18-642 Recitation #2

Sept. 7, 2019

Updates

- Homework:
  - Look for homework grades on Canvas
    - Feedback will be in the comments of your submission
    - Goal: assignments graded within 1 week of submission
- Fill out weekly survey every week!
  - Starting with week 3, access to next Canvas week is blocked until you fill out the survey.
    - If you're trying to work ahead let us know for a workaround.
    - This is intended to avoid problems in past semesters with students forgetting to fill out the surveys in a timely manner

Updates

- Projects:
  - Project 2 due tonight
  - Project 3:
    - Released; due in one week
  - Expect projects hand-in every week, due Friday night
    - Expectation: hand-in by 5 AM Saturday morning
    - Canvas deadline will not be extended due to last minute connectivity issues, etc. Don't wait until the last minute!

Updates

- Reminder to use staff email and office hours for questions
  - Don’t use “canvas messages”
  - Emails ece642-staff@ instead of individual instructors/TAs
  - Office hours are posted as a canvas announcement
    - Watch for location changes

Today

- Project #2 review
- Project #3
- Homework presentations

Project #2 Questions?

- You're graded on process and effort
- Successful implementation not required
- Please follow the time limits
  - 1hr for first implementation attempt
  - 2-6 hours for clean up
  - Up to 1hr for second implementation attempt

Project 3

- Change code style according to a checklist
- Asks you to use a physical copy of the checklist
- Reflect on the checklist vs changes you made in Project 2
- Spend some time making it nice
  - You will have to live with this code later!
  - Don’t slack off!

- ❑ **1) Variables and procedures have minimum scope**
  It is fine to define all variables at the front of the procedure
  Defining at smaller scope (such as within a "{}" block) is at your discretion
- ❑ **2) All variables are automatic (no globals; minimal use of "static" keyword)**
  Allocated on the stack unless required to be permanently allocated
- ❑ **3) All variables use strongest and simplest type possible, with no floats**
  Add extra typedefs at your discretion
- ❑ **4) All base types are from types.h**
  Variable size is at your discretion within reason
- ❑ **5) Geometric pairs (e.g. (X,Y)) are coupled using typedefs**
- ❑ **6) #define is not used**
- ❑ **7) "Magic numbers" are not used**
  Use const for single values and enum for sets of related values
- ❑ **8) Switch statements are used to decide among enum values rather than if/else if**
- ❑ **9) Every switch statement has a default error handling clause**
  Default activates ROS_ERROR
- ❑ **10) Every variable has a meaningful name**
  Does not require explanation to someone else
- ❑ **11) Code is commented**
  At a minimum, comment each function: purpose, inputs, outputs, saved internal state
- ❑ **12) Code conforms to Spaghetti Factor guidelines on a per-procedure basis**
  Number of globals: ___ SCC*: ___ SLOC/20*: ___ ⇒SF*: ___
  *in most complicated module/procedure that has the highest SF
  Be ready to defend complexity above SF=10 as being absolutely necessary
- ❑ **13) All the code is in a single .cpp file**
  (This changes later; for now this is to ease review & grading)
- ❑ **14) All conditionally executed statements are enclosed by "{}"**
- ❑ **15) All indentation and similar style is consistent**
- ❑ **16) No copy-pasted code is present**
  Blocks of code that have the same functionality are factored out into modules

Project #3 Questions?

- Spaghetti Factor is in the Global Variables on-line lecture
- Note: you get three free "misses" on checklist this week
  - But you'll need to fix them next week!
- Questions about what a checklist item means?

Other Questions?

Student Presentations

- HW #3: Failure Stories