Stephen Kemp

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Literature Analysis and Critique of “AN1521 Application Notes”

The introduction of the document discusses the benefit of using, and the detriment of not using, a controller that can perform Maximum Power Point Tracking when working with solar power generation. In the document, the author explains multiple methods, of varying complexity, one could use to program this functionality into a system controller. They use equations, block diagrams and technical jargon to communicate their points. From this, I can deduce that their intended audience: wants to achieve a specific task, maximizing solar panel efficiency; is knowledgeable in electrical and computer engineering, but not on the specific topic of using solar power; and is most likely a professional audience.

The purpose of the document is three-fold: To inform the audience about Maximum Power Point Tracking and why they want it, to instruct the audience in how they can implement MPPT in their system and to sell Microchip’s components to the audience for use in this and other applications. The author informs the audience generally about the benefits of MPPT in the introduction. The author explains that solar systems that cannot perform MPPT waste power and wear faster and that having a MPPT system will save them money. The author spends most of the document explaining and instructing the reader on different methods of implementing MPPT, outlining the pros and cons of each. Finally, having sold and instructed the reader on MPPT, the author includes a list of datasheets of Microchip (the name of the company putting out the AppNote) components in the References to try to sell them components necessary to implement MPPT in their system. In these ways, the document achieved its goals.

The document begins with an introduction to sell the reader on why they should be using MPPT in their system. This hooks the audience and gives them a reason to keep reading. The next section titled ‘Solar Panel MPPT’ gives a brief overview of the problem that MPPT solves, and some preliminary on techniques used to solve them. This gives the reader context and motivation for the following details. The document is broken down into sections: 3 sections detailing 3 different methods of implementing the algorithm, and another two sections about the hardware platform and a software implementation of MPPT. Presented with each section are diagrams, code and equations which help the reader grasp the technical details of the implementation. There is a conclusion which sums up the benefits of using MPPT and comments on the complexity of working with the algorithms. The final statement restates one last time that MPPT will ‘optimize the cost and extend the life of any solar powered application’ which acts as a call to action for the reader. Lastly, there is a references section conveniently listing Microchip brand components that the reader could use to implement the hardware discussed in the document, as well as a Sales and Service reference page for Microchip.

In the introduction, the author could outline the content and techniques they will discuss in the document. This offers the reader a way to find the information they’re looking for and allows the reader to know whether the document contains information relevant to them. Additionally, the author includes technical details in the introduction which interrupt the flow of the section. Likewise, the author introduces new information in the conclusion, which again interrupts the flow of the section and doesn’t serve to summarize what they said or give a call to action. Also the conclusion doesn’t give any perspective on the wider implications of the content presented aside from the fact that implementing this technique will save the reader money, which they stated ad-nauseum throughout the introduction and the conclusion.