

Een 5-sterren project, wat is het en hoe kan ik het bereiken?

Eric Bouwers

Welke sterren?





J-Fall, 11 november 2009

lets specifieker ...

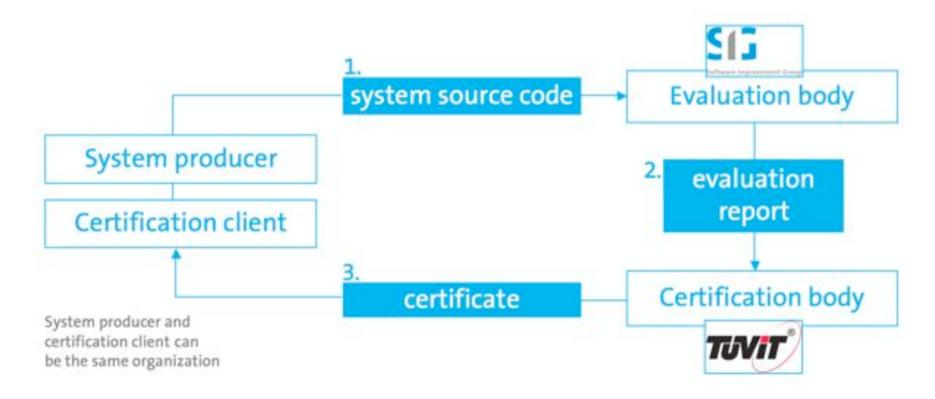






Het proces





Waarom?





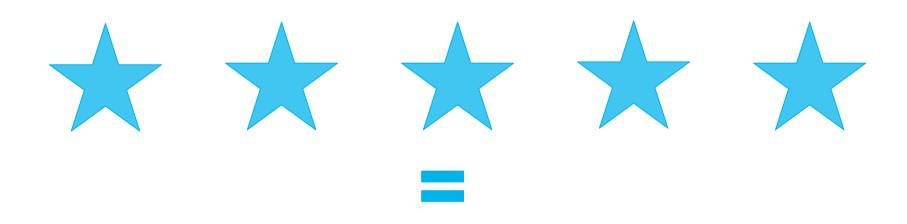




Wat zeggen de sterren?



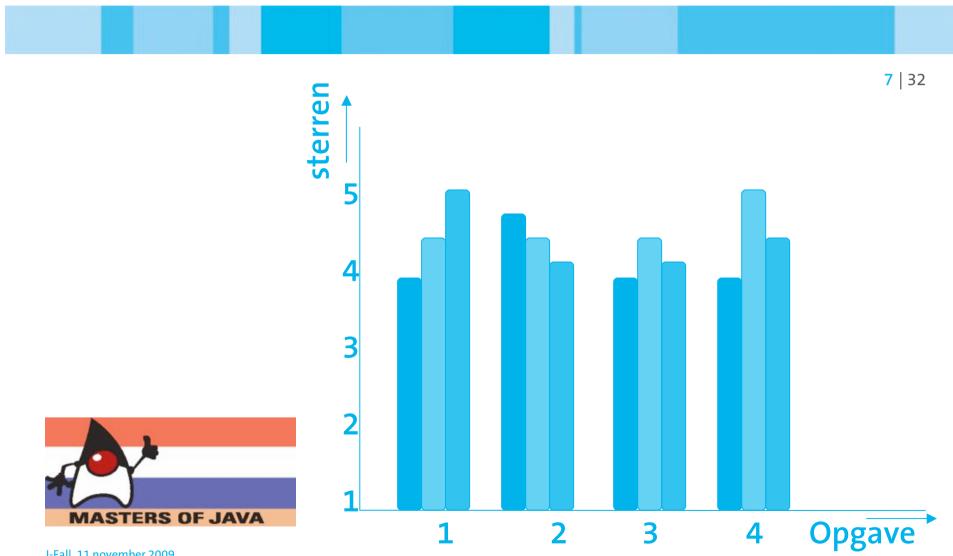
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onderhoudbaar

