**Literature Search**

**Module Name:** Research Methods **Module Code:** 7COM1085

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For research I have used Google scholar, IEEE Xplore, Research Gate and Google books. My project title is Wireless Electrocardiogram System here I must collect the heart rate data and send the data wirelessly to the nearby doctor or the family members to monitor the heart patients easily using sensors and microcontrollers.

**1.** When I typed the keyword **Electrocardiogram System**, I found many research papers related to the search. This is keyword belongs to medical field it took time to me to understand the medical research papers. In the research papers authors mentioned only about the old Electrocardiogram system in the hospital and its functionality.

I have changed the keyword to the electrical and computer term **AD8232 heartrate monitor** then I found the research papers which is related to Internet of Things (IoT) the publications are very clear about how the device will work and how can we get the persons heart rate using this microchip.

**2.** I have searched the keyword **Wireless transmission.** Related to this keyword I found many papers related to the data transmission techniques. I read many data transmission techniques and I have chosen the best data transmission technique for my project which is Bluetooth.

Then I have typed the keyword **Data Transmission Using Bluetooth.** Here I have excluded many transmission techniques and I have chosen only Bluetooth for my project. This keyword help to reduce the number of papers what I have found with the previous keyword. I have saved much time after using the related keyword to get only related papers it had filtered all the techniques and showed only the papers related to Bluetooth.

**3.** There is one functionality in my project to send SMS alert to the doctor when the patient gets heart attack. for that I must choose an IoT module to send SMS.

Then I have typed the keyword **GSM Module in IoT** here I found many papers with different SMS sending modules. I have chosen the best and cost-efficient SMS sending module to send automated SMS to the doctor.

Then I have typed the keyword **SIM 900** which is a one of the cost efficient and accurate SMS sending module. Related to this search I found the papers only related to SIM 900 which is very easy to research and using this keyword the number of papers reduced.

**Inclusion:**

Here I have included everything which is useful for my project. When I started searching with a keyword, I found many papers which is nonrelated and related I have excluded the nonrelated papers and included the papers which are used to develop the project. I must fix heartbeat value in the program i.e. healthy person heartbeat. I must compare the fixed heartbeat with the normal person when the heart rate fluctuates when compared to the fixed heartbeat value in the program then the system will decide that the person is in the critical situation. The normal heartbeat is not same for men and women, black, white, and Asian people so I have included the different persons heartbeat and I have searched for different persons heartbeat and their heart fluctuations.

**Exclusion:**

During my search with the initial keyword I found many papers not related to my ideas what I am thinking in my brain. When I modified the searching keyword Bluetooth as a transmission technique, I saw many papers related to the Bluetooth so here I have excluded many transmission techniques and choose the best transmission technique.

When I must take the Realtime heartbeat samples from the persons I have to follow the ethics and I need ethical approval. Fir this I have excluded to take the persons sample rather I have collected the heartbeat samples from the internet.