

Generic QR patterns catalogue

This document includes a Generic QR patterns catalogue that can be imported to PABRE tool¹.

The QR patterns defined in this document are:

- Bug density
- Fast tests build
- Passed tests
- Complex files
- Commented files
- Duplications
- Fulfilment of critical/blocker quality rules

```
{
  "metrics": [{
    "type": "integer",
    "metric": {
      "name": "Integer that represents a percentage",
      "description": "Integer value that can have a percentage.",
      "comments": "",
      "minValue": 0,
      "maxValue": 100
    }
  }],
  "patterns": [
    {
      "name": "Bug density",
      "description": "",
      "comments": "",
      "versions": [{
        "versionDate": "09-10-2018 09:30:00",
        "author": "Marc Oriol",
        "goal": "Improve the stability of the software system",
        "numInstances": 0,
        "available": true,
        "statsNumInstances": 0,
        "statsNumAssociates": 0,
        "artifactsRelation": ""
      }
    ]
  }
]
```

¹ <https://github.com/OpenReqEU/requirement-patterns>

```

    "forms": [{
      "name": "Bug density",
      "description": "The percentage of the open/in progress bugs
with respect to the total number of open issues should stay below a given
value in order to improve the stability of the software system.",
      "comments": "",
      "author": "Marc Oriol",
      "modificationDate": "09-10-2018 09:30:00",
      "numInstances": 0,
      "statsNumInstances": 0,
      "statsNumAssociates": 0,
      "pos": 0,
      "available": true,
      "fixedPart": {
        "patternText": "Ratio of open issues that are not of type
bug should at least %value%",
        "questionText": "",
        "numInstances": 0,
        "available": true,
        "statsNumInstances": 0,
        "artifactsRelation": "",
        "parameters": [{
          "name": "value",
          "correctnessCondition": "Stay between 0 and 100",
          "description": "value in percentage of the maximum
percentage that can have the ratio of open/in progress",
          "metricName": "Integer that represents a percentage"
        }]
      }
    }
  ],
  "editable": false
},
{
  "name": "Fast tests build",
  "description": "",

```

```
"comments": "",
"versions": [{
  "versionDate": "09-10-2018 09:30:00",
  "author": "Marc Oriol",
  "goal": "Improve the testing status of the software system",
  "numInstances": 0,
  "available": true,
  "statsNumInstances": 0,
  "statsNumAssociates": 0,
  "artifactsRelation": "",
  "forms": [{
    "name": "Fast tests build",
    "description": "Ratio of fast unit tests (i.e. Unit tests that
takes less than 5 minutes to execute) with respect to the total number of unit
tests should be at least the given value in order to improve the testing
status of the software system.",
    "comments": "",
    "author": "Marc Oriol",
    "modificationDate": "09-10-2018 09:30:00",
    "numInstances": 0,
    "statsNumInstances": 0,
    "statsNumAssociates": 0,
    "pos": 0,
    "available": true,
    "fixedPart": {
      "patternText": "Ratio of fast unit tests should be at
least %value%",
      "questionText": "",
      "numInstances": 0,
      "available": true,
      "statsNumInstances": 0,
      "artifactsRelation": "",
      "parameters": [{
        "name": "value",
        "correctnessCondition": "Stay between 0 and 100",
        "description": "value in percentage of the maximum
percentage that can have the ratio of open/in progress",
        "metricName": "Integer that represents a percentage"
      }]
    }
  ]
}]
```

```

    }

    }]
  },
  "editable": false
},

{
  "name": "Passed tests",
  "description": "",
  "comments": "",
  "versions": [{
    "versionDate": "09-10-2018 09:30:00",
    "author": "Marc Oriol",
    "goal": "Improve the testing status of the software system",
    "numInstances": 0,
    "available": true,
    "statsNumInstances": 0,
    "statsNumAssociates": 0,
    "artifactsRelation": "",
    "forms": [{
      "name": "Passed tests",
      "description": "The percentage of passed automatic tests with
respect to the total number of executed automatic tests should be at least the
given value in order to improve the testing status of the software system.",
      "comments": "",
      "author": "Marc Oriol",
      "modificationDate": "09-10-2018 09:30:00",
      "numInstances": 0,
      "statsNumInstances": 0,
      "statsNumAssociates": 0,
      "pos": 0,
      "available": true,
      "fixedPart": {
        "patternText": "The percentage of passed automatic tests
should be at least %value%",
        "questionText": "",
        "numInstances": 0,

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        "available": true,
        "statsNumInstances": 0,
        "artifactsRelation": "",
        "parameters": [{
            "name": "value",
            "correctnessCondition": "Stay between 0 and 100",
            "description": "value in percentage of the maximum
percentage that can have the ratio of open/in progress",
            "metricName": "Integer that represents a percentage"
        }]
    }

    }]
}],
"editable": false
},

{
    "name": "Complex files",
    "description": "",
    "comments": "",
    "versions": [{
        "versionDate": "09-10-2018 09:30:00",
        "author": "Marc Oriol",
        "goal": "Improve the quality of the source code",
        "numInstances": 0,
        "available": true,
        "statsNumInstances": 0,
        "statsNumAssociates": 0,
        "artifactsRelation": "",
        "forms": [{
            "name": "Complex files",
            "description": "Ratio of non-complex files (i.e. files with a
cyclomatic complexity below 15) with respect to the total number of files
should be at least the given value in order to improve the quality of the
source code.",
            "comments": "",
            "author": "Marc Oriol",
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```
        "modificationDate": "09-10-2018 09:30:00",
        "numInstances": 0,
        "statsNumInstances": 0,
        "statsNumAssociates": 0,
        "pos": 0,
        "available": true,
        "fixedPart": {
            "patternText": "Ratio of non-complex files should be at
least %value%",
            "questionText": "",
            "numInstances": 0,
            "available": true,
            "statsNumInstances": 0,
            "artifactsRelation": "",
            "parameters": [{
                "name": "value",
                "correctnessCondition": "Stay between 0 and 100",
                "description": "value in percentage of the maximum
percentage that can have the ratio of open/in progress",
                "metricName": "Integer that represents a percentage"
            }]
        }
    }

    }],
    "editable": false
},

{
    "name": "Commented files",
    "description": "",
    "comments": "",
    "versions": [{
        "versionDate": "09-10-2018 09:30:00",
        "author": "Marc Oriol",
        "goal": "Improve the quality of the source code",
        "numInstances": 0,
```