Masters of Java

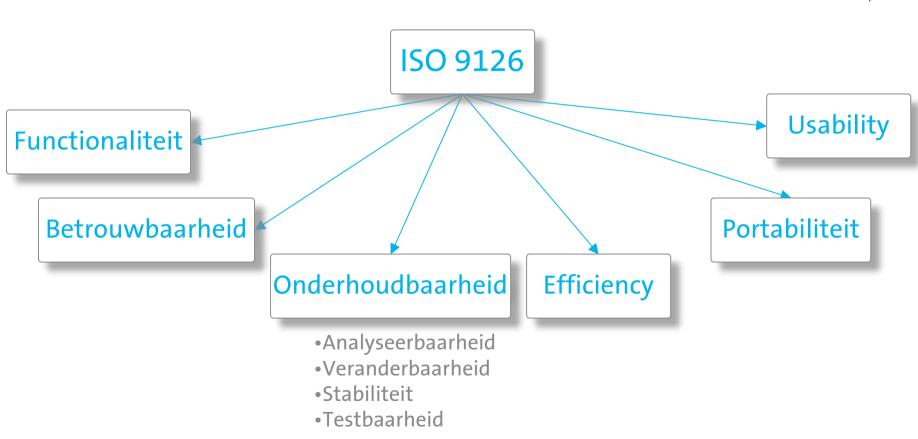




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De basis: ISO 9126





SIG Maintainability model



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| \\vartheta\) | AFI. | +: | Por Co | 0/ | ine fa | n _{iln} sh | C/A | 94 | 2// |
| | 77 | 2 | 4 | 77 | 70 | 17 | 6 | 9 | 2 |
| Analyseerbaarheid | X | | X | X | X | | | | Χ |
| Veranderbaarheid | | Χ | | X | | Χ | | | Χ |
| Stabiliteit | | | | | | Χ | Χ | X | Χ |
| Testbaarheid | | Х | Х | | | | | | Х |

Onderdeel van TÜViT-certificatie 'Trusted Software Product Maintainability'

Voorbeeld sterrenbepaling: Complexiteit (1/4)



```
public Integer geefGriepPercentage(){
   if ( werktInZorg() ){
      return isZwanger() ? 20 : 50;
   } else {
      return isKind() ? 10 : 40;
   }
}
```

```
Methode McCa
```

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McCabe: 4

Voorbeeld sterrenbepaling: Complexiteit (2/4)



| McCabe complexiteit | Risico-inschatting |
|---------------------|---|
| 1-10 | Duidelijke code, klein risico |
| 11-20 | Complex, medium risico |
| 21-50 | Erg complex, hoog risico |
| > 50 | Niet begrijpbaar, niet testbaar, zeer hoog risico |

Voorbeeld sterrenbepaling: Complexiteit (3/4)



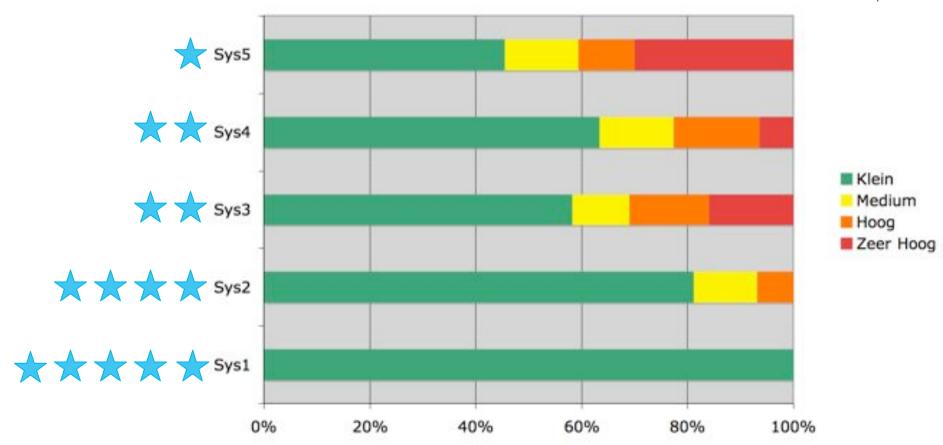
12 | 32

Situatie: 1 methode met een McCabe van 50, is dat erg?

- A) Ja
- B) Nee
- C) Ligt eraan

Voorbeeld sterrenbepaling: Complexiteit (4/4)





Grenswaarden?



