

EECS 452 – Lecture 5

Today:	PPI and project team formation FPGA's and Verilog programming
Announcements:	Lab 3 on DE2-70 starts next week Hw2 due today. Hw3 assigned. PPI comments and rankings due Wed before 11:55PM Project teaming meeting on thurs, 7-9PM 3150 Dow

Last one out should close the lab door!!!!

Please keep the lab clean and organized.

Nothing is more difficult, and therefore more precious, than to be able to decide.
— Napoleon I.

Pre-project ideas (PPI)

A Device to Regulate Body Temperature	Music Transcription Device
Acoustic Correction and Audio Analyzer	Musical Performance Augmenter
Audio System Phase Adjustment	Noise Based Direction Detector
Bird Call and Location Identifier	Noise Cancelling Headphone
Bluetooth Guitar Jack	Optimal Musical Playback System
Cardio Wristband	Pen to Computer Tool
Cell Phone Detector	Peripheral Conversation Detector
Cellphone-based Hearing Assessment Tool for Humans	Personal Jarvis System for Voice Control
Cycling Power Meter	Portable Tactile Audio Device
Digital Effects Processor and Pitch Correction	Posture Control Vest
Eye Controlled Drawing Application	Pothole Sensing Network
Facial Recognition	Power Control System for a Bicycle
Facial Recognition System	Responsive Binaural Audio Simulator
Golf Swing Analyzer	Simple Sign Language Recognition Device
Hearing Aid with Sound Reduction Capability	Sleep Tracking Device
Human Motion Tracking	Smart Sign Language Interpreter
Image Enhancement in Frequency Domain	Smarter Shopping Cart using RFID
In-Ear Speech Translation Device	Speech Recognition
Instrumental Filter and Recorder	Speech Recognition and Modification Device
Laser-Triggered MIDI Controller	Tempo Matching LED Display
Low Cost Physical Motion Tracking Device	Touch-less keyboard
Low-cost Baby Monitor	Training Basketball
Low-Cost Simon Says Digital Lock System	Truth Detector using EEG
Modular, Distributed Object Tracking Network	User Identification by Voice Recognition
Music To Your Heartbeat	Weight Lifter's Autonomous Feedback Device

Pre-project idea (PPI) assignment (100 pts)

- ▶ Due before 11:55PM on thursday on Ctools (60 pts)
 - ▶ Assignment counts as one homework
 - ▶ Two PPI contributions: PPI 1 (30pts) and PPI 2 (30pts)
 - ▶ Each PPI must be one page and follow the specified format
- ▶ Between sat and wed eve do the following (40 pts)
 - ▶ comment on PPI's on Ctools Forums
 - ▶ Each PPI will have a comment thread
 - ▶ Comment on at least 2 PPI's other than your own
 - ▶ Respond to comments on your own PPI
 - ▶ Comments are open and should be constructive
 - ▶ Rank the top 4 PPIs that interest (Ctools Testing Center tab)
- ▶ Popular PPIs may be good prospects for teaming
 - ▶ You are encouraged to network during open comment period
 - ▶ Early efforts will give us head start in team formation on Sept 18

How you might approach the PPI exercise

- ▶ Take a look at the 3 examples listed in document linked to PPI assignment on Ctools
 - ▶ Background and overview
 - ▶ Proposed project effort
 - ▶ Who might use the device?
- ▶ Take a look at TI's repository of projects on Homework/Projects wiki
- ▶ Take a look at Harris's projects on Homework/Projects wiki
- ▶ Be imaginative but realistic in your PPI
 - ▶ An application that you and others may be interested in
 - ▶ A project idea that involves DSP in some way
 - ▶ A project idea that is feasible in context of a semester-long MDE
- ▶ In the comments part of exercise
 - ▶ Comment on at least two PPI's (not yours) of interest to you
 - ▶ Critique and propose extensions or improvements
 - ▶ Respond constructively to other's comments on your PPIs

Teaming meeting mechanics

Meet in Dow 3150

6:45PM Pizza arrives

7:00PM Overview of lab resources for projects (K. Metzger)

7:15PM Project pitches: Students pitch their favorites (5 min each)

8:00PM Project assignments: Students sign up for projects

9:00PM Adjourn

Notes:

- ▶ Review project ideas in PPI booklet before meeting
- ▶ If you have a strong interest in a project idea prepare a 5min pitch
- ▶ Group size: target team size is 3.
- ▶ Only 8 or 9 projects can be accommodated so be flexible!
- ▶ We will only assign people to teams if necessary.

How to pick a project

- ▶ Choose something that
 - ▶ Relates to the class and lab.
 - ▶ That you will enjoy doing.
 - ▶ Has a reasonable degree of challenge.
- ▶ **Be brave**
 - ▶ Take chances and be prepared to make mistakes.
 - ▶ You will need to get *something* working.
 - ▶ Aim high: combined forces of 3 people can do a lot!
- ▶ This will be a lot of work, but...
 - ▶ It's your MDE.
 - ▶ You will be working on your final product that you chose.
 - ▶ So you should get some enjoyment out of it!