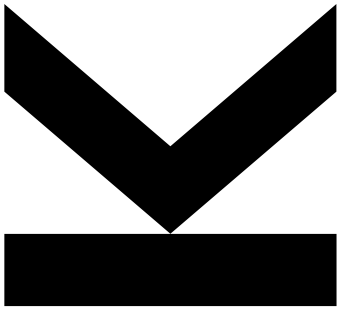
JOHANNES KEPLER
UNIVERSITÄT LINZ

PR SOFTWARE ENGINEERING

Gruppe 3

259035 (2018S)

Code Review



JOHANNES KEPLER
UNIVERSITÄT LINZ
Altenberger Straße 69
4040 Linz, Österreich
www.jku.at
DVR 0093696

Anwesende: Alexander Teuchtmann

Programm: AppTimeTracker

Datum: 23.05.2018

Typ: Kompletter Review vom Code

Checkliste

Symbols:
✓ – ok (i.e., code doesn't need to be corrected)
x – not ok (i.e, code needs to be corrected)
? – not existent (i.e., adressed behaviour doesn't apply to the current state of the code)

- General
  1. [?] The code works
  2. [?] The code is easy to understand
  3. [x] Follows coding conventions
  4. [✓] Names are simple and if possible short
  5. [✓] Names are spelt correctly
  6. [✓] Names contain units where applicable
  7. [?] Enums are used instead of int constants where applicable
  8. [x] There are no usages of 'magic numbers'
  9. [x] All variables are in the smallest scope possible
  10. [✓] All class, variable, and method modifiers are correct.
  11. [x] There is no commented out code
  12. [✓] There is no dead code (inaccessible at Runtime)
  13. [✓] No code can be replaced with library functions
  14. [✓] Required logs are present
  15. [✓] Frivolous logs are absent
  16. [✓] Debugging code is absent
  17. [✓] No System.out.println or similar calls exist
  18. [✓] No stack traces are printed
  19. [✓] Variables are not accidentally used with null values
  20. [✓] Variables are immutable where possible
  21. [✓] Code is not repeated or duplicated
  22. [✓] There is an else block for every if clause even if it is empty
  23. [✓] No complex/long boolean expressions

24. [✓] No negatively named boolean variables
25. [✓] No empty blocks of code
26. [✓] Ideal data structures are used
27. [✓] Constructors do not accept null/none values
28. [✓] Collections are initialised with a specific estimated capacity
29. [?] Arrays are checked for out of bound conditions
30. [✓] Catch clauses are fine grained and catch specific exceptions
31. [✓] Exceptions are not eaten if caught, unless explicitly documented otherwise
32. [✓] APIs and other public contracts check input values and fail fast
33. [?] Files/Sockets/Cursors and other resources are properly closed even when an exception occurs in using them
34. [?] StringBuilder is used to concatenate strings
35. [✓] Null/None are not returned from any method
36. [✓] Floating point numbers are not compared for equality
37. [✓] Loops have a set length and correct termination conditions
38. [✓] Blocks of code inside loops are as small as possible
39. [✓] Order/index of a collection is not modified when it is being looped over
40. [✓] No methods with boolean parameters
41. [✓] No object exists longer than necessary
42. [✓] Design patterns if used are correctly applied
43. [✓] No memory leaks
44. [?] Law of Demeter is not violated
45. [✓] Methods return early without compromising code readabilit

- Java only

46. [?] Appropriate JCIP annotations are used
47. [?] No use of Object class, use generics instead
48. [?] Uses final modifier to prevent mistaken assignments

- Documentation

49. [x] All methods are commented in clear language.
50. [x] Comments exist and describe rationale or reasons for decisions in code
51. [x] All public methods/interfaces/contracts are commented describing usage
52. [?] All edge cases are described in comments
53. [x] All unusual behaviour or edge case handling is commented
54. [?] Data structures and units of measurement are explained

- Threading

55. [?] Objects accessed by multiple threads are accessed only through a lock, or synchronized methods.
56. [?] Race conditions have been handled
57. [?] Locks are acquired and released in the right order to prevent deadlocks, even in error handling code.
58. [?] StringBuffer is used to concatenate strings in multi-threaded code

- Security

59. [x] All data inputs are checked (for the correct type, length/size, format, and range)
60. [x] Invalid parameter values handled such that exceptions are not thrown
61. [?] No sensitive information is logged or visible in a stacktrace

Bei folgenden Punkten wurden Fehler entdeckt:

1. [?] The code works

   Grundsätzlich funktioniert der Code, jedoch wurden einige Funktionen, nämlich das Abrufen der Daten aus der Datenbank, derzeit deaktiviert, da diese Daten im derzeitigen Zustand nicht richtig dargestellt werden.

2. [?] The code is easy to understand

   Der Code ist für Projektmitarbeiter verständlich, jedoch müssen noch Kommentare ergänzt warden, damit dieser besser verständlich wird.

8. [x] There are no usages of 'magic numbers'

   Derzeit werden genannten Nummer noch verwendet. (Koordinaten)

9. [x] All variables are in the smallest scope possible

   Aufgrund von Fehlverhalten verwendet die mySQL Datenbank teilweise höhere Werte als eigentlich notwendig.

11. [x] There is no commented out code

    Aufgrund von in Punkt 1 genanntem Fehlverhalten wurde teilweise Code auskommentiert.