|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Class** | **Noun Phrase** | **Obvious** | **Unsure** | **Discarded** | **Comments** |
| Database | Update DB | ✓ |  |  | Handles all the database calls |
| Error | Error | ✓ |  |  | Class that contains all errors in the system. |
| ExecutionQueue | Pipeline Execution Queue | ✓ |  |  | Class that contains all executed pipelines |
| GUIAccountActivationConfirmation | Account activation confirmation page | ✓ |  |  | GUI class for account activation confirmation page |
| GUIAnalizePipelines | Analyze Pipelines element/page | ✓ |  |  | GUI class for analyze pipelines page |
| GUIAnalizeQuieries | Analyze Queries element/page | ✓ |  |  | GUI class for analyze queries page |
| GUIAnalizeServices | Analyze Services element/page | ✓ |  |  | GUI class for analyze services page |
| GUIChooseQueryStyle | Choose Query Style page | ✓ |  |  | GUI class for choose query style page |
| GUIConfigureAccount | Configure Account page | ✓ |  |  | GUI class for configure account page |
| GUIEditConverter | Edit Converter page | ✓ |  |  | GUI class for edit converter page |
| GUIEditFilter | Edit Filter page | ✓ |  |  | GUI class for edit filter page |
| GUIEditMapper | Edit Mapper page | ✓ |  |  | GUI class for edit mapper page |
| GUIEditPipelineParameters | Edit Pipeline Parameters page | ✓ |  |  | GUI class for edit pipeline parameters page |
| GUIEditTransformers | Edit Transformer page | ✓ |  |  | GUI class for edit transformers page |
| GUIEditViewer | Edit Viewer page | ✓ |  |  | GUI class for edit viewer page |
| GUIEditViewerSet | Edit Viewer Set page | ✓ |  |  | GUI class for edit viewer set page |
| GUIGuestWelcome | Guest Welcome page | ✓ |  |  | GUI class for Guest Welcome page |
| GUIPasswordRecovery | Password Recovery page | ✓ |  |  | GUI class for Password Recovery page |
| GUIPrivilegedNavigation | Privileged User Navigation | ✓ |  |  | GUI class that implements the Privileged User navigation |
| GUIPrivilegedUSerHome | Privileged User home page | ✓ |  |  | GUI class for privileged user Home page |
| GUIPrivilegeHeading | Privilege user heading | ✓ |  |  | Class for privilege User Heading |
| GUIRegister | Register page | ✓ |  |  | GUI class for Register page |
| GUIRegularHeading | Regular user heading | ✓ |  |  | Class for Regular User Heading |
| GUIRegularNavigation | Regular User Navigation | ✓ |  |  | GUI class that implements the Regular User Navigation. |
| GUIRegularUserHome | Regular User Home Page | ✓ |  |  | GUI class for Regular User Home page |
| GUISearchQueries | Search Queries element/page | ✓ |  |  | GUI class for Search Queries page |
| GUISearchUSers | Search Users element/page | ✓ |  |  | GUI class for Search Users page |
| GUISelectOperation | Select Operation page | ✓ |  |  | GUI class for Select Operation page |
| GUISelectPipeline | Select Pipelines page | ✓ |  |  | GUI class for Select Pipeline page |
| GUISetQueryParameters | Set Query Parameters page | ✓ |  |  | GUI class for Set Query Parameters |
| GUISpecifyHistory | Specify Criteria page (history) | ✓ |  |  | GUI class for Specify History Criteria page |
| GUISpecifyPipeline | Specify Criteria page (pipelines) | ✓ |  |  | GUI class for Specify Pipeline Criteria page |
| GUISpecifyService | Specify Criteria page (Services) | ✓ |  |  | GUI class for Specify Service Criteria page |
| GUIViewArguments | View Arguments page | ✓ |  |  | GUI class for View Arguments page |
| GUIViewDetailsHistory | View Details page (history) | ✓ |  |  | GUI class for View History Details page |
| GUIViewDetailsPipeline | View Details page (pipeline) | ✓ |  |  | GUI class for View Pipeline Details page |
| GUIViewDetailsService | View Details page (service) | ✓ |  |  | GUI class for View Service Details page |
| GUIViewResult | View Result page | ✓ |  |  | GUI class for View (visualization) Results page |
| Module | VisKo Module, VisKo module script | ✓ |  |  | Class to communicate with VisKo module |
| Pipeline | Pipeline | ✓ |  |  | Class to contain pipeline information, etc. Defined as sequence of services |
| PrivilegedUser | Privileged User | ✓ |  |  | Subclass of User. Class to contain privileged user information, and special features. |
| Query | Query | ✓ |  |  | Class to contain query information, and special features of query. |
| RegularUser | Regular User | ✓ |  |  | Subclass to contain information for regular user. |
| Service | Service | ✓ |  |  | Class that contains all services information, and special features of service. |