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    "available": true,

    "statsNumInstances": 0,

    "statsNumAssociates": 0,

    "artifactsRelation": "",

    "forms": [{

        "name": "Commented files",

        "description": "The ratio of properly commented files (i.e.
Files whose comment density is between 10% and 30%) with respect to the total
number of files should be above the given value in order to improve the
quality of the source code.",

        "comments": "",

        "author": "Marc Oriol",

        "modificationDate": "09-10-2018 09:30:00",

        "numInstances": 0,

        "statsNumInstances": 0,

        "statsNumAssociates": 0,

        "pos": 0,

        "available": true,

        "fixedPart": {

            "patternText": "The ratio of properly commented files
should be above %value%",

            "questionText": "",

            "numInstances": 0,

            "available": true,

            "statsNumInstances": 0,

            "artifactsRelation": "",

            "parameters": [{

                "name": "value",

                "correctnessCondition": "Stay between 0 and 100",

                "description": "value in percentage of the maximum
percentage that can have the ratio of open/in progress",

                "metricName": "Integer that represents a percentage"

            }]

        }

    }]

    },

    "editable": false

},

```

```

{
  "name": "Duplications",
  "description": "",
  "comments": "",
  "versions": [{
    "versionDate": "09-10-2018 09:30:00",
    "author": "Marc Oriol",
    "goal": "Improve the quality of the source code",
    "numInstances": 0,
    "available": true,
    "statsNumInstances": 0,
    "statsNumAssociates": 0,
    "artifactsRelation": "",
    "forms": [{
      "name": "Duplications",
      "description": "The ratio of files without duplications (i.e.
the duplicated lines of the file are below 5%) with respect to the total
number of files should be at least the given value in order to improve the
quality of the source code.",
      "comments": "",
      "author": "Marc Oriol",
      "modificationDate": "09-10-2018 09:30:00",
      "numInstances": 0,
      "statsNumInstances": 0,
      "statsNumAssociates": 0,
      "pos": 0,
      "available": true,
      "fixedPart": {
        "patternText": "The ratio of files without duplications
should be at least %value%",
        "questionText": "",
        "numInstances": 0,
        "available": true,
        "statsNumInstances": 0,
        "artifactsRelation": "",
        "parameters": [{

```



```

        "name": "value",
        "correctnessCondition": "Stay between 0 and 100",
        "description": "value in percentage of the maximum
percentage that can have the ratio of open/in progress",
        "metricName": "Integer that represents a percentage"
    }
}

