**Q20 Coding Standards & Guidelines**

Software Declarations

* IDE of choice: Microsoft Visual Studio
* Coding Language of Choice: C++ preferred, may fluctuate in respect to project requirements
* File Management System: GitHub
* Project Management System: Jira

General Standards

* All C++ projects must have a Header (.h) file
* Try not to replicate lines of code if you can just include them in a function instead
  + Example:
    - Turn this:
      * *Start Program*

*code1*

*code2*

*code3*

*…*

*code1*

*code2*

*code3*

*…*

*End Program*

* + - Into this:
      * *Start Program*

*Function {*

*code1*

*code2*

*code3 }*

*Function()*

*Function()*

*End Program*

* Keep the code simple, compact, and clear
* Make variable names and function names descriptive and explanatory of intent
* Write code with shortest execution time in mind (when appropriate)
* Account for user-input validation
  + A function that type-checks and bound-checks for errors
* Use a constant at start of program to keep variables from changing
  + Keeps program organized
* Maintain proper indentation practices throughout the code
  + Neater, easier on the eyes
* Function prototypes in Header file, function definitions in Source file, and main program in Main file

Naming Convention Formatting

* Files:
  + Format: <*Q20*\_*project\_name>*
    - Example: *<Q20\_tic\_tac\_toe>*
* Commits:
  + Summary: include brief summation of accomplishment
    - Example: “I fixed the start screen bug”
  + Description: go into depth about what you did
    - Example: “I removed the *GetChar* function from the Source.cpp file”
* Branches:
  + Format: *<firstname\_lastname\_issue>*
    - Example: *<Robert\_Vargas\_HomeScreen>*

Documentation

* Use block comments before defining a function or anything worthy of explanation
* Use in-line comments for segments of code that are significant to the performance of the program