## **Vector**

This class is meant to store and hold all information and logic centered around vectors. This includes information regarding and functionality around the nodes and log entries associated to the vector, the graph, different aspects of the vector itself, and lastly its relationships to other modules.

**Responsibilities**

· Knows all description information about the vector specific information

· Knows all log entries associated with this vector

· Knows which graph is used to represent this vector

· Handling all CRUD operations with vector description information

· Handling all CRUD operations with Log Entries associated to this Vector

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R1\_1** | Knows all description information regarding the specific vector |  |
| **R1\_2** | Knows all log entries associated with this vector | Log Entry (R2\_3), Log Entry Tab(R13\_2) |
| **R1\_3** | Knows which graph is used to represent this vector | Graph(R4\_5) |
| **R1\_4** | Handling all CRUD operations with vector description information |  |
| **R1\_5** | Handling all CRUD operations with Log Entries associated to this Vector | Log Entry(R2\_3) |

## **Log Entry**

This class focuses on encapsulating all information and logic around log entries. This covers all CRUD operations on that information as well as functionality around its usage and access specifications. This would then collaborate with other classes to generate its associations with Vectors and graphs( in the form of nodes)

**Responsibilities**

· Knowing descriptive data about the log entry

· Handle CRUD operations on all descriptive data about a log entry

· Handle associations to a vector for a log entry, collaborates with the Vector Class

· Handle marking this log entry as significant

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R2\_1** | Knowing all descriptive data on the Log Entry | Log Entry Tab(R13\_1) |
| **R2\_2** | Handle CRUD operations on Log Entry and its descriptive data |  |
| **R2\_3** | Handle associations to a vector for a log entry, | Vector (R1\_2), Log Entry Tab(R13\_2) |
| **R2\_4** | Handle marking this log entry as significant | Log Entry Tab(R13\_4) |

## **Node**

Node class contains significant events and are editable. Nodes can also not be significant events therefore can be removed from the Graph.

**Responsibilities**

· Associating of at least one graph.

· Handle Node attributes information (i.e. Node ID, Node Timestamp, Node Name etc...)

· Handle Node Visibility information (i.e. Node ID Visibility, Node Timestamp Visibility, Node Description Visibility etc...)

· Relationship between Nodes.

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R3\_1** | Associating of at least one graph. | Graph (R4\_3) |
| **R3\_2** | Handle Node attributes information (i.e. Node ID, Node Timestamp, Node Name etc...) | Log Entry(R2\_1) |
| **R3\_3** | Handle Node Visibility information (i.e. Node ID Visibility, Node Timestamp Visibility, Node Description Visibility etc...) | Icon(R6\_2) |
| **R3\_4** | Relationship between Nodes. | Graph (R4\_3) |

## **Graph**

This graph is composed of nodes that describe a significant event. This node will have information such as a note with additional details that it populated from the log event (e.g. timestamp, source, description.).

**Responsibilities**

· Exports table (i.e. PNG or JPG)

· Handles positions of Nodes.

· Handles connection of Nodes.

· Comprise of at least one Node.

· Knows which Vector its associated too

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R4\_1** | Exports table (i.e. PNG or JPG) | Vector View Tab (R14\_1) |
| **R4\_2** | Handles positions of Nodes. | Node (R3\_4) |
| **R4\_3** | Handles connection of Nodes. | Node (R3\_4) |
| **R4\_4** | Comprise of at least one Node. | Node (R3\_1) |
| **R4\_5** | Knows which vector is associated with. | Vector (R1\_3) |

## **Connector**

Model class that stores information about the relationship between nodes.

**Responsibilities**

· Stores the relationship between two nodes

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R5\_1** | Stores the relationship between two nodes | Node(R3\_4) |

## **Icon**

Icon is editable on the system and should appear on the Graph.

**Responsibilities**

· Holds the name of the Icon Name.

· Holds the File Path Information.

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R6\_1** | Holds the name of the Icon Name. | Node(R3\_2) |
| **R6\_2** | Holds the File Path Information. | Node(R3\_3) |

## **Event Configuration**

Model class that stores event configuration information to Event Configuration Tab in the GUI.

**Responsibilities**

· Stores event configuration information(i.e. Date, Time, Vectors, Lead, etc.)

· Checks for the proper 3 folders in root directory

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R7\_1** | Stores event configuration information(i.e. Date, Time, Vectors, Lead, etc.) | Vector(R1\_1)  Event Configuration Tab(R9\_1, R9\_2, R9\_3) |
| **R7\_2** | Checks for the proper 3 folders in root directory | Event Configuration Tab(R9\_2, R9\_3) |

## **Enforcement Action Report**

- Model class for all static information related to the enforcement action report.

