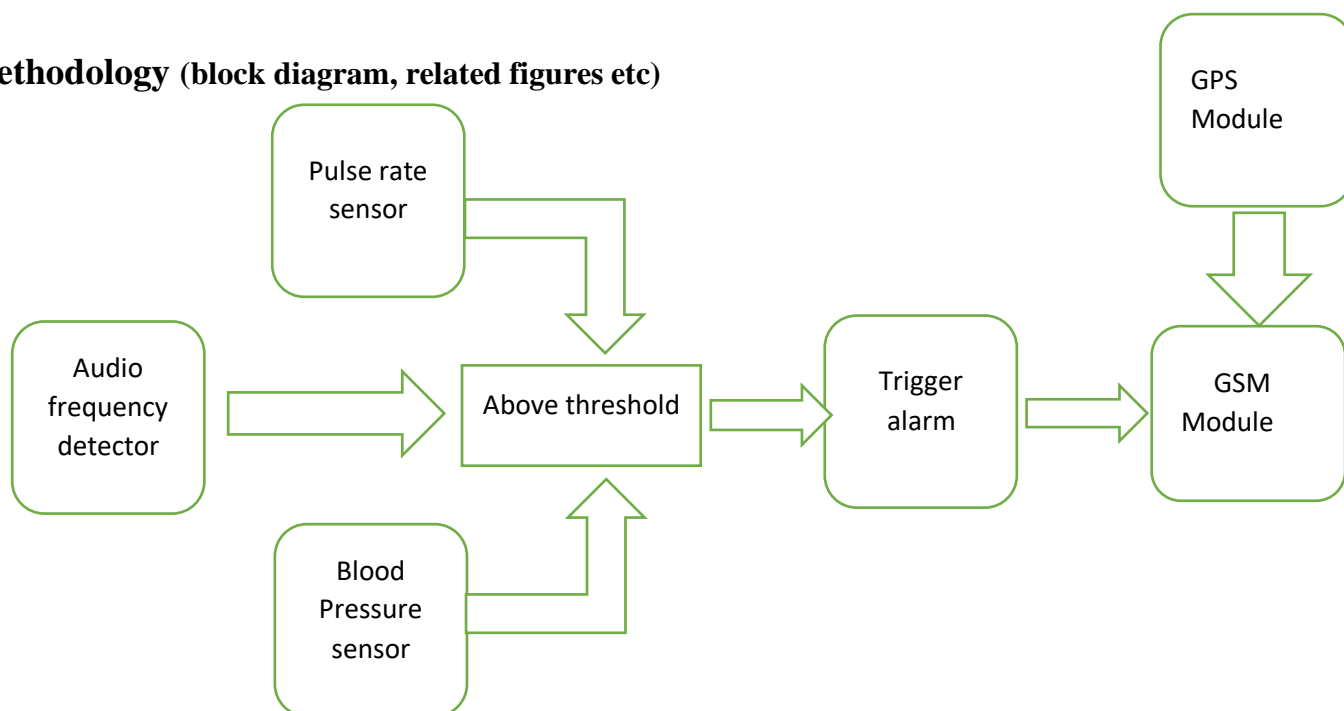
Introduction (not more than 200 words)

This condition may occur due to the low level of sodium, calcium, magnesium or glucose in our body, also because of alcohol and drug abuse. This may also be because of genetic conditions. The person might get aura, may start to scream involuntarily and he may pass out. There will be sudden changes in the blood pressure and pulse rate. This can be sensed using pulse rate sensor present in the health band. Blood pressure sensor will also be kept in the health band. Additionally, an audio frequency detector is added in order to detect the abrupt scream of patients. All these things are put together in a health band that is interfaced with gps and gsm module or WIFI module to alert the people related to patients who are nearby and within the reach.

Motivation (not more than 100 words)

Seizure is one of those conditions that cannot be controlled or predicted before it occurs to a person. Typically, someone who has a generalized tonic-clonic seizure will stiffen and fall. Their limbs and face will appear to jerk rapidly as their muscles convulse. If they are alone in bathrooms or any other places where their own people are not really standing next to them, they might face a very difficult situation and might clench something in fist and break it. It is necessary to have someone next to them when such things happen. This is the motive that made us to come up with this idea.

Methodology (block diagram, related figures etc)



Social Impact

Since seizures are one of the most common disorders, patients need to be taken care of. There is no proper solution for this problem. So, it is required to pay special attention to those who have it. Our idea of health band might help them in certain ways to face the problem they have. This may also increase their confidence when they are in the public. Their fear might reduce. Awareness among general public is also very important.

Market Survey

There are lot of health bands in the market for fitness checking, activity tracking etc. There are also health bands with GPS modules for tracking kids. Our health band is targeted to the people who have any form of seizures. This band tracks the rate of pulse and BP and also the involuntary scream of the patients and when all these things reach above the threshold level, it triggers the alarm (maybe a beeping sound) and sends message to the family members with the help of gsm and gps modules. The family members can track the patient's location using gps, if they are not nearby, in order reach them and do something that might help the patients.