Stappen overzicht



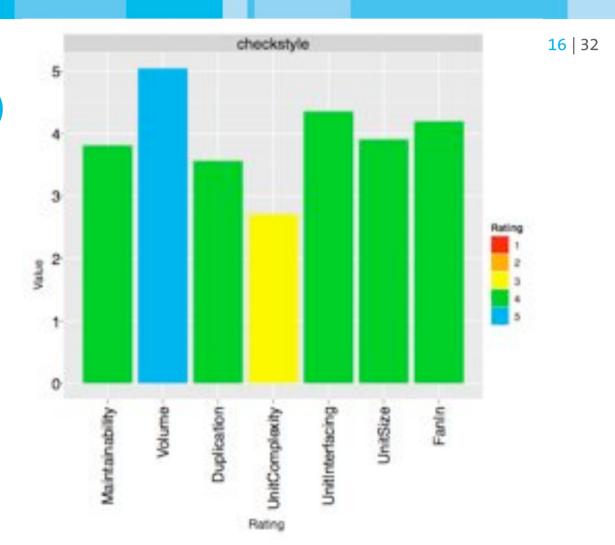


Checkstyle (2009/04/18, v5.0)



Hoeveel sterren? (onder voorbehoud)





```
public IClass resolveExpression(
   SymTobAST expression,
   Scope location,
    IClass context.
    boolean referencePhase) (
    IClass result - null;
   try (
       switch (expression.getType()) (
           case TokenTypes.TYPECAST :
                result -
                    resolveTypecast(
                        expression.
                        location.
                        context,
                        referencePhase);
                break;
           case TokenTypes.EXPR :
            case TokenTypes.LITERAL_RETURN :
             if (expression.getFirstChild() != null)
                   result -
                       resolveExpression(
                            (SymTobAST) expression.getFirst(hild(),
                            location.
                            context,
                            referencePhase);
                    // YOU WRITE BAD CODE!
                break:
            case TokenTypes.ELIST :
                SymTabAST child = (SymTabAST) (expression.getFirstChild());
               while (child != nutl) {
```



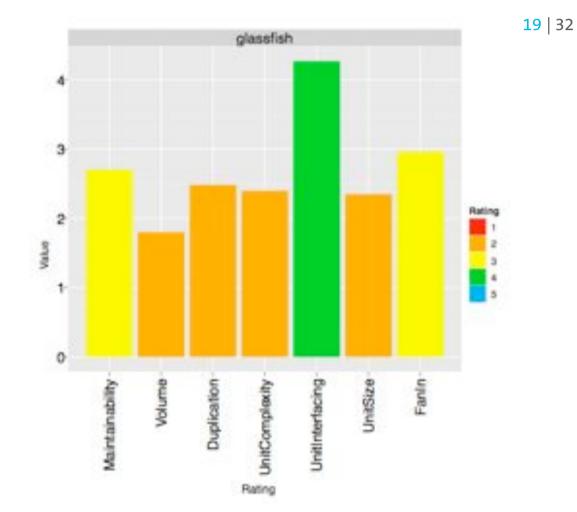
```
case TakenTypes_METHOD_DEF:
case TakenTypes.CTOR_DEF:
case TokenTypes.STATIC_INIT:
cose TokenTypes.INSTANCE_INIT:
    mScopeStack.push(new HashMap<String, DetailAST>());
   breek:
                                                                           Software Improvement Group
case TakenTypes.PARAMETER_DEF:
    ( (ScopeUtils, inInterfaceBlack(aAST)
        II inAbstractMethod(aAST))
        breek:
                                                                                              18 | 32
case TokenTypes.VARIABLE_DEF:
    if ((aAST.getParent().getType() != TokenTypes.0838LOCK)
        && (aAST.getParent().getType() != TokenTypes.FOR_EACH_CLAUSE))
        insertVariable(aAST);
cose TokenTypes.IDENT:
    final int parentType + aAST.getParent().getType();
    LE ((TakenTypes.POST_DEC
                                   -- parentType)
        II (TokenTypes.DEC
                                   -- parentType)
        II (TokenTypes.POST_INC
                                   -- parentType)
        11 (TokenTypes, INC.
                                   -- parentType)
        II (TokenTypes.ASSIGN
                                   -- parentType)
        II (TokenTypes.PLUS_ASSIGN)
                                   -- parentType)
                                                            isDecrement(parentType)
        II (TokenTypes.MINUS_ASSIGN == parentType)
        11 (TokenTypes.DIV_ASSIGN
                                   -- parentType)
                                                           isIncrement(parentType)
        II (TokenTypes.STAR_ASSIGN == parentType)
        11 (TokenTypes_MOD_ASSIGN
                                    -- parentType)
                                                           isAssign(parentType)
        II (TokenTypes.SR_ASSIGN)
                                   == parentType)
        II (TokenTypes.BSR_ASSIGN
                                   -- parentType)
        II (TokenTypes.SL_ASSIGN
                                   -- parentType)
        II (TokenTypes.BXDR_ASSIGN
                                   -- parentType)
                                   -- parentType)
        [1] (TokenTypes.BOR_ASSIGN
        11 (TokenTypes.BAND_ASSIGN
                                   -- parentType))
                                             com.puppycrawl.tools.checkstyle.checks.coding. FinalLocalVariableCheck
```

