

Social Insight Data Mining Component

Detailed Design

Abstract

[This document serves as the official detailed design of work for the Social Insight Data Mining Component software system.]

Date: Tuesday, December 06, 2011

Version: 1.0

Ref: MSE_ST_SI_011

Table of Contents

1. INTRODUCTION	6
2. DETAILED DESIGN ELEMENTS	6
2.1. ELEMENT: FACADE	6
2.1.1. <i>Description</i>	6
2.1.2. <i>Responsibilities and Functionalities</i>	6
2.1.2.1 Protocol Translation	7
2.1.2.2 Mediation	7
2.1.2.3 Endpoint Discovery Flow	7
2.1.2.4 System-Wide Request Traceability	8
2.1.3. <i>Functional Dependencies</i>	8
2.1.4. <i>Data dependencies</i>	8
2.1.5. <i>Configuration dependencies</i>	9
2.1.6. <i>Error Translation</i>	9
2.1.7. <i>Javadoc and Class diagram</i>	9
2.1.8. <i>Package View</i>	10
2.2. ELEMENT: ADMIN	10
2.2.1. <i>Description</i>	10
2.2.2. <i>Responsibilities and Functionalities</i>	10
2.2.2.1 Log Server	10
2.2.2.2 Operational Log Querying	11
2.2.2.3 System Status	11
2.2.3. <i>Functional Dependencies</i>	12
2.2.4. <i>Data dependencies</i>	12
2.2.5. <i>Configuration dependencies</i>	12
2.2.6. <i>Javadoc and Class diagram</i>	12
2.2.7. <i>Allocation view</i>	12
2.3. ELEMENT: COMMONS	13
2.3.1. <i>Description</i>	13
2.3.2. <i>Responsibilities and Functionalities</i>	13
2.3.2.1 Logging API	13
2.3.2.2 Environmental Monitoring	13
2.3.2.3 Error Messages Translation	13
2.3.2.4 System Configurations	14
2.3.3. <i>Functional Dependencies</i>	14
2.3.4. <i>Data dependencies</i>	14
2.3.5. <i>Configuration dependencies</i>	14
2.3.6. <i>Javadoc and Class diagram</i>	14
2.3.7. <i>Allocation view</i>	15
2.4. ELEMENT: DATA MANAGER	15
2.4.1. <i>Responsibilities and Functionalities</i>	15

2.4.1.1	Internal Data Source (IDS) restore	16
2.4.1.2	External Data Source (IDS) update	16
2.4.1.3	Internal Data Source (IDS) rollback.....	17
2.4.1.4	Simulation Sessions	17
2.4.1.5	Executions results.....	19
2.4.1.6	Generic data access	19
2.4.2.	<i>Other parts dependencies.....</i>	20
2.4.3.	<i>Data Dependencies</i>	20
2.4.4.	<i>Configuration Dependencies.....</i>	20
2.4.5.	<i>Javadoc and Class Diagram</i>	20
2.4.6.	<i>Allocation view</i>	20
2.5.	ELEMENT: VA MANAGER	21
2.5.1.	<i>Responsibilities and Functionalities.....</i>	21
2.5.1.1	Algorithms Management	21
2.5.1.2	Algorithms Simulation	23
2.5.1.3	Models	25
2.5.2.	<i>Dependencies with other modules.....</i>	25
2.5.2.1	Operational Data.....	25
2.5.2.2	Data Access Objects	25
2.5.3.	<i>Data dependencies</i>	26
2.5.4.	<i>Configuration dependencies</i>	27
2.5.5.	<i>Javadoc and Class Diagram</i>	27
2.5.6.	<i>Allocation view</i>	27
2.6.	ELEMENT: ALGORITHMS	27
2.6.1.	<i>Description</i>	27
2.6.2.	<i>Responsibilities and Functionalities.....</i>	27
2.6.3.	<i>Dependencies</i>	29
2.6.4.	<i>Javadoc and Class Diagram</i>	29
2.6.5.	<i>Error Handling.....</i>	30
2.6.6.	<i>Package view.....</i>	30
2.7.	ELEMENT: DATA ACCESS OBJECT.....	31
2.7.1.	<i>Description</i>	31
2.7.2.	<i>Responsibilities and Functionalities.....</i>	31
2.7.2.1	Internal data source access	31
2.7.2.2	External data source access	31
2.7.2.3	Metadata model access	31
2.7.2.4	Operational and transactional log access.....	32
2.7.2.5	Communication protocols	32
2.7.3.	<i>Functional Dependencies</i>	32
2.7.4.	<i>Configuration dependencies</i>	32
2.7.5.	<i>Javadoc and Class diagram.....</i>	32
2.7.6.	<i>Package View</i>	33
3.	DATA MODEL SPECIFICATION.....	33

3.1. EXTERNAL DATA SOURCE	33
3.2. INTERNAL DATA SOURCE.....	33
3.3. MODEL METADATA.....	33
3.4. OPERATIONAL LOG	34
3.5. TRANSACTIONAL LOG.....	34
4. APPENDIX	34
4.1. JAVADOC.....	34

Modification history

Version	Date	Author	Description
0.1	18-05-2011	Rui Nelson Santos	Template definition
1.0	14-06-2011	Sociallitters	First version
1.1	16-06-2011	Pedro Faria	v1.1 final version

Acronyms

Acronym	Definition
SOAP	Simple Object Access Protocol
RMI	Remote Method Invocation
Javadoc	HTML Documentation for Java
RPC	Remote Procedure Call
JNDI	Java Naming Directory Interface
HTML	HyperText Markup Language
XML	Extensible Markup Language
JDBC	Java Database Connectivity

Document Dependencies

Reference	Document
Javadoc	A directory containing all the Javadoc for the project should accompany this document. The name of the directory name is pt.novabase.sidmc.reactor-0.0.1-SNAPSHOT-javadoc
Data model Design	<p>The following documents should accompany this document:</p> <ul style="list-style-type: none"> SIDMCExternalDataSource Data Model.docx SIDMCInternalDataSource Data Model.docx SIDMCModelMetadata Data Model.docx SIDMCOperationalLog Data Model.docx SIDMCTransactionalLog Data Model.docx