**Process Report**

Project: Eyal-Salman203

Process: Retrieval Process

Created by: Luciano

Date: 05-27-2020

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| 1 |  | **Phase:** | **Extract** |
| **Activity:** | **Divide features with LSI** |
| Description: | Use LSI to divide features and classes into common and variable partitions; |
| Retrieval Technique: | Latent Semantic Indexing |
| **Artifact:1** | **Input** | |
| **Name:** | **Objected-oriented Source Code** |
| Type | Development |
| Description: | Souce code of the argoUML |
| Extension: | .java |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-24-2020 by Luciano |
| **Artifact:2** | **Input** | |
| **Name:** | **Feature Description** |
| Type | Domain |
| Description: | Description of features of the argoUML system. |
| Extension: | .doc |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-24-2020 by Luciano |
| **Artifact:3** | **Output** | |
| **Name:** | **Common and variable partitions** |
| Type | Development |
| Description: | Classes that implement common and optional features |
| Extension: | .lsi |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| 2 |  | **Phase:** | **Extract** |
| **Activity:** | **Fragment variable partitions with FCA** |
| Description: | Fragment variable partitions into minimal disjoint sets using FCA |
| Retrieval Technique: | Formal Concept Analysis |
| **Artifact:1** | **Input** | |
| **Name:** | **Objected-oriented Source Code** |
| Type | Development |
| Description: | Souce code of the argoUML |
| Extension: | .java |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-24-2020 by Luciano |
| **Artifact:2** | **Input** | |
| **Name:** | **Feature Description** |
| Type | Domain |
| Description: | Description of features of the argoUML system. |
| Extension: | .doc |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-24-2020 by Luciano |
| **Artifact:3** | **Input** | |
| **Name:** | **Common and variable partitions** |
| Type | Development |
| Description: | Classes that implement common and optional features |
| Extension: | .lsi |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| **Artifact:4** | **Output** | |
| **Name:** | **Minimal disjoint sets** |
| Type | Development |
| Description: | Variable partitions are fragmented into minimal disjoint sets using FCA. |
| Extension: | .fca |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| 3 |  | **Phase:** | **Group** |
| **Activity:** | **Derive code-topics from common class partitions;** |
| Description: | Code-topics are derived based on their common class partitions; |
| Retrieval Technique: | Clustering |
| **Artifact:1** | **Input** | |
| **Name:** | **Common and variable partitions** |
| Type | Development |
| Description: | Classes that implement common and optional features |
| Extension: | .lsi |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| **Artifact:2** | **Input** | |
| **Name:** | **Minimal disjoint sets** |
| Type | Development |
| Description: | Variable partitions are fragmented into minimal disjoint sets using FCA. |
| Extension: | .fca |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| **Artifact:3** | **Output** | |
| **Name:** | **Code-topics** |
| Type | Development |
| Description: | Code-topics derived from common class partition and each minimal disjoint set of classes |
| Extension: | .topic |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| 4 |  | **Phase:** | **Create Feature Model** |
| **Activity:** | **Perform traceability links between features and code-topics;** |
| Description: | Analyzed and perform the traceability links between features and their code-topics; |
| Retrieval Technique: | Latent Semantic Indexing |
| **Artifact:1** | **Input** | |
| **Name:** | **Code-topics** |
| Type | Development |
| Description: | Code-topics derived from common class partition and each minimal disjoint set of classes |
| Extension: | .topic |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| **Artifact:2** | **Output** | |
| **Name:** | **Traceability links** |
| Type | Development |
| Description: | Traceability links between features and their possible corresponding code-topics |
| Extension: | .lsi |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| 5 |  | **Phase:** | **Create Feature Model** |
| **Activity:** | **Determine feature implementation** |
| Description: | determine which classes implement each feature. |
| Retrieval Technique: | Rule Based |
| **Artifact:1** | **Input** | |
| **Name:** | **Code-topics** |
| Type | Development |
| Description: | Code-topics derived from common class partition and each minimal disjoint set of classes |
| Extension: | .topic |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| **Artifact:2** | **Input** | |
| **Name:** | **Traceability links** |
| Type | Development |
| Description: | Traceability links between features and their possible corresponding code-topics |
| Extension: | .lsi |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |
| **Artifact:3** | **Output** | |
| **Name:** | **Decomposed code-topics** |
| Type | Development |
| Description: | Decomposed code-topic to its classes determining which classes that implement each feature. |
| Extension: | .topic |
| Link (url): | https://github.com/argouml-tigris-org/argouml |
| Last Update: | 05-27-2020 by Luciano |