

# **Tsmells**

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# Description

- Test Smell detection tool
  - Antipatterns in xUnit code
  - Smells already described
  - Using Fetch & Crocopat
  - xUnit framework & language abstraction
  - Java & C++

# Progress

- Test framework: python
  - Outputtest
    - Running tests through bash
    - Textual compare results
  - Webapp
    - Test runner
- Workaround/fixes for Fetch incompleteness
  - Sent pieces test
  - Write (small) extensions
- Implementing Smell-detection: RML
- *[demo]*

# AssertionLess

- No asserts in test command -> useless
- Anastacia: 97 / 228
  - `AssertionLess;testmessenger.MSN.MSNPacketTest.testContent()`
  - `AssertionLess;testmessenger.Yahoo.YahooSRV_AUTH_RESPPacketTest.testGetLength()`
  - `AssertionLess;testmessenger.ICQ.ICQCLI_REQROSTERPacketTest.testICQCLI_REQROSTERPacket()`
  - `AssertionLess;testmessenger.UtillsTest.testUIN()`
  - `AssertionLess;testmessenger.UtillsTest.testEncryptPass()`
  - `AssertionLess;testmessenger.UtillsTest.testByteToHex()`
  - `AssertionLess;testmessenger.UtillsTest.testHexToByte()`
  - `AssertionLess;testmessenger.UtillsTest.testHexToInt()`
  - `AssertionLess;testmessenger.UtillsTest.testHexFromString()`
  - `AssertionLess;testmessenger.UtillsTest.testCharToNibble()`
  - `AssertionLess;testmessenger.ICQ.ICQCLI_COOKIEPacketTest.testICQCLI_COOKIEPacket()`
  - `AssertionLess;testmessenger.ICQ.ICQCLI_REQINFOPacketTest.testICQCLI_REQINFOPacket()`

# AssertionRoulette

- Multiple asserts without failure-message
- Anastacia: 15

AssertionRoulette;TC;testmessenger.UtillsTest.testTwoByteInt2FourCharString();6;6

AssertionRoulette;TC;testmessenger.UtillsTest.testIntToHex();6;6

AssertionRoulette;TC;testmessenger.UtillsTest.testFromHexString();10;10

AssertionRoulette;TC;testmessenger.MSN.MSNPacketFactoryTest.testIncomingNullPacketException();3;3

AssertionRoulette;TC;testmessenger.MSN.MSNPacketFactoryTest.testUnknownPacketException();3;3

AssertionRoulette;TC;testmessenger.MSN.MSNPacketFactoryTest.testIncomingErrorCode();3;3

AssertionRoulette;TC;testmessenger.MSN.MSNPacketFactoryTest.testIncoming();4;4

# IndentedTest

- Tests should have a linear execution path, as simple as possible
- Extension to SnavToFamix necessary
  - Grep on if|for|switch|...
  - Measurement element FAMIX

# MysteryGuest

- Usage of external resources in test, bad for readability
- Detection based on blacklisted methods/functions
- Project & language dependent

# SensitiveEquality

- Use of 'toString()' to check equality. Bound to change => high maintenance

SensitiveEquality;TC;org.argouml.ui.cmd.GUITestActionGotoDiagram.testProjectWithContents();1

SensitiveEquality;TC;org.argouml.uml.util.namespace.TestStringNamespace.testToString();3

SensitiveEquality;TC;org.argouml.uml.util.namespace.TestStringNamespace.testParseWithEsotericToken();4

SensitiveEquality;TC;org.argouml.uml.util.namespace.TestStringNamespace.testParseWithUMLToken();4

SensitiveEquality;TC;org.argouml.uml.util.namespace.TestStringNamespace.testParseWithJavaToken();4

SensitiveEquality;TC;org.argouml.uml.util.namespace.TestStringNamespace.testGetCommonNamespace();4

SensitiveEquality;TC;org.argouml.model.TestModelFacade3.testOneOrMoreParameters();3

SensitiveEquality;TC;org.argouml.cognitive.TestItemUID.testConstructors();5



# Live

	TestCases	TestCommands	TestCheckers	AssertionLess	AssertionRoulette	SensitiveEquality
Anastacia	71	228	202	97	15	0
ArgoUML	122	332	1046	60	71	12
JfreeChart	273	1082	2836	400	315	197
Maven	33	157	95	110	2	10