GlassFish (2009/03/19, v2.1)



Hoeveel sterren? (onder voorbehoud)





Voorbeeld Duplicatie



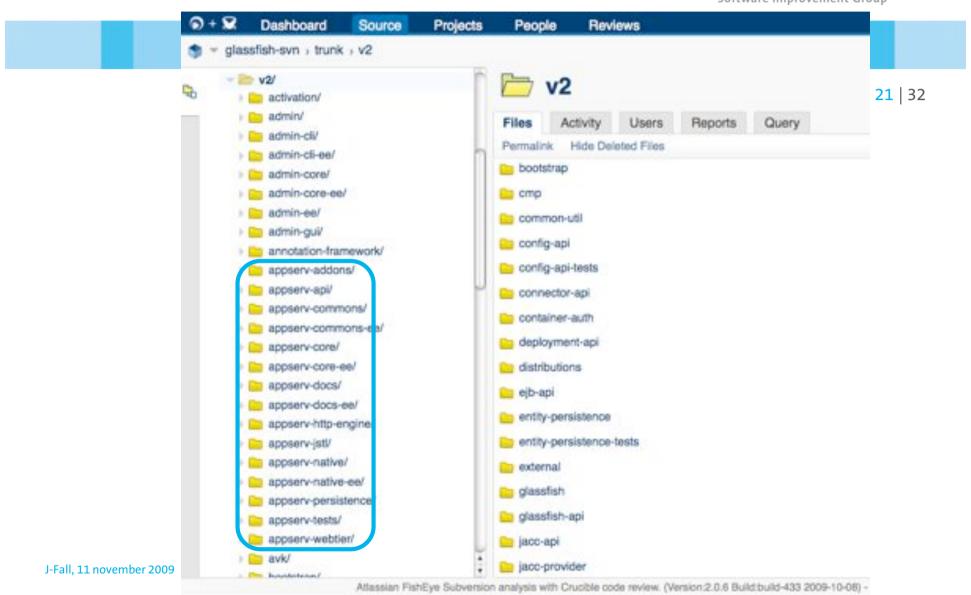
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| Naam | Lengte | Duplicatie |
|---|--------|------------|
| appserv-webtier/src/java/com/sun/el/parser/SimpleCharStream.javaappserv-jstl/src/ | | 100% |
| org/apache/taglibs/standard/lang/jstl/parser/! impleCharStream.java | | |
| admin/validator/src/java/ com/sun/enterprise/config/serverbeans/validation/XPathHelper.java admin-core/admin/src/java/ com/sun/enterprise/admin/meta/XPathHelper.java | 211 | 100% |
| appserv-jstl/src/ org/apache/taglibs/standard/lang/jstl/parser/ParseException.java appserv-webtier/src/java/com/sun/el/parser/ParseException.java | 90 | 100% |

Totaal: +/- 147.000 regels gedupliceerd

Volume



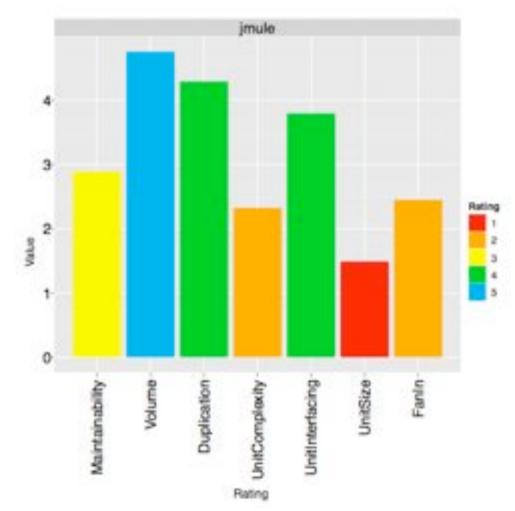


jMule (2009/06/13, v,0.5.0)



