Abstract

Expert System (ES) is an Artificial Intelligent (AI) technique and program that uses knowledge and inference procedures to solve problems that are difficult enough to require significant human expertise for their solutions. The proposed ES presented in this paper is able to easily identify the major water quality types and make appropriate recommendations according to the users’ needs. Although water is important for all living substances human-animals-fish-plants-agriculture, but water is continuously contaminated naturally and artificially which ultimately affects on its quality. Due to the lack of knowledge about the quality of water, the harmful effects of water to the animals’ body including human, and also necessity of ideal water for agriculture remain unknown. To identify the types of water the researchers had to analyze the physicochemical (physical + chemical) indicators of water such as, positive hydrogen-pH, total dissolved solids-TDS, electrical conductivity-EC, and temperature-T0c. The motivation behind this work was due to the insufficient knowledge about the quality of water and the need to provide novel approaches towards water quality identification and management. A rule-based, web enabled expert system shell: expertise2go was used to design about 56 rules which involved a knowledge component, decision component, design component, graphical user interface component, and the user component.
Developing an Expert System for Water Types Identification in the Context of Physicochemical Indicators

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