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### (57) Abstract:

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ABSTRACT The present disclosure introduces a contamination auto- alert smart water bottle system 100 which is designed to provide real-time water quality monitoring and alert capabilities. The system comprises a smart water bottle 102 equipped with Water Quality Sensors 104 (pH and TDS sensors) for detecting various contaminants in the water. The integrated IoT Module 106 and Communication Module 108 enable seamless data transmission to a server 112 for processing and analysis via a cloud computation unit 114. The system generates contamination alerts through an intuitive Mobile interface 118, allowing users to assess the water quality in various environments. Through APIs 116, the system provides third-party integration and advanced water safety insights. Powered by a reliable power supply 110, the system enhances public health by ensuring that users have access to safe drinking water. This innovation sets a new standard in comprehensive water quality monitoring through its user-friendly interface and robust data-driven functionalities. Reference Fig 1

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