PROJECT MANUAL

Project: Service-Registry Team 4

Course: Software-Engineering

Class: TINF19C

Professor: Markus Rentschler, Christian Holder

Project manager: Goran Erdeljan

Team members: Daniel Baumann
Tim Diehl
Goran Erdeljan
Serdar Ilhan

Benedict Wetzel

Version: PHB 2.0, November 2020

Contents

1 Table of Revision

Table of Revision			
Version number	**Date**	**Comment**	**Author**

2 Project assignment

<table>
<tr><th colspan="2">Project assignment</th></tr>
<tr><td>Project Objective (Output):
Development of a Docker-Application, that provides an interface between the DNS-SD mechanism and the OI4-Service-Registry, enabling registration of services discovered using DNS-SD at the OI4-Service-Registry and can announce registered services using DNS-SD. Added to that an exemplary Docker-Application shall be developed, which showcases all implemented functionalities.</td><td>Non-Objectives:
The Service-Registry itself shall not be part of the project.</td></tr>
<tr><td colspan="2">Project Benefits (Outcome):
The to be added functionalities shall make it easier to discover and register services, which will improve the effectiveness of the Service-Registry.</td></tr>
<tr><td>Client: Markus Rentschler, Christian Holder</td><td>Project Manager: Goran Erdeljan</td></tr>
<tr><td>Team Members:
Daniel Baumann
Tim Diehl
Goran Erdeljan
Serdar Ilhan
Benedict Wetzel</td><td>Other involved people: -</td></tr>
<tr><td>Main Tasks:
Project files: CRS, SRS, SAS, …
Architectural Design
Implementation
Testing
User-Documentation</td><td>Milestones:
Project files finished
First Presentation
Architectural Design finished
Implementation done
Testing successful
Project Completion</td></tr>
<tr><td>Project-Start-Event: Project assignments in lecture</td><td>Project-Start-Date: 11.09.2020</td></tr>
<tr><td>Project-End-Event: Final Presentation</td><td>Project-End-Date:</td></tr>
</table>

3 Project Objectives Plan

Type of Objective	Project Objectives
Project Objective (Output):	Development of a Docker-Application, that provides an interface between the DNS-SD mechanism and the OI4-Service-Registry, enabling registration of services discovered using DNS-SD at the OI4-Service-Registry and can announce registered services using DNS-SD. Added to that an exemplary Docker-Application shall be developed, which showcases all implemented functionalities.
Sub-Objectives:	Project files and presentation: • CRS, SRS, SAS, BC and Project manual • First presentation • MODs, STP, STR • Final presentation Main Docker-Application • DNS-SD listener • Service-Registry listener • OI4-Conformity-Validator Exemplary Docker-Application: • Register itself at the Service-Registry using the OI4-Service-Registry • Announce itself using DNS-SD • Listing discovered Devices User-Documentation: • Explain all functionalities • Installation Guide
Project Benefits (Outcome):	The to be added functionalities shall make it easier to discover and register services, which will improve the effectiveness of the Service-Registry.

4 Project Context

Initial Situation
Services can be registered at the OI4-Service-Registry using the OI4-MessageBus. There is no DNS-SD functionality built in.

Temporal Project Context	
Pre-Project-Phase	**Post-Project-Phase**
• OI4-Service-Registry has been developed by the OI4-Alliance	-

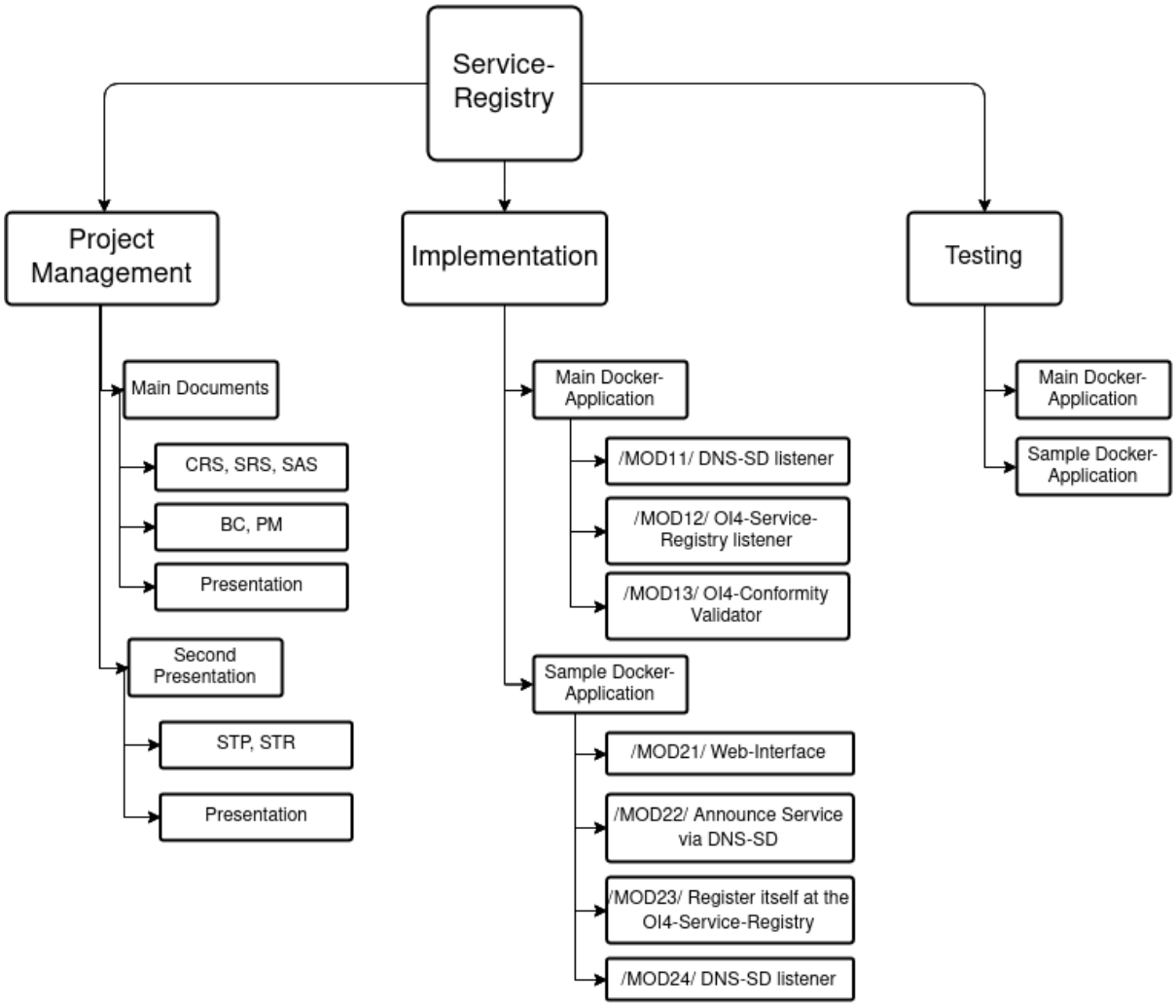
Factual Context	
Context	**Required Measures**
Dependence on OI4-Service-Registry	The implementation and documentation of the OI4-Service-Registry must be available to the team members

