Software Engineering
CS301

Web Application for NIC

Coding Metrics

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1. Introduction

This document will provide the coding metric values for the project. The metric tools used for the same are,

- SDMetrics – the Object-Oriented design quality measurement tool for the UML™. SDMetrics analyzes the structure of your UML models.
- PHPloc – A tool for quickly measuring the size and analyzing the structure of a PHP project.

2. SDMetrics Output

This section shows the analysis of UML metrics for the whole project. The UML files used are the state diagrams from the Software Design Specifications. Below are the metric analyses provided by the tool.

Name	Domain	Category	Description
Objects	component	Size	The number of objects on instances of the component.
Diags	component	Diagram	The number of times the component appears on a diagram.
NumOps	node	Size	The number of operations of the node.
NumComp	node	Size	The number of subcomponents of the node.
NumPack	node	Size	The number of packages of the node.
AssEl	node	Coupling	The number of elements the node is associated with.
Instances	node		The number of instances of the node.
InstanceLinks	node	Coupling	The number of links attached to instances of the node.
Diags	node	Diagram	The number of times the node appears on a diagram.
type	diagram		The type of diagram (class diagram, sequence diagram, etc.
Elements	diagram	Size	The total number of design elements on the diagram.
Classes	diagram	Size	The number of classes on the diagram.
Interfc	diagram	Size	The number of interfaces on the diagram.
Packages	diagram	Size	The number of packages on the diagram.
Assoc	diagram	Complexity	The number of associations on the diagram.
Genrs	diagram	Complexity	The number of generalizations on the diagram.
Deps	diagram	Complexity	The number of UML dependencies and UML usage dependencies on the diagram.
Abstr	diagram	Complexity	The number of abstractions on the diagram.
Objects	diagram	Size	The number of objects on the diagram.
Links	diagram	Complexity	The number of links on the diagram.
Messages	diagram	Complexity	The number of messages on the diagram.
Stimuli	diagram	Complexity	The number of stimuli on the diagram.
Actors	diagram	Size	The number of actors on the diagram.
UseCase	diagram	Size	The number of use cases on the diagram.
ExtPts	diagram	Size	The number of extension points on the diagram.

Overall Analysis

Name	Trans	TAction	TGuard	TTrigger	States	SAction	CC
StateModel.	45	12	0	31	33	0	14

Below are the details of individual metrics

Trans

The number of transitions in the state machine.

Show full definition

Stat.	Value
Max	45
99th	45
97.5th	45
95th	45
90th	45
75th	45
50th	45
Min	45
Count	1
Mean	45
StdDev	0

TAction

The number of actions defined for the transitions of the state machine.

Show full definition

Stat.	Value
Max	12
99th	12
97.5th	12
95th	12
90th	12
75th	12
50th	12
Min	12
Count	1
Mean	12
StdDev	0

TGuard

The number of guards defined for the transitions of the state machine.

Show full definition

Stat.	Value
Max	0
99th	0
97.5th	0
95th	0
90th	0
75th	0
50th	0
Min	0
Count	1
Mean	0
StdDev	0

TTrigger

The number of triggers on the transitions of the state machine.

Show full definition

Stat.	Value
Max	31
99th	31
97.5th	31
95th	31
90th	31
75th	31
50th	31
Min	31
Count	1
Mean	31
StdDev	0

States

The number of states in the state machine.

Show full definition

Stat.	Value
Max	33
99th	33
97.5th	33
95th	33
90th	33
75th	33
50th	33
Min	33
Count	1
Mean	33
StdDev	0

SAction

The number of actions defined for the states of the state machine.

Show full definition

Stat.	Value
Max	0
99th	0
97.5th	0
95th	0
90th	0
75th	0
50th	0
Min	0
Count	1
Mean	0
StdDev	0

CC

The cyclomatic complexity of the state-transition graph.

Show full definition

Stat.	Value
Max	14
99th	14
97.5th	14
95th	14
90th	14
75th	14
50th	14
Min	14
Count	1
Mean	14
StdDev	0

2. PHPloc Output

This section shows the analysis of code metrics for the whole project (Client - Side and Admin - Side).

```
phploc 4.0.1 by Sebastian Bergmann.

Directories                                 2
Files                                      29

Size
  Lines of Code (LOC)                    1728
  Comment Lines of Code (CLOC)             11 (0.64%)
  Non-Comment Lines of Code (NCLOC)      1717 (99.36%)
  Logical Lines of Code (LLOC)            536 (31.02%)
    Classes                                 0 (0.00%)
      Average Class Length                  0
        Minimum Class Length                0
        Maximum Class Length                0
      Average Method Length                 0
        Minimum Method Length               0
        Maximum Method Length               0
    Functions                              27 (5.04%)
      Average Function Length               4
    Not in classes or functions           509 (94.96%)

Cyclomatic Complexity
  Average Complexity per LLOC            0.13
  Average Complexity per Class           0.00
    Minimum Class Complexity             0.00
    Maximum Class Complexity             0.00
  Average Complexity per Method          0.00
    Minimum Method Complexity            0.00
    Maximum Method Complexity            0.00

Dependencies
  Global Accesses                          54
    Global Constants                        0 (0.00%)
    Global Variables                        0 (0.00%)
    Super-Global Variables                 54 (100.00%)
  Attribute Accesses                        0
    Non-Static                              0 (0.00%)
    Static                                  0 (0.00%)
  Method Calls                              0
    Non-Static                              0 (0.00%)
    Static                                  0 (0.00%)

Structure
  Namespaces                                0
  Interfaces                                0
  Traits                                    0
  Classes                                   0
    Abstract Classes                        0 (0.00%)
    Concrete Classes                        0 (0.00%)
  Methods                                   0
    Scope
      Non-Static Methods                    0 (0.00%)
      Static Methods                        0 (0.00%)
    Visibility
      Public Methods                        0 (0.00%)
      Non-Public Methods                    0 (0.00%)
  Functions                                 6
    Named Functions                         6 (100.00%)
    Anonymous Functions                     0 (0.00%)
  Constants                                 0
    Global Constants                        0 (0.00%)
    Class Constants                         0 (0.00%)
```