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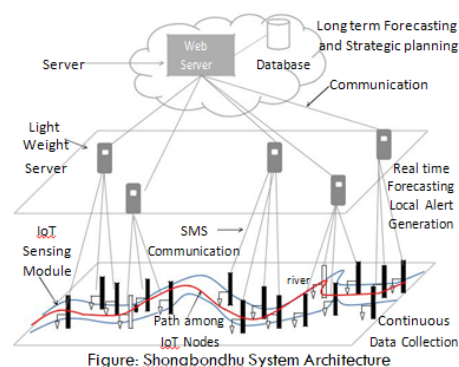
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Fibromyalgia and chronic pain alert system using ShonaBondhu to handle flash flood

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Flash flood is a common natural disaster of Bangladesh where flood water suddenly rises in low land areas. It causes damage of crops and livestock requiring real time water level prediction. The current water level monitoring is manual where a measuring gauge is used for water level detection. There are existing solution approaches for flood detection using technology. However, the challenges of sensor installation require internet connectivity and infrastructure support which is not available in all the flood affected areas. There is a requirement of a solution approach that is low cost and can consider the infrastructure limitations. The current research proposes real time water level measurement using ultrasonic water level measurement containing a mobile based server that minimizes the installation cost and utilizes the cellular network coverage across the country for connectivity and communication. The mobile phone-based server continuously collects water level information from sensors installed near the river banks and once the water level rises above the danger level, alert messages are generated and disseminated to pre-defined phones and systems. The system has been tested in laboratories as well as along the river banks in Dhaka, Bangladesh. The current system shows more than 99% of accuracy in real time water level detection and alert generation.



Recent Publications:

1. Ahmed N, Ghosh S, Hassan R A, Galib S I, Azad A K and Syrus M A (2017) A gradient sensing middleware to handle flash flood. *Computers and Electrical Engineering*; 62: 44-52.

Biography

Nova Ahmed is an Associate Professor at North South University. She has obtained her PhD from Georgia Institute of Technology, USA and returned to Bangladesh to serve her country. Her current research revolves around local problems of the country using sensing, technology and human centered computing.

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