Project Design Phase-I Proposed Solution

| Date | 19 September 2022 |
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| Team ID | 40579-1660631577 |
| Project Name | Real-Time River Water Quality Monitoring and |
| | Control System |
| Maximum Marks | 2 Marks |

Proposed Solution:

| S.No. | Parameter | Description |
|-------|---------------------------------------|---|
| 1. | Problem Statement (Problem to be | Water is a finite resource that is necessary for |
| | solved) | agriculture, industry and the survival of all living |
| | | things on the planet, including humans. Many |
| | | people are unaware of the need of drinking |
| | | adequate amounts of water on a daily basis. |
| | | Many unregulated methods waste more water. |
| | | Poor water allocation, inefficient consumption, |
| | | lack of competent and integrated water |
| | | management are all factors that contribute to |
| | | this problem. Therefore, efficient use and water |
| | | monitoring are potential constraint for home or |
| | | office water management system |
| 2. | Idea / Solution description | The proposed WQM system consists of |
| | | sensors, Field Programmable Gate Array |
| | | (FPGA), Zigbee wireless communication |
| | | protocol and personal computer. The |
| | | system is designed for monitoring water |
| | | quality such as water temperature, water |
| | | level, water pH, turbidity of water and Carbon dioxide on the surface of water. |
| 3. | Novelty / Uniqueness | Using real-time monitoring, instant |
| 3. | Noverty / Offiqueness | data allows pre-cursors to potential |
| | | issues (such as corrosion) to be flagged |
| | | up and immediately be addressed before |
| | | major issues occur. The ability to make |
| | | real-time decisions during critical moments |
| | | can be vital in preventing expensive repairs |
| | | and breakdown. |
| 4. | Social Impact / Customer Satisfaction | It gives the accurate measure |
| | | The rapid development of WSN |
| | | technology provides a novel |
| | | approach to real-time data |
| | | acquisition, transmission, and |
| | | processing. The clients can get |
| | | ongoing water quality information |
| | | from far away. forest fire and early |
| | | earthquake, reduce air |
| | | population, monitor snow level, prevent landslide, and |
| | | avalanche etc |
| | | avaialicite etc |

| 5. | Business Model (Revenue Model) | The section presents the system deployment strategy and focuses on the sensor probes, the calibration process, and the cloud-based web portal design used for reporting and analysing the data obtained from the deployment environment. |
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| 6. | Scalability of the Solution | Well monitoring system with accurate indication. Easy maintenance. Reasonable cost |