**Responsibilities**

· Approve/ignore enforcement action reports

· Generate enforcement action reports when invalid logs are sent

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R8\_1** | Approving or ignoring of enforcement action report when ingesting logs | Ingestion R12\_2 |
| **R8\_2** | When an invalid log is imported an enforcement action report is generated detailing what is incorrect about the log. | 10. Ingestion (R10\_3) |

## **Vector DB**

Vector DB class will store all the related vector data that will be used in the workspace

**Responsibilities**

· Storing vector data

· Pushing VDB Changes

· Pulling VDB Changes

· Approving VDB Changes

· Commit Local Changes

· Store changes made in the vector DB

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R9\_1** | Storing vector data | Vector(**R1\_1**) |
| **R9\_2** | Pushing VDB Changes | Lead(**R16\_1**) |
| **R9\_3** | Pulling VDB Changes | Vector(**R1\_2**) |
| **R9\_4** | Approving VDB Changes | Lead Tab(**R16\_1**) |
| **R9\_5** | Commit Local Changes | Lead Tab(**R16\_3**) |
| **R9\_6** | Store changes made in the vector DB | Database |

## **Ingestion**

Model class that handles all information regarding the ingestion of log files into the system.

**Responsibilities**

· Cleanse incoming log files

· Validation of cleansed logs

· Checking for valid log entries

· Ingestion of audio logs

· Ingestion of video logs

· Ingestion of image logs

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R10\_1** | Cleanse incoming log files to user specifications | 12. Log Ingestion (R12\_1) |
| **R10\_2** | Validation of cleansed log files to ensure that the log file is valid | 12. Log Ingestion (R12\_1) |
| **R10\_3** | Ingestion of audio logs to transcribing tool | 12. Log Ingestion (R12\_1) |
| **R10\_4** | Ingestion of video logs to transcribing tool | 12. Log Ingestion (R12\_1) |
| **R10\_5** | Ingestion of image logs to OCR tool | 12. Log Ingestion (R12\_1) |

## **Event Configuration Tab**

View class that displays event configuration information to Event Configuration Tab in the GUI. This Class is not used to store any form of intelligence other than accessing/displaying information and collecting/sending information.

**Responsibilities**

· Displays lead analyst

· Displays event configuration information(i.e. Date, Time, Vectors,Root Directory, etc.)

· Collects event configuration information(i.e. Date, Time, Vectors,Root Directory, etc.)

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R11\_1** | Displays lead analyst | Event Configuration(R7\_1) |
| **R11\_2** | Displays event configuration information(i.e. Date, Time, Vectors,Root Directory, etc.) | Vector(R1\_1)  Event Configuration(R7\_1, R7\_2) |
| **R11\_3** | Collects event configuration information(i.e. Date, Time, Vectors,Root Directory, etc.) | Vector(R1\_1)  Event Configuration(R7\_1, R7\_2) |

## **Log Ingestion Tab**

- View class for all aspects regarding the UI for log ingestion.

**Responsibilities**

· Import logs

· Log validation

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R12\_1** | Import the logs from the directories through use of a button | 10. Ingestion R10\_1, R10\_2 |
| **R12\_2** | Validation of imported logs showing current imported logs and a progress bar | 10. Ingestion R10\_3 |

## **Log Entry Tab**

GUI class dedicated to displaying and collecting information from the user regarding the general list of log entries, filter/search functionality, and vector associations. This Class is not used to store any form of intelligence other than accessing/displaying information and collecting/sending information.

**Responsibilities**

· Display all information about Log Entries

· Send association updates to the Vectors/Log entries

· Filter/Sort/Search through log entries

· Send marked as significant updates to the Log entries

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R13\_1** | Display all information about Log Entires | Log Entry(R2\_1) |
| **R13\_2** | Send association updates to Vectors/Log Entries | Log Entry(R2\_3), Vector(R1\_2) |
| **R13\_3** | Filter/Sort/Search through Log entries |  |
| **R13\_4** | Send Marked as significant updates to Log entries | Log Entry(R2\_4) |

## **Vector View Tab**

View class that displays vector information to Vector View Tab in the GUI. This Class is not used to store any form of intelligence other than accessing/displaying information and collecting/sending information.

**Responsibilities**

· Display Vector Table view

· Display Vector Graph view

· Display Vector Graph relationship table

· Collect Vector Table information

· Collect Vector graph information

· Collect new node relationship information

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R14\_1** | Display Vector Table view | Vector(R1\_2) |
| **R14\_2** | Display Vector Graph view | Vector(R1\_3) |
| **R14\_3** | Display Vector Graph relationship table | Node(4\_3)  Connector(R5\_1) |
| **R14\_4** | Collect Vector Table information | Vector(R1\_2) |
| **R14\_5** | Collect Vector graph information | Vector(R1\_3) |
| **R14\_6** | Collect new node relationship information | Node(R4\_3)  Connector(R5\_1) |

## **Class History Tab**

History Tab class will display all changes made in the workspace so that users have the knowledge of what has changed.

### **Responsibilities**

· Display Changes made in the workspace

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R15\_1** | Display Changes made in the workspace | Vector DB(**R9\_3**) |

## **Class Lead Tab**

Lead Tab class is only available to the lead analyst, and it will allow the lead to approve/deny any changes made by the analyst.

### **Responsibilities**

· Approving changes made in vector DB

· Deny changes made in vector DB

· Display commits made my analyst waiting to be approve/deny

|  |  |  |
| --- | --- | --- |
| **Responsibilities** | **Responsibility Description** | **Collaborations** |
| **R16\_1** | Approving changes made in vector DB | Vector DB(**R9\_4**) |
| **R16\_2** | Deny changes made in vector DB | Vector DB (**R9\_4**) |
| **R16\_3** | Display commits made my analyst waiting to be approve/deny | Vector DB(**R9\_6**) |

## 