

Final Project Assignment (v. 1.1)
GE-4200, Winter 2011-12, Dr. C. S. Tritt

Due: 4:00 pm Wednesday, February 15 (Project Proposal due Monday, February 6)

Define, design, implement, test, and document a Matlab app with a graphical user interface (GUI) that addresses a problem of interest to you. The scope of the project should be somewhat greater than the programming assignments made thus far in the course. I would expect a typical project to require 6 to 12 hours of serious effort.

The problem solved is up to each student, subject to instructor approval. A few suggestions follow for your convenience, but you are encouraged to attempt a problem related to your capstone design project or one posed in another course.

Your documentation should follow the format described in my *Matlab GUI Program Documentation Template* (v. 2.1).

Project Proposal

A one page project proposal is due on Monday, February 6. This proposal should describe the problem to be solved and the user interface of the Matlab app (or apps) that solves it. It should also describe in some detail your proposed user interface and include preliminary program operating instructions. This proposal will be evaluated and will count as 10% of the final project grade.

Some Suggested Projects

An app that performs some particular image processing operation on images loaded from files specified by the user. The program could use built in color transformation functions to produce image separations similar to those in my *Brief Introduction to Vision and Images* slide deck or some operation or operations covered in your medical imaging class.

An app that interacts in some way with an Arduino microcontroller board. This could involve a data acquisition or control task related to your capstone project (a simple proof of concept demonstration would be sufficient) or the creation of a very simple DMM or digital oscilloscope app.

An app that makes use of Matlab timer objects. This could be a timed math, logic or coordination test.