Real Time Water Quality Measurement System via GSM

Intro of the project

Measuring Water Quality is done in chemical and bio laboratories. It takes time and can be expensive. To overcome this, engineers have developed tools to measure water quality yourself. These tools are expensive and demand specific skill-set to operate them. For example, Turbidity meter is used to measure the clarity of water. It is a quite expensive tool. Some people have worked on to make water quality measurement system which is our reference material.

Our project is focused on the availability and accessibility of the system and to make the system economical. The system requires the testing water to execute the process. System makes use of its sensors to measure the water quality. Water Quality measured through the system is approximate to that of measured by the laboratories. The result is not 100% accurate but close to it. So, it can be used in the real world.

Scope of the Project

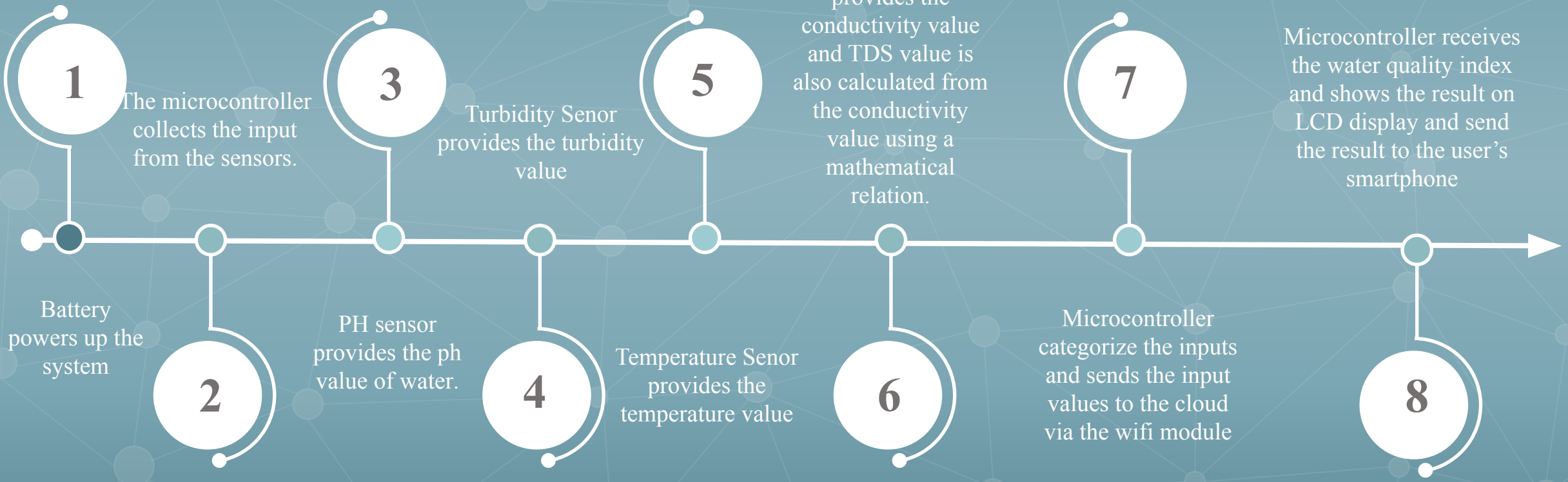
The main objective of the project is to measure the water quality. The system can measure the ph, turbidity, conductivity, temperature and total dissolved solids (TDS) values of the water. The system sends data to the cloud where the after computation the system receives the result.

Implementation Details

The implementation of the system is give below:

- We have used a battery to power up the system.
- To measure the temperature, ph, conductivity and turbidity of water, sensors are used.
- These sensors measure the respective values of the water.
- The microcontroller categorize the values received from the sensors.
- To measure the water quality index, these received values then send to cloud.
- To send the data to the cloud a WIFI module is used.
- Water Quality Index is computed at the cloud and microcontroller received it.
- The microcontroller shows the input values and Water Quality index on an lcd.
- The result will be sent to the user smartphone including the input values.

Flow of the System



Conclusion

The system measures the water quality index but the results are not 100% accurate as that of labs' results. The accuracy of the system is about 90-95%. The system can be used to test tap water quality. The result generated by the system gives you an idea of how pure the water is.

Recommendations

- We will strive to improve our system by adding Dissolved Oxygen Sensor. Dissolved oxygen has also very important role in the water quality.
- A mineral measuring sensor can be used to sense the amount of certain minerals in water. It will increase the accuracy of the results.
- Hardness of water can also be tested using some certain sensors. It tells you about the impurities in water.

THANK YOU