April 15, 2013

Team 19 Phase 1 of Inspection

Laboratory # 8: Inspection

Morgan, Laura
Miaw, Jireh
Hauser, Steven
Dworak, Catherine
Bertoglio, David

Work Product

Documentation of Phase 1 of Inspection of Group 20's source code

Document Revision Information

April 14, 2013 – Document created, Phase 1 inspection documented
April 19, 2013 – Rework documented

Approval Sheet

All group members whose names are listed below approve of the document and contributed fairly.

Member Names

Morgan, Laura
Miaw, Jireh
Hauser, Steven
Dworak, Catherine
Bertoglio, David

Pledge

On my honor, as a student, I have neither given nor received unauthorized aid on this assignment.

Names

Morgan, Laura
Miaw, Jireh
Hauser, Steven
Dworak, Catherine
Bertoglio, David

Contents

Inspection Schedule

Phase 1 – Internal documentation & source-code layout
Monday, April 15 – 4:00 p.m. during in-lab.
Inspector – Catherine

Checklists Used

Phase 1

Internal documentation & source-code layout (single inspector).

- proper use of indentation for "levels" in code
- proper use of tabbing when declaring variables
- existence of columns of related items
- existence of white space (spaces after commas, variables, between methods etc.)
- use of new line when line is too long
- consistency followed with use of braces {} throughout
- sparing use of comments; only used to document unavoidable complexity
- identifiers
    - meaningful – names indicate purpose
    - underscores used as separators
    - capitalization of types, Classes
- constants
    - mixed case capitalization
    - no magic numbers (no embedded literals or constants)
    - only symbolic constants used
    - symbolic constants in all capital letters, separated by underscores
    - avoid abbreviations in names
- methods
    - mixed case for name
    - abbreviations avoided
    - names indicate function
    - "get/set" used where attribute is accessed directly
    - "is" used for Boolean methods
    - "find" used for methods that look something up
- variables
    - name should reveal purpose and/or type
    - plural if representing group of objects
    - iterator variables consistent (for example: i and j)
    - abbreviations avoided

Results of Inspection

- proper use of indentation for "levels" in code
  line 201, else should be on next line

- existence of white space (spaces after commas, variables, between methods etc.)
    - *line 58, extra space between (0, 3)*
    - *in GUI, spaces between "import" lines*
    - *white space in beginning public class GUI*
- use of new line when line is too long
    - *line 82 does not need to be on new line (" + e.toString());")*
- consistency followed with use of braces {} throughout
    - *should check consistency. Starting line 199 you being to put { on the same line as the method declaration and the if statement, rather than the next line. These braces should be moved to the next line. Check methods: getTouchValue(), verifyChecksum(), getChecksum()*
- sparing use of comments; only used to document unavoidable complexity
    - *comment on line 34 runs off screen*
    - *comment on line 53 doesn't clarify code*
    - *unneeded code should be removed lines 95-100*
    - *comments in moveForward(), moveBackward(), turnLeft(), turnRight(), turn180(), stop() most likely unncecessary*
    - *in GUI, comment line 20*
    - *in GUI, line 163, 362, 460, 495, 596, 632, 637, 650*
- constants
    - *in GUI class, all private variables should be before public*
    - no magic numbers (no embedded literals or constants)
        - *in setSpeed() what are numbers 10 and 100?*
- methods
    - *methods between line 163 and 181 – unimplemented or unnecessary?*
    - abbreviations avoided
        - *getUltraValue() – consider changing to getUltrasonicValue()*
        - *getMicroValue() – consider not abbreviating*
- variables
    - name should reveal purpose and/or type
        - *in method setSpeed, int s does not reveal purpose*
    - abbreviations avoided
        - *variable "ret" – abbreviated for return? name does not indicate purpose, in methods: establishConnection(), getCheckSum()*

Observations

Phase 1 of the inspection has been completed. Defects sent to Team 20 on 4/15/2013.

Note: Auto-generated GUI code was not inspected as thoroughly, as directed by Instructor.