

## Sprint #0 Report

### Instructions

#### Objectives

- Make decisions on the SOS software development project.
- Learn unit testing and GUI programming in the language of your choice.

#### Deliverables and Grading Policy

Read the “CS 449 Homework Overview” document **carefully** and make the key decisions for the software development. Use the following template to complete your report.

#### 1. Key Decisions of the SOS Project (2 points)

|  |                      |
|--|----------------------|
| Object-oriented programming language             | C++                  |
| GUI library (strongly encouraged)                | FLTK                 |
| IDE (Integrated Development Environment)         | Kdevelop             |
| xUnit framework (e.g., JUnit for Java)           | catch2               |
| Programming style guide (must read it carefully) | GNU coding standards |
| Project hosting site                             | Github.com           |
| Build System                                     | cmake                |

Sample programming style guides:

- Google Java Style Guide: <https://google.github.io/styleguide/javaguide.html>
- Google C++ Style Guide: <https://google.github.io/styleguide/cppguide.html>
- Google Python Style Guide: <https://google.github.io/styleguide/pyguide.html>

#### 2. Unit testing (4 points)

Find a tutorial on the unit test framework you have chosen and write at least two xUnit tests of a program you have written or found elsewhere. Attach here (1) the screenshot of your program execution and (2) the source code of your program.

```

CMakeFiles/ my_tests      src/
jchir@jchir-desktop:~/Documents/c++/unit_testing_ex$ ./my_tests
Randomness seeded to: 3478620765

~~~~~

my_tests is a Catch2 v3.7.0 host application.
Run with -? for options

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Numbers, 2 and 2 are subtracted
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/home/jchir/Documents/c++/unit_testing_ex/src/tests.cpp:15
.....

/home/jchir/Documents/c++/unit_testing_ex/src/tests.cpp:20: FAILED:
  REQUIRE( test1.subtract() == 0 )
with expansion:
  4 == 0

=====

test cases: 2 | 1 passed | 1 failed
assertions: 2 | 1 passed | 1 failed

jchir@jchir-desktop:~/Documents/c++/unit_testing_ex$

```

[https://github.com/johniscool1/cs-449-project/tree/master/sprint0/unit\\_testing\\_ex](https://github.com/johniscool1/cs-449-project/tree/master/sprint0/unit_testing_ex)

Win Binaries: <https://github.com/johniscool1/cs-449-project/releases/tag/sprint0>

### 3. GUI programming (4 points)

Write a GUI program in the language you have chosen for your SOS project. The GUI of your program must include text, lines, a check box, and radio buttons. While you are recommended to consider the GUI for the SOS game board, it is not required. In this assignment, any GUI program of your own work is acceptable.

Attach here (1) the screenshot of your program execution and (2) the source code of your program.



[https://github.com/johniscool1/cs-449-project/tree/master/sprint0/gui\\_fltk\\_example](https://github.com/johniscool1/cs-449-project/tree/master/sprint0/gui_fltk_example)

Win Binaries (Note: the gui program will not compile on Windows 11, but executable built on windows 10 will run on it correctly):

<https://github.com/johniscool1/cs-449-project/releases/tag/sprint0>