



COLLEGE OF ENGINEERING & TECHNOLOGY

Department: Electronics and Communications Engineering, Cairo

Graduation Project Description Form

Project Title:

Electronics for an e-Book / e-Note Educational Tablet Computer

Project Supervisor(s):

Dr. Amr Bayoumi (EC Dept., College of Eng., AAST, Cairo)

Dr. Mohamad Bakr (College of Computer Science, AAST., Cairo)

Duration: from mo/year: 2/2013 till mo/year: 2/2014

Product Category:

Algorithm Hardware Software

Standards:

Safety: UL, CE IEEE FCC Other

Practical Realization Form:

PCB Firmware Embedded CPU Kit (ARM, ..etc):

PC Software Ready-made Package DSP Kit FPGA Kit

VLSI Schematics VLSI Layout VLSI Silicon (ASIC)

Language:

VHDL/Verilog Matlab C/C++/Java

Productization:

Finished Product Form: Possible Commercialization

Amount of funds needed for buying components: _____

IEEE GOLD Made-In-Egypt/Engineering Day:

ITAC (ITIDA) or NTRA Funding Application:

Testing

Functional Simulation Parameters Final Hardware Other: _____

Lab Test Setup

EMC Environmental Microwave Analog Lab Other: _____

CAD Tools (*No unauthentic software is allowed*): PCB Layout, FPGA

Elective Classes Recommended: Digital VLSI (EC535)



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Abstract

Electronics for an e-Book / e-Note Educational Tablet Computer

Dr. Amr Bayoumi / Dr. Mohamad Bakr

The worldwide trend is to replace student books and notebooks in schools and universities with tablet computers. These tablets can be used as electronic book (e-book) readers such as Amazon Kindle (http://www.amazon.com/gp/product/B007OZNZG0/ref=sv_kinh_0), as well as electronic notepads (e-note) such as *Galaxy Note* or *iPads*. This system also requires an electronic pen (stylus) to write on a touch-screen.

These systems use opensource software applications for reading and writing such as xournal (<http://xournal.sourceforge.net/>) and Calibre (<http://calibre-ebook.com>), plus the usual PDF readers.

In this project, we focus on the screen electronics and interfacing, as well as the electronic pen and finger touch-screen electronics. The focus is to build the screen, and be able to save handwriting and display book pages. (<http://www.wacom.com/products/pen-displays/dtus>)

This project has an identical project at the AAST Faculty of Computer Science, which works with the software issues, a. Off-the-shelf CPUs or FPGA computer boards will be used for running the software.

References and Links

http://www.amazon.com/gp/product/B007OZNZG0/ref=sv_kinh_0

<http://xournal.sourceforge.net/>

<http://calibre-ebook.com>

<http://www.wacom.com/products/pen-displays/dtus>

<http://www.newegg.com/Graphics-Tablets/SubCategory/ID-296>