| Rule | Rules | ✓ |  |  | A class containing a set of rules for designating a service as a transformer, filter or mapper. |
| Statistics | Statistics | ✓ |  |  | Class containing system statistics, such as most common queries, pipelines, etc. |
| Toolkit | Toolkit, toolkits | ✓ |  |  | A class that contains all the information of a toolkit. |
| User | Users, User, | ✓ |  |  | An abstract class that contains information of users |
| VisKoAPIInterface | VisKo API | ✓ |  |  | Interface class, to interact with VisKo API |
| Visualization | Visualization | ✓ |  |  | A class containing all information of a visualization. |
| Visualization Query | Visualization query | ✓ |  |  | A class containing all information of a visualization query |
|  | Abstraction dropdown list |  |  | ✓ | Attribute of GUISpecifyPipeline class, GUISearchQuery class, and GUISpecifyService class, and GUI SpecifyHistory class |
|  | Account status |  |  | ✓ | Attribute GUISearchUsers class and RegularUser |
|  | Account Status drop down list |  |  | ✓ | Attribute GUISearchUsers class |
|  | Active |  |  | ✓ | Attribute of RegularUser |
|  | Affiliation drop down list |  |  | ✓ | Attribute GUISearchUsers class |
|  | Affiliation/s |  |  | ✓ | Attribute of RegularUser |
|  | Analyze Queries Element |  |  | ✓ | Attribute of GUIPrivilegeNavigation class |
|  | Analyze Pipelines Element |  |  | ✓ | Attribute of GUIPrivilegeNavigation class |
|  | Analyze Users Element |  |  | ✓ | Attribute of GUIPrivilegeNavigation class |
|  | Bar graph |  |  | ✓ | Attribute of Statistics class |
|  | Brief Description field |  |  | ✓ | Attribute of GUIViewerSet class |
|  | Browsers |  |  | ✓ | Requirement about implementation (not relevant to classes) |
|  | Calculated values |  |  | ✓ | Attribute of Pipeline class |
|  | Change Email section |  |  | ✓ | Attribute of GUIConfigureAccount class |
|  | Change Password section |  |  | ✓ | Attribute of GUIConfigureAccount class |
|  | Collapse button |  |  | ✓ | Attribute of GUIChooseQueryStyle |
|  | Commit button |  |  | ✓ | Attribute of GUIEditMapper class |
|  | Converter |  |  | ✓ | Attribute of GUIEditConverter class and Service class |
|  | Configure Account Element |  |  | ✓ | Attribute of GUIRegular Navigation class |
|  | Converters drop down list |  |  | ✓ | Attribute of GUISelectOperation class |
|  | Create Account button |  |  | ✓ | Attribute GUIRegister class |
|  | Current Password |  |  |  | Attribute of User class |
|  | Data Format dropdown list |  |  | ✓ | Attribute of Edit Mapper, Edit Converter, Edit Transformer, and Edit Filter pages |
|  | Data Types, Type, Dataset |  |  | ✓ | Attribute of Edit Mapper, Edit Converter, Edit Transformer, and Edit Filter |
|  | Date frequency |  |  | ✓ | Attribute of Pipeline class |
|  | Date Range Calendar, Date, date range, |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Delete button |  |  | ✓ | Attribute GUISpecifyService class, GUISelectOperation class |
|  | Documentation URL field |  |  | ✓ | Attribute GUIEditMapper class, GUIEditConverter class, GUIEditTranformer class, GUIEditFilter class |
|  | Edit button |  |  | ✓ | Attribute GUISpecifyService class, GUISelectOperation class |
|  | Edit service page |  |  | ✓ | It’s very general and its functions are implemented in other classes. |
|  | Email, email address |  |  | ✓ | Attribute of User class |
|  | Empty pipeline set |  |  | ✓ | Attribute of Error class |
|  | End Date section |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Entered drop down information |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Error drop down list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Error types |  |  | ✓ | Attribute Error Class |
|  | Error logs |  |  | ✓ | General Error Message used for all errors [incorrect password, other errors, etc] |
|  | Expand button |  |  | ✓ | Attribute of GUIChooseQueryStyle |
|  | Filter |  |  | ✓ | Attribute of Service |
|  | Filters drop down list |  |  | ✓ | Attribute of GUIEditFilter |
|  | Forgot Password link |  |  | ✓ | Attribute of GUIGuestWelcome class, and GUIAccountActivation |
|  | Frequency of service errors |  |  | ✓ | Attribute of Statistics class |
|  | Functions of the system |  |  | ✓ | Very general, not a class. |
|  | Home element |  |  | ✓ | Attribute of GUIPrivilegedNavigation class, and GUIRegularNavigation |
|  | Image |  |  | ✓ | Attribute of ExecutionQueue |
|  | Inaccessible input data URL error |  |  | ✓ | Attribute of Error class |
|  | Incorrect Current Password |  |  | ✓ | Attribute of Error class |