Hoeveel sterren? (onder voorbehoud)





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Voorbeeld Unit Size



```
preferences.
 node( getColumnNodePath( particular_ui_root, SHARED_LIST_COMPLETED_COLUMN_ID ) ).
 putBoolean(VISIBILITY, getDefaultColumnVisibility( SHARED_LIST_COMPLETED_COLUMN_ID ) );
// sets the default width of the columns
 preferences.
 node( getColumnNodePath( particular_ui_root, SERVER_LIST_NAME_COLUMN_ID ) ).
 putInt(WIDTH, getDefaultColumnWidth( SERVER_LIST_NAME_COLUMN_ID ) );
                  388
                              // update last response
                  389
                              KadContact rcontact = routing_table.getContact(packet.getAddress());
                              if (roontact != null) {
                  310
                  311
                                  rcontact.setLastResponse(System.currentTimeMillis());
                  312
                                  rcontact.setConnected(true);
                  313
                  314
   J-Fall, 11 november 2009
                  315
                              // notify packet listeners
                              List<PacketListener> listener_list = packetListeners.get(packet.getComm
                  316
```

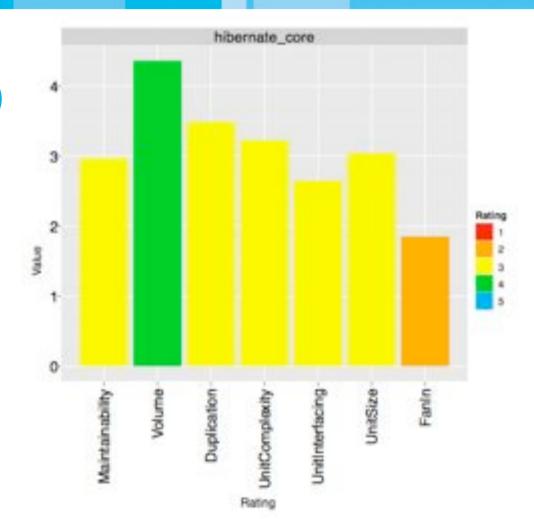
Hibernate (Core) (2006/10/16, v3.2.0ga)



25 | 32

Hoeveel sterren? (onder voorbehoud)





J-Fall, 11 november 2009

```
78
        Mappings(
 79
                 final Map classes,
                                                                                                515
 89
                 final Map collections.
 81
                 final Map tables,
 82
                 final Map queries,
 83
                 final Map salgueries.
                                                                                                Software Improvement Group
 84
                 final Map sqlResultSetMappings,
 85
                 final Map imports.
                                                                                 /**
                                                                         364
 86
                 final List secondPasses.
                                                                         365
                                                                                  * Adds on entity to the internal caches.
 87
                 final List propertyReferences,
                                                                         366
 88
                 final NamingStrategy namingStrategy,
                                                                         367
                                                                                 public EntityEntry addEntity(
 89
                 final Map typeDefs,
                                                                                         final Object entity.
                                                                         368
 90
                 final Map filterDefinitions,
                                                                         369
                                                                                         final Status status,
 91 //
                 final List extendsQueue,
                                                                         370
                                                                                         final Object□ loadedState,
                 final Map extendsOueue,
 92
                                                                         371
                                                                                         final EntityKey entityKey,
                 final List auxiliaryDatabaseObjects,
 93
                                                                                         final Object version,
                                                                         372
                 final Map tableNamebinding,
 94
                                                                         373
                                                                                         final LockMode lockMode,
                 final Map columnNameBindingPerTable
 95
                                                                         374
                                                                                         final boolean existsInDatabase,
 96
                ) {
                                                                         375
                                                                                         final EntityPersister persister,
 97
            this.classes = classes:
                                                                         376
                                                                                         final boolean disableVersionIncrement,
 98
            this collections = collections:
                                                                         377
                                                                                         boolean lazyPropertiesAreUnfetched
 99
                                                                                 ) (
            this.gueries = gueries;
                                                                         378
100
            this.sqlqueries = sqlqueries;
                                                                         379
101
            this.resultSetMappings = sqlResultSetMappings;
                                                                         380
                                                                                     addEntity( entityKey, entity );
102
            this tables = tables;
                                                                         381
            this.imports = imports;
103
                                                                         382
                                                                                     return addEntry(
104
            this, secondPasses = secondPasses;
                                                                         383
                                                                                              entity.
105
            this.propertyReferences = propertyReferences;
                                                                         384
                                                                                              status,
186
            this.namingStrategy = namingStrategy;
                                                                         385
                                                                                              loadedState.
107
            this.typeDefs = typeDefs;
                                                                         386
                                                                                              null.
108
            this.filterDefinitions = filterDefinitions;
                                                                                              entityKey.getIdentifier(),
                                                                         387
109
            this.extendsQueue = extendsQueue;
                                                                         388
                                                                                              version,
110
            this.auxiliaryDatabaseObjects = auxiliaryDatabaseObjects;
                                                                         389
                                                                                              lockMode.
111
                                                                         390
            this.tableNameBinding = tableNamebinding;
                                                                                              existsInDatabase.
112
            this.columnNameBindingPerTable = columnNameBindingPerTable 391
                                                                                              persister.
113
                                                                                              disableVersionIncrement,
                                                                         392
                                                                         393
                                                                                              lazyPropertiesAreUnfetched
                                                                         394
                                                                                         );
     J-Fall, 11 november 2009
                                                                         395
                                                                                 }
```

