

Personal Assistant And Bodyguard For Mentally Challenged People

ABSTRACT:

In today world there has been a gradual increase in number of birth of mentally retarded children due to lack of nutrition, lack of rest to the woman during her pregnancy, food, unusual hormone variations etc. So it is necessary to protect and safeguard these kinds of people who are much innocent to understand the things happening in the society.

My article is about the personal assistant and bodyguard of a mentally challenged person. For example this personal assistant will assist the mentally challenged person may be in purchasing the vegetables or other stuffs or it may guide him/her in cooking etc. Also it will work as a bodyguard while the person is in danger. As soon as the mentally challenged person's blood pressure increases and he/she starts to scream program should be done to call nearby police or his/her parents who can save the person from the danger.

INTRODUCTION:

Technological advancement has greatly influenced human being which mostly controls his acts. So it is our duty to utilise these advancements in a likely and right way for the beneficiary of human beings. Hence let us make a part of it to be beneficial for mentally challenged people who are struggling to live in this society.

Mental retardation is the developmental disability seen in children where the child's brain will not be developed or matured according to their age. Though there is increase in their physical age, the mental age will be still unchanged and their thoughts will be of the same. There are mentally challenged children who are poor in studies, who fight with everyone if they feel irritated, they will be fewer patients, and they will not be able to control their emotions.

Nowadays it is a bit difficult for a mentally challenged girl to save herself from the men as we can see a number of rape cases on these girls. Also it will be an easy task for human trafficking of these people. So it is necessary to have a personal assistant or a bodyguard for mentally challenged children. These mentally challenged people will listen to only those whom they love a lot and whom they admire the most.

It is very difficult for a mentally challenged person to buy some goods from the market as they might not know calculation of money or the vendors may misuse their innocence and may ask

more money from them. Sometime they may forget the way to home. So there is a necessity of a personal assistant to assist and safeguard them.

MOTIVATION:

The personal assistant and bodyguard is on extensive use of sensors and actuators. Various kinds of sensors are used to check the condition of the mentally challenged person and a number of actuators are required to actuate according to the sensor signals. It is required to have a microcontroller for the working or proper functioning of these sensors and actuators together when required.