|  | Input data format |  |  | ✓ | Attribute of GUISpecifyPipeline,GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Input data type |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Input data type drop down list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Input data URL |  |  | ✓ | Attribute of Error class |
|  | Input dataset |  |  | ✓ | Attribute GUIEditMapper class, GUIEditConverter class, GUIEditTranformer class, GUIEditFilter class |
|  | Input format drop down list |  |  | ✓ | Attribute GUIEditMapper class, GUIEditConverter class, GUIEditTranformer class, GUIEditFilter class |
|  | Input URL dropdown list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Local file system |  |  | ✓ | Attribute of GUIViewResult class |
|  | Location |  |  | ✓ | Attribute of GUIViewResult |
|  | Login button |  |  | ✓ | Attribute of GUIGuestWelcome class |
|  | Logout button |  |  | ✓ | Attribute of GUIRegularHeading, GUIPrivilegeHeading class |
|  | Malformed URI error |  |  | ✓ | Attribute of Error class |
|  | Manage Services element |  |  | ✓ | Attribute of GUIRegularNavigation class |
|  | Mapper |  |  | ✓ | Attribute of Service class |
|  | Mappers drop down list |  |  | ✓ | Attribute of GUIEditMapper class |
|  | MD5 algorithm |  |  | ✓ | Requirement about implementation, not a class. |
|  | Mobile web browsers |  |  | ✓ | Requirement about implementation, not a class. |
|  | Most common input data type |  |  | ✓ | Attribute of Statistics class |
|  | Most common input data type specified |  |  | ✓ | Attribute of Statistics class |
|  | Most common input format |  |  | ✓ | Attribute of Statistics class |
|  | Most common input format specified |  |  | ✓ | Attribute of Statistics class |
|  | Most common viewer set specified |  |  | ✓ | Attribute of Statistics class |
|  | Most common visualization abstraction |  |  | ✓ | Attribute of Statistics class |
|  | Most common visualization abstraction specified |  |  | ✓ | Attribute of Statistics class |
|  | Most generated output format |  |  | ✓ | Attribute of Statistics class |
|  | Most generated output type |  |  | ✓ | Attribute of Statistics class |
|  | Most generated visualization abstraction |  |  | ✓ | Attribute of Statistics class |
|  | Most ingested input format |  |  | ✓ | Attribute of Statistics class |
|  | Most ingested input type |  |  | ✓ | Attribute of Statistics class |
|  | Most popular pipeline |  |  | ✓ | Attribute of Statistics class |
|  | Most popular query |  |  | ✓ | Attribute of Statistics class |
|  | No pipeline results error |  |  | ✓ | Attribute of Error |
|  | Operation drop down list |  |  | ✓ | Attribute GUIEditMapper class, GUIEditConverter class, GUIEditTranformer class, GUIEditFilter class |
|  | Output format drop down list |  |  | ✓ | Attribute of GUIEditTranformer class |
|  | Output Data Type drop down list |  |  | ✓ | Attribute of GUIEditTranformer class |
|  | Parameter values |  |  | ✓ | Too general, parameters are broken down, in different classes. |
|  | Password |  |  | ✓ | Attribute of User class |
|  | Pipeline errors |  |  | ✓ | Attribute of Error class |
|  | Pipeline row |  |  | ✓ | Attribute of GUISelectPipelines |
|  | Pipeline Statistics |  |  | ✓ | Attribute of statistics class |
|  | Pipelines options |  |  | ✓ | Attribute of GUISelectPipelines class |
|  | Privileged User page |  |  | ✓ | Very general, is divided into classes of GUI. |
|  | Query Details section. |  |  | ✓ | Attribute of GUISearchQuery |
|  | Query errors |  |  | ✓ | Attribute of Error class |
|  | Query parameters |  |  | ✓ | Attributes of Query class |
|  | Radio button |  |  | ✓ | Attribute of GUISelectOperation class |
|  | Recover button |  |  | ✓ | Attribute of GUIPasswordRecovery class |
|  | Register button |  |  | ✓ | Attribute of GUIGuestWelcome Page class |
|  | Registration Information |  |  | ✓ | Attribute of GUIRegister class |
|  | Regular User Heading |  |  | ✓ | Attribute of Regular User page |
|  | Regular user’s account status |  |  | ✓ | Attribute of RegularUser class |
|  | Remove button |  |  | ✓ | Attribute of GUISelectPipelines class |
|  | Required field/s |  |  | ✓ | Attribute for different classes, that need required fields (i.e. GUIRegister) |
|  | Result |  |  | ✓ | Attribute of Visualization |
|  | Results row |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Results section |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Run button |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Save button |  |  | ✓ | Attribute of of GUIEdit PipelineParemeters |