Social Context			
Social Group	**Chances**	**Risks**	**Measures**
Clients	Satisfied with the result	Changes in the requirements during development	As much communication as needed, for clear definitions of requirements
User	Uses the System	Does not understand the provided documentation or needs more documentation	Concentrate on making the Documentation as clear as possible

5 Project Organization

Project Organization		
Role	**Description**	**Names**
Project client	• Client	Markus Rentschler, Christian Holder
Project manager	• Project Manager	Goran Erdeljan
Team members	• Product Manager • System Architect • Test Manager • Technical Editor	Daniel Baumann, Tim Diehl, Serdar Ilhan, Benedict Wetzel

6 Work Breakdown Structure



7 Milestones

Milestone Plan			
PSP-Code	**Milestone-Name**	**PLAN-Date**	**ACTUAL-Date**
0.0	**Project Management Documents**		
0.1	CRS	10.11.2020	
0.2	SRS	10.11.2020	
0.3	SAS	10.11.2020	
0.4	BC	10.11.2020	
0.5	PM	10.11.2020	
1.0	**Implementation**		
1.1	Main Docker-Application		
1.1.1	/MOD11/ DNS-SD listener	01.02.2021	
1.1.2	/MOD12/ OI4-Service-Registry listener	01.02.2021	
1.1.3	/MOD13/ OI4-Conformity Validator	01.02.2021	
1.2	Sample Docker-Application		
1.2.1	/MOD21/ Web-Interface	01.03.2021	
1.2.2	/MOD22/ Announce Service via DNS-SD	01.03.2021	
1.2.3	/MOD23/ Register itself at the OI4-Service-Registry	01.03.2021	
1.2.4	/MOD24/ DNS-SD listener	01.03.2021	
2.0	**Testing**		
2.1	Main Docker-Application	01.04.2021	
2.2	Sample Docker-Application	01.04.2021	

8 GANTT-Chart

Nr.	Task Name		Nov 20	Dez 20	Jan 21	Feb 21	Mrz 21	Apr 21	Mai 21
1	**Project Management Documents**								
2	CRS	10.11.2020							
3	SRS	10.11.2020							
4	SAS	10.11.2020							
5	BC	10.11.2020							
6	PM	10.11.2020							
7	**Implementation**								
8	Main Docker-Application								
9	/MOD11/ DNS-SD listener	01.02.2021							
10	/MOD12/ OI4-Service-Registry listener	01.02.2021							
11	/MOD13/ OI4-Conformity Validator	01.02.2021							
12	Sample Docker-Application								
13	/MOD21/ Web-Interface	01.03.2021							
14	/MOD22/ Announce Service via DNS-SD	01.03.2021							
15	/MOD23/ Register itself at the OI4-Service-Registry	01.03.2021							
16	/MOD24/ DNS-SD listener	01.03.2021							
17	**Testing**								
18	Main Docker-Application	15.04.2021							
19	Sample Docker-Application	15.04.2021							

9 Project Risks

Risk-Analysis			
Risk	**Probability**	**Effects**	**Measures**
A teammember might leave the project	Low	Other teammembers have to do more work, project might not be finished on time or may not be of desired quality	Fair distribution of workloads, not being dependent on just one teammember, all project-data shall be accessible for everyone
Miscommunication with client	Medium	Final product might not satisfy client	Constant communication with client and presenting parts of the project during development
Financial risks	Low	Project might be more expensive than planned	Good planning and concentrating on main tasks first
Time risks	Low	Project might take longer than planned	Good planning and big buffers to manage the risk