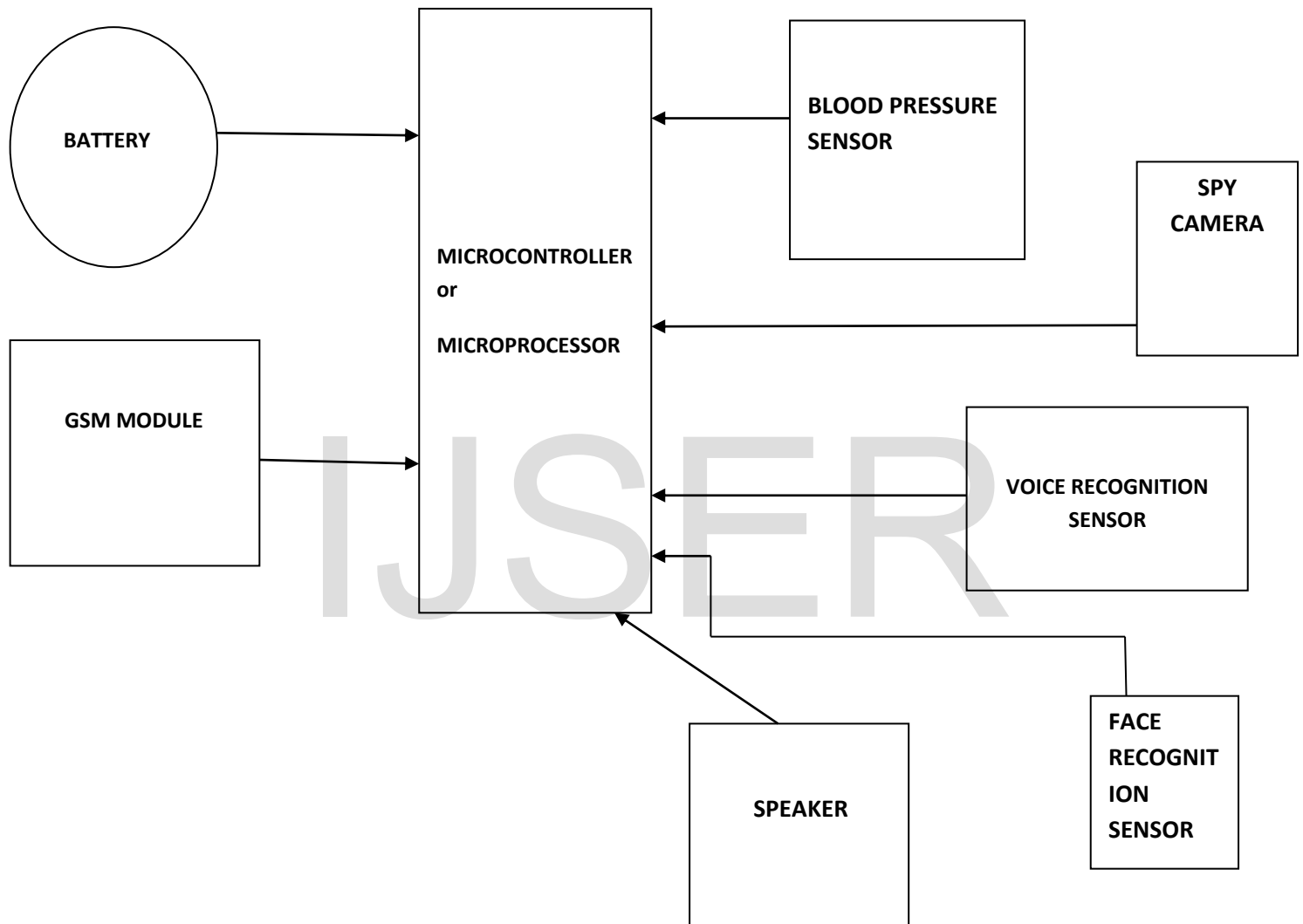
Especially these personal assistants and bodyguards providing to mentally challenged children will decrease the rate of harassments on these people and may safeguard them from inhuman and illegal activities in which they are too innocent to take part. Today as we can see the girls are becoming prey to most of illegal things like human trafficking, rapes etc, these mentally challenged girls can be used so easily. To avoid these things from happening it is very much necessary to save them from becoming prey to these things.

PROBLEM STATEMENT:

In the modern society we can see so many inhuman things happening especially with girls and especially these mentally challenged people are suffering more. Since some of them do not understand how to calculate money and some of them do not to read, so it is really difficult for these mentally retarded people to lead the normal life in the society. Also they will not be aware of the rules and regulations of the society.

Today there has been a considerable increase in the birth rate of these kinds of children and it is a necessary thing to facilitate them to lead the normal life as others. Hence these personal assistants and bodyguards will help them out to lead normal life in this society.

BLOCK DIAGRAM:



HARDWARE AND SOFTWARE REQUIREMENT:

- Microcontroller or Microprocessor
- GSM Module
- Voice Recognition Sensor
- Speaker

- Face Recognition Sensor
- Blood Pressure Sensor
- Battery
- Spy camera

It should consist of a gsm module, speech recognition sensor, speaker, blood pressure sensor, calculator, face recognition sensor etc.

WORKING:

The personal assistant consists of speech recognition sensor, face recognition sensor, blood pressure sensor, spy camera and other sensors.

MICROCONTROLLER:

The Microcontroller is the main part of this band. The Microcontroller is the reason for the functioning of the personal assistant. The Microcontroller is the building block of this model. Any microcontroller works on the basis of the program that we upload on it. The Microcontroller is to be fed with the necessary functions like interfacing face recogniser, speech recogniser, GSM Module etc.

GSM MODULE:

This GSM Module is used to locate the person i.e. to find the location of a person. If the people are kidnapped using the gps location we can be able to find the location of the victim along with which the kidnapper can also be caught red handed.

There is a chance that the kidnapper comes in disguise and the face recogniser and speech recogniser may not help. Then this GSM Module will help to find the mentally challenged person and save them from the kidnappers.

VOICE RECOGNITION SENSOR:

The function of Speech Recognition Sensor is to recognise the voice of a person and inform the control room if the voice matches with any suspected criminals.