    ]
},
"editable": false
} ,

{
    "name": "Fulfilment of critical/blocker quality rules",
    "description": "",
    "comments": "",
    "versions": [{
        "versionDate": "09-10-2018 09:30:00",
        "author": "Marc Oriol",
        "goal": "Reduce the blocking code",
        "numInstances": 0,
        "available": true,
        "statsNumInstances": 0,
        "statsNumAssociates": 0,
        "artifactsRelation": "",
        "forms": [{
            "name": "Fulfilment of critical/blocker quality rules",
            "description": "Ratio of files without critical or blocker
quality rule violations with respect to the total number of files should be at
least the given value in order to reduce the blocking code.",
            "comments": "",
            "author": "Marc Oriol",
            "modificationDate": "09-10-2018 09:30:00",
            "numInstances": 0,
            "statsNumInstances": 0,
            "statsNumAssociates": 0,

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        "pos": 0,
        "available": true,
        "fixedPart": {
            "patternText": "Ratio of files without critical or blocker
quality rule violations should be at least %value%",
            "questionText": "",
            "numInstances": 0,
            "available": true,
            "statsNumInstances": 0,
            "artifactsRelation": "",
            "parameters": [{
                "name": "value",
                "correctnessCondition": "Stay between 0 and 100",
                "description": "value in percentage of the maximum
percentage that can have the ratio of open/in progress",
                "metricName": "Integer that represents a percentage"
            }]
        }
    }
}

}],
"editable": false
}

],
"schemas": [{
    "name": "Schema Q-rapids",
    "description": "descripcion schema",
    "comments": "",
    "rootClassifiers": [{
        "name": "Root",
        "description": "",
        "comments": "",
        "sourcesByIdentifier": [],
        "pos": 0,
        "requirementPatterns": [],
```

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    "internalClassifiers": [
      {
        "name": "softwarestability",
        "description": "",
        "comments": "",
        "sourcesByIdentifier": [],
        "internalClassifiers": [
          {
            "name": "bugsratiojira",
            "description": "",
            "comments": "",
            "sourcesByIdentifier": [],
            "internalClassifiers": [],
            "pos": 0,
            "requirementPatterns": ["Bug density"]
          }
        ],
        "pos": 1,
        "requirementPatterns": []
      },
      {
        "name": "testingstatus",
        "description": "",
        "comments": "",
        "sourcesByIdentifier": [],
        "internalClassifiers": [
          {
            "name": "testperformance",
            "description": "",
            "comments": "",
            "sourcesByIdentifier": [],
            "internalClassifiers": [],
            "pos": 0,
            "requirementPatterns": ["Fast tests
build"]
          }
        ],

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```
        {
            "name": "testsuccess",
            "description": "",
            "comments": "",
            "sourcesByIdentifier": [],
            "internalClassifiers": [],
            "pos": 1,
            "requirementPatterns": ["Passed tests"]
        }
    ],
    "pos": 2,
    "requirementPatterns": []
},
{
    "name": "codequality",
    "description": "",
    "comments": "",
    "sourcesByIdentifier": [],
    "internalClassifiers": [
        {
            "name": "complexity",
            "description": "",
            "comments": "",
            "sourcesByIdentifier": [],
            "internalClassifiers": [],
            "pos": 0,
            "requirementPatterns": ["Complex
files"]
        },
        {
            "name": "comments",
            "description": "",
            "comments": "",
            "sourcesByIdentifier": [],
            "internalClassifiers": [],
            "pos": 1,
```

```

files"]
                                "requirementPatterns": ["Commented
                                },
                                {
                                    "name": "duplication",
                                    "description": "",
                                    "comments": "",
                                    "sourcesByIdentifier": [],
                                    "internalClassifiers": [],
                                    "pos": 2,
                                    "requirementPatterns": ["Duplications"]
                                }
                            ],
                            "pos": 5,
                            "requirementPatterns": []
                        },
                        {
                            "name": "blockingcode",
                            "description": "",
                            "comments": "",
                            "sourcesByIdentifier": [],
                            "internalClassifiers": [
                                {
                                    "name": "nonblockingfiles",
                                    "description": "",
                                    "comments": "",
                                    "sourcesByIdentifier": [],
                                    "internalClassifiers": [],
                                    "pos": 0,
                                    "requirementPatterns": ["Fulfilment of
critical/blocker quality rules"]
                                }
                            ],
                            "pos": 6,
                            "requirementPatterns": []
                        }
                    ]

```

```
    }  
  }  
}
```