**Process Report**

Project: Shatnawi2014

Process: Retrieval Process

Created by: Luciano Marchezan

Date: 07-24-2020

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| 1 |  | **Phase:** | **Extract** |
| **Activity:** | **Extract Component-based-architecture** |
| Description: | extract component-based architecture using ROMANTIC |
| Retrieval Technique: | Dependency Analysis |
| **Artifact:1** | **Input** | |
| **Name:** | **object-oriented source code** |
| Type | Development |
| Description: | Source code of the system |
| Extension: | na |
| Link (url): | na |
| Last Update: | 07-24-2020 by Luciano Marchezan |
| **Artifact:2** | **Output** | |
| **Name:** | **component architecture** |
| Type | Architecture |
| Description: | a component-based architecture recovered from the systems |
| Extension: | na |
| Link (url): | na |
| Last Update: | 07-24-2020 by Luciano Marchezan |
| 2 |  | **Phase:** | **Extract** |
| **Activity:** | **Identify component variants** |
| Description: | Identify component variants based on the identification of components providing similar functionalities |
| Retrieval Technique: | Dependency Analysis |
| **Artifact:1** | **Input** | |
| **Name:** | **component architecture** |
| Type | Architecture |
| Description: | a component-based architecture recovered from the systems |
| Extension: | na |
| Link (url): | na |
| Last Update: | 07-24-2020 by Luciano Marchezan |
| **Artifact:2** | **Output** | |
| **Name:** | **sets of component variants** |
| Type | Domain |
| Description: | a set of variants extracted from the components. |
| Extension: | na |
| Link (url): | na |
| Last Update: | 07-24-2020 by Luciano Marchezan |
| 3 |  | **Phase:** | **Categorize** |
| **Activity:** | **Analyze Commonality and Variability** |
| Description: | Identify configuration variability based on both the identification of core and optional components and links between these components |
| Retrieval Technique: | Formal Concept Analysis |
| **Artifact:1** | **Input** | |
| **Name:** | **sets of component variants** |
| Type | Domain |
| Description: | a set of variants extracted from the components. |
| Extension: | na |
| Link (url): | na |
| Last Update: | 07-24-2020 by Luciano Marchezan |
| **Artifact:2** | **Output** | |
| **Name:** | **concept lattice** |
| Type | Domain |
| Description: | A concept lattice of components |
| Extension: | .lattice |
| Link (url): | na |
| Last Update: | 07-24-2020 by Luciano Marchezan |
| 4 |  | **Phase:** | **Create Feature Model** |
| **Activity:** | **Identify Architecture Variability** |
| Description: | Capture the dependencies and constraints among components |
| Retrieval Technique: | Formal Concept Analysis |
| **Artifact:1** | **Input** | |
| **Name:** | **concept lattice** |
| Type | Domain |
| Description: | A concept lattice of components |
| Extension: | .lattice |
| Link (url): | na |
| Last Update: | 07-24-2020 by Luciano Marchezan |
| **Artifact:2** | **Output** | |
| **Name:** | **architecture variability;** |
| Type | Architecture |
| Description: | The Architectural Variability of the systems |
| Extension: | na |
| Link (url): | na |
| Last Update: | 07-24-2020 by Luciano Marchezan |