



LOW COST TEACHING TOOL WITH MULTIMEDIA SUPPORT

Kanthi Jayaweera¹, Manjula Waas²

*1Department of Electrical and Electronic Technology
University of Vocational Technology, Sri Lanka*

The research has focus on building a tool that could be used for effective dissemination of knowledge to the general public who does not have access to computers. A single board computer was chosen and prepared to deliver Power Point type Presentations / Multimedia content. The idea is to use multimedia as a medium over presenting textual content (presented in the form of printed books / E readers) to increase the effectiveness of communication and as a better tool to aid teaching. This device could be used with a standard TV set as display and proves to be a valuable tool for teaching in the rural areas and for conducting public campaigns.

The other important concept introduced in this research is the idea of lending a computer in place of a book. The concept of lending a book has been practiced for many decades, with the decrease of the cost of a computer it is practical to lend a computer with content loaded in it to be used by plugging a standard TV as the display.

To implement the proposed system in a proof of concept level, a suitable single board, low cost needed to be identified. The two most popular systems that are freely available with good community support and at a low cost were compared. The two most widely used systems, namely Arduino and Raspberry Pi were compared (<http://readwrite.com/2014/05/07/arduino-vs-raspberry-pi-projects-diy-platform>).

At an additional cost of USD 5, Raspberry Pi (www.raspberrypi.org) offers a host of features that support graphics rendering and functions at a clock rate much higher than the Arduino. (700MHz against 16MHz). Therefore the Raspberry Pi Model B was chosen as the best platform to be used for building the low cost lendable computer.

To achieve the objectives and make an effective low cost teaching tool that could be simply used as lending a book with public funding to build more devices, the chosen system was built and multimedia content was loaded as a proof of concept.

- Provide rural public the option of having access to multimedia presentations
- Effective knowledge dissemination (Text content with Multimedia)
- Provide a way to own or lend the device as lending a book in a public library

Keywords: Information Dissemination, Learning Tool, Multimedia Content, Low cost