|  | Search button |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Search Criteria |  |  | ✓ | Attribute GUISearchUsers |
|  | Search History element |  |  | ✓ | Attribute of GUIRegularNavigation class |
|  | Search Pipelines |  |  | ✓ | Attribute of GUISpecifyPipeline class |
|  | Search pipelines criteria |  |  | ✓ | Attribute of GUISpecifyPipeline class |
|  | Search services criteria |  |  | ✓ | Attribute of Error class |
|  | Search Services element |  |  | ✓ | Attribute GUIPrivilegedNavigation class |
|  | Search Pipelines element |  |  | ✓ | Attribute GUIPrivilegedNavigation class |
|  | Search Queries element |  |  | ✓ | Attribute GUIPrivilegedNavigation class |
|  | Search Users element |  |  | ✓ | Attribute GUIPrivilegedNavigation class |
|  | Service execution error |  |  | ✓ | Attribute of Error class |
|  | Service Statistics |  |  | ✓ | Attribute of Statistics class |
|  | Service timeout error |  |  | ✓ | Attribute of Error class |
|  | Service Type drop down list |  |  | ✓ | Attribute of GUISpecificError class |
|  | Services used |  |  | ✓ | Attribute of Pipeline class |
|  | Source Format dropdown list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Source Formats |  |  | ✓ | Attribute of Query class |
|  | Source Type drop down list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Start Date section |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Status, Status types, status of this service |  |  | ✓ | Attribute of RegularService class |
|  | Status drop down list |  |  | ✓ | Attribute of GUISpecifyService class |
|  | Supported abstraction drop down list |  |  | ✓ | Attribute of GUIEditMapper class |
|  | Suspended, status |  |  | ✓ | Attribute of RegularUser class |
|  | Syntax error |  |  | ✓ | Attribute of Error |
|  | Target Format drop down list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Target Format drop down list, target formats |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Target Type drop down list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Target Type drop down list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Target types |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | The system |  |  | ✓ | The whole system is not a class by itself. |
|  | Toggle button |  |  | ✓ | Attribute of GUISpecifyService class, and GUISearchUsers |
|  | Toolkit drop down list |  |  |  | Attribute of GUIEditTransformer class |
|  | Total number of malformed URI errors |  |  | ✓ | Attribute of Statistics class |
|  | Total number of pipeline input data errors |  |  | ✓ | Attribute of Statistics class |
|  | Total number of pipeline time outs |  |  | ✓ | Attribute of Statistics class |
|  | Total number of query syntax errors |  |  | ✓ | Attribute of Statistics class |
|  | Total number of service execution errors |  |  | ✓ | Attribute of Statistics class |
|  | Total number of service input data errors |  |  | ✓ | Attribute of Statistics class |
|  | Total number of service time outs |  |  | ✓ | Attribute of Statistics class |
|  | Total number of services registered |  |  | ✓ | Attribute of Statistics class |
|  | Total number of zero pipeline results errors |  |  | ✓ | Attribute of Statistics class |
|  | Transformer |  |  | ✓ | Attribute of Service class |
|  | URIs |  |  | ✓ | Attribute of Service class |
|  | URL |  |  | ✓ | Attribute of Service class |
|  | User account |  |  | ✓ | Attribute of Regular User class |
|  | Users’ pipeline execution histories |  |  | ✓ | Attribute of Statistics class |
|  | Values |  |  | ✓ | Attribute of GUIEditMapper class |
|  | View Arguments button |  |  | ✓ | Attribute of GUIViewServiceDetails class |
|  | View Details button |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Viewer Set |  |  | ✓ | Attribute of Query class |
|  | Viewer set dropdown list |  |  | ✓ | Attribute of GUISpecifyPipeline, GUISpecifyServices, GUISpecifyHistory, GUISpecifyQuery classes |
|  | Viewers |  |  | ✓ | Attribute of Query |
|  | Visko module installer script, module |  | ✓ |  | A possible attribute of Service class, still need to review. |
|  | VisKo’s web server |  |  | ✓ | Not relevant to our system. |
|  | Visualization Abstraction |  |  | ✓ | Attribute of Query class |
|  | Visualize element |  |  | ✓ | Attribute of GUIRegularHeading class |
|  | Error message |  |  | ✓ | General Error Message used for all errors [incorrect password, other errors, etc] |
|  | Regular User Page |  |  | ✓ | Broken down into small GUI classes in the system, therefore is not a class. |
|  | Query Statistics |  |  | ✓ | Attribute of Statistics class. |