

DIGITAL MAGIC EXPOSED

Overview

The pack contains this Overview and six documents (folder “Document”) describing (approximately) what is going on at the core of the digital devices in common use everywhere today. The six documents form three Books each consisting of two Parts. The objective is to inform and educate the technically interested (especially the young), the curious and also to lift the veil on what may appear to be magic (and even sentient). It isn't.

Book 1 describes in plain English the essential mechanism within the devices. The mechanism takes the form of a simple processor. Book 1 Part 1 can be read alone and provides a reading guide to the other parts in its “Forward”.

Books 2 and 3 are complementary to Book 1 and provide a more “hands-on” experience of the rather dry processes described in Book 1. They also provide the means to develop the ideas in the Books further in a practical sense.

Book 2 describes an emulator (folder “Emulator”) which provides an animation of the processor described in Book 1. It also demonstrates what it means to assemble and build programs using a processor's instruction set. A binary file can be produced for the processor simulation described in Book 3.

The emulator is provided in two forms (Microsoft Excel and OpenOffice Calc). Installation is described in Book 2 Part 1 which should be consulted before attempting to run either of the emulators (or they won't work).

Book 3 describes the operation of the simulator (folder “Simulator”), which is an electronic design of the processor described in Book 1. The simulator runs on an electronic circuit simulation tool and details of the installation and operation are described in Book 3 Part 1. The program files produced by the emulator can be loaded and run on the simulator.

It is possible there will be a Book 4, which will describe an electronic build of the simulator. Some minor modification is required to get the data in and out and a working model has been built.

A further step would be an introduction into software engineering. Software provides the capability to convert high commands (for example, spoken command words) into instructions the processor can understand. It is the capability of software engineering which provides the illusion that the machine can be “intelligent”.

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