Samenvattend



27 | 32

Klein Simpel Specifiek

Addertje?





Kosten

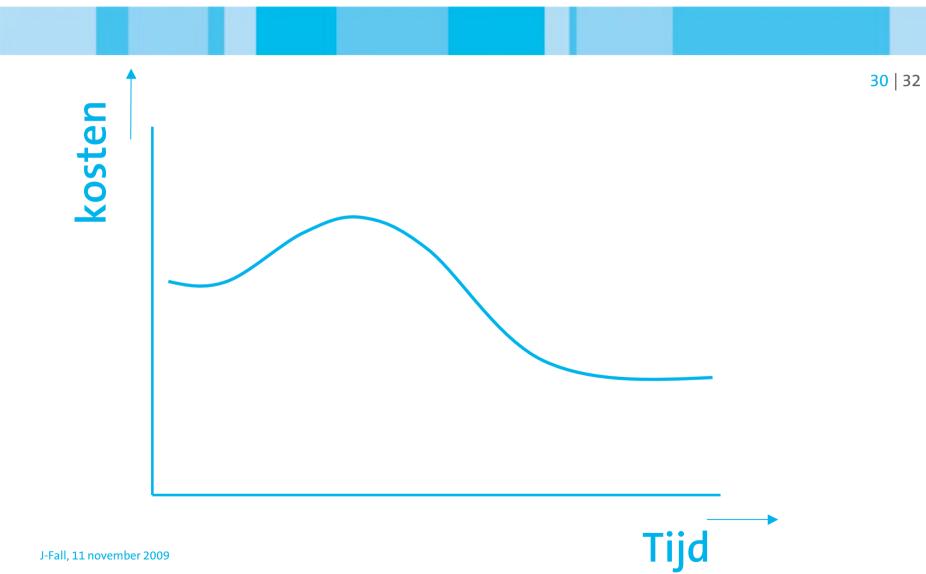






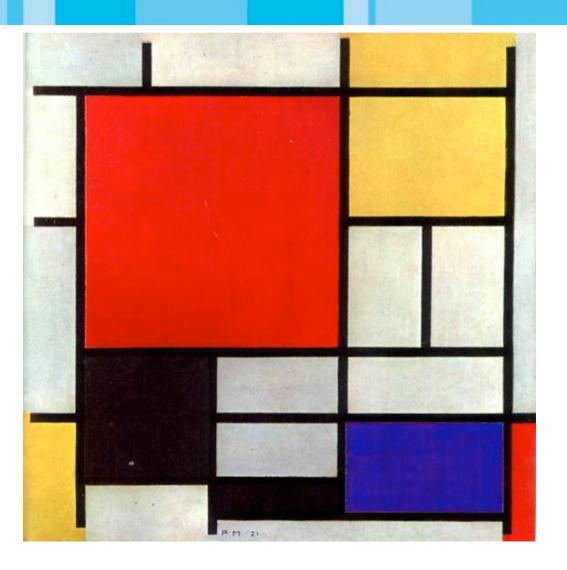
Investeren!





Abstract?





31 | 32

J-Fall, 11 november 2009

Conclusie





32 | 32



Klein Simpel Specifiek

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