

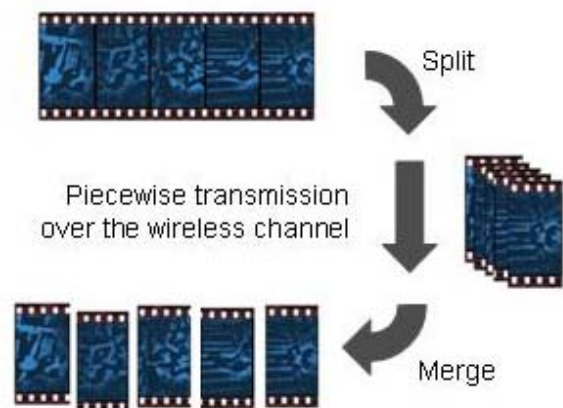
Semester Thesis “Splitter & Merger for TinyOS”

Wireless sensor networks are a recent field of research that attracts much attention lately. However, practical implementations are still in its infancy and standards are far away. The TinyOS operating system is one candidate to ascend this throne. It is designed to cope with the limited capabilities of the underlying hardware and provides its own programming language nesC—a C derivative with limited functionality.

One drawback of TinyOS is the fact that the size of the messages to be sent over the wireless medium is fixed. In particular, a TinyOS-packet has a size of 36 bytes whereof 29 bytes are payload. If an application wants to send bigger chunks of data it has to manage the split and merge of this data into blocks that fit into standard packets on its own.

In order to facilitate the handling of big data chunks at application level we want to come up with a lean layer that bundles all needed functionality to split and merge consecutive data. Therefore, applications that make use of this layer do not have to worry about this cumbersome task.

The goal of this thesis is to implement an application that performs split and merge operations on data chunks of various size in order to send them over the wireless medium from one network node to another.



Required

- Basic C programming skills
- Interest in working with an embedded platform

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