If anybody speaks with the mentally challenged person, the Speech Recognition sensor will record the voice and if it matches with any voice that is been fed to the speech recognition sensor, the sensor will sense it and will send it to the control system decoding whose voice exactly is this.

Other than this especially I want this Speech Recognition Sensor to sense what the other person is saying and explain the same to the mentally challenged person in his/her most understanding or comfortable language. For example if the person speaking to him/her is in any other language which the mentally challenged person cannot understand, then he/she may be under trouble to understand what the other person is exactly speaking. If the criminal wants to simply fool the mentally challenged person and want to take him/her away, the person may use non local language because usually the mentally challenged people will be knowing the language usually spoke in their locality. Hence due to non understanding of the language the mentally challenged person will be fooled or may become the victim. So to avoid this, the speech recognition sensor should convert the unknown language to known language.

SPEAKER:

The speaker helps the person wearing the band to understand the problem that person would face. Suppose a snatcher comes on through the person's way the speaker would give the warning to the person. The speaker is assisted either by the face recogniser or through voice recogniser. If the person is blind the speaker can help that person to say that someone is coming towards him/her. Whatever the function of speaker, it actuates only when the sensors send some signal to the microcontroller.

FACE RECOGNITION SENSOR:

The function of Face Recognition Sensor is to just recognise the face of a person and send the information (picture of the person) who is in contact with the mentally challenged person to the connected computer.

The personal assistant band will be either fixed to the hand or may be wore as a belt. As soon as any person comes near to the belt wore person, the face recognition sensor will start picturing the person and the monitor will be either kept in the police station or in the respective person's house which will be stored and if something happens to that person the picture stored in the computer will be helpful during the investigations. This thing will happen if the person is unknown for the face recognisor.

In other case, if there are any suspects who are involved in human trafficking, snatching or rape cases , the pictorial of those culprits will be stored in the face recognition sensor by the police and if any of these persons come in contact with the mentally challenged people , the face recognition sensor will start recognising the person based on the similarities and will directly signal the police and help the police to catch such culprits which would considerably decrease the crimes happening in the society.

BLOOD PRESSURE SENSOR:

The function of blood pressure sensor is to measure the blood pressure of the person wearing the personal assistant band and if the pressure is above certain value, send the message to the police.

The blood pressure sensor measures the blood pressure of the person. The blood pressure increases when the person is scared or when he/she starts shouting. When someone tries to harass a person wearing this band, the person will obviously start shouting or may get scared and now the heart beat will be increased and hence blood pressure will also increase from normal value and no sooner the police will get the message and hence the person can be saved easily.

On the other hand some of the mentally challenged people will simply scream if their mood is ruined. At that time the face recognition sensor and gsm module will help them out. The face recognisor will show their parents pictorial and the gsm module will ensure that the person is in his/her own house through G.P.S. Now the police need not worry about the mentally challenged person. But during harassments the police must go for their help.

BATTERY:

The Battery is the energy source for the model. It is required fully charged for the function of the personal assistant. Any suitable battery can be used. The microcontroller (Arduino ATmega 2560) works at 5V.

SPY CAMERA:

The function of spy camera is to record the things happening in the place where ever the person with personal assistant goes and if some illegal things happen around the person, the police can refer the video and can easily catch the criminals.

The spy camera has the ability to turn 360° round and can record the things happening around. If the mentally challenged person is been kidnapped or been harassed, the policeman can easily find the mentally challenged person using this video and the location using gsm module and save the person and search for the criminal easily.

Also there are cases where the mentally challenged people are being harassed by their parents or family members itself. Even in this case, if the spy camera is kept on the policeman can put a case on these people for harassing those innocents and they can be saved.

CONCLUSION:

Today the world is busy and the mentality of people is also changing. People don't have time to spend for needy people and also the parents are busy with their works and don't give time to their children. Especially mentally challenged people really require someone to care them. Although they are well taught about the society, there are more chances of getting betrayed by the society. There this personal assistant will assist them.

FUTURE SCOPE:

Further the Personal Assistant can be modified by adding automated calculator which will help them to calculate the money spent during shopping. And this can also be modified a bit for the usage of Blind people by fixing UV sensors to detect the obstacles etc.

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