A Wireless Sensor Network (WSN) is a network that is made up of various dispersed nodes (sensors) that are capable of gathering valuable data about their environment. Such networks are rapidly increasing in popularity and have been proclaimed as one of the most vital technologies of this century.

WSN applications can prove difficult to realise due to inherent limitations on bandwidth, computational ability and battery life. A deeper knowledge and understanding of these WSN limitations is essential for their future development.

TinyOS

- Event Based Operating System.
- Developed for WSNs.
- Allows for intensive parallel processing.
- Easy to set up test beds & simulation studies.
- Components written in the C extension NesC.
- Simulations generated for NesC programs via C++ or Python implementation.

Testing and analysis of the dissemination protocols bundled with TinyOS has been completed.

In the majority of cases, the most efficient protocol considered was DHV, followed by DIP and finally Drip.

Future research directions include a deeper empirical study of the vast range of possible evaluation criteria including:

- More varied topologies and scenarios.
- The effect of increasing noise on behaviour.
- Real world deployments.

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