

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
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1 Table of Revision

Table of Revision			
Version number	Date	Comment	Author
0v1	8.11.2020	created	Benedict Wetzel

2 Project assignment

Project assignment	
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.	Non-Objectives: The Service-Registry itself shall not be part of the project.
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.	
Client: Markus Rentschler, Christian Holder	Project Manager: Goran Erdeljan
Team Members: <ul style="list-style-type: none"> • Daniel Baumann • Tim Diehl • Goran Erdeljan • Serdar Ilhan • Benedict Wetzel 	Other involved people: -
Main Tasks: <ul style="list-style-type: none"> • Project files: CRS, SRS, SAS, ... • Architectural Design • Implementation • Testing • User-Documentation 	Milestones: <ul style="list-style-type: none"> • Project files finished • First Presentation • Architectural Design finished • Implementation done • Testing successful • Project Completion
Project-Start-Event: Project assignments in lecture	Project-Start-Date: 11.09.2020
Project-End-Event: Final Presentation	Project-End-Date:

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:	<p>Project files and presentation:</p> <ul style="list-style-type: none"> • CRS, SRS, SAS, BC and Project manual • First presentation • MODs, STP, STR • Final presentation <p>Main Docker-Application</p> <ul style="list-style-type: none"> • DNS-SD listener • Service-Registry listener • OI4-Conformity-Validator <p>Exemplary Docker-Application:</p> <ul style="list-style-type: none"> • Register itself at the Service-Registry using the OI4-Service-Registry • Announce itself using DNS-SD • Listing discovered Devices <p>User-Documentation:</p> <ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • OI4-Service-Registry has been developed by the OI4-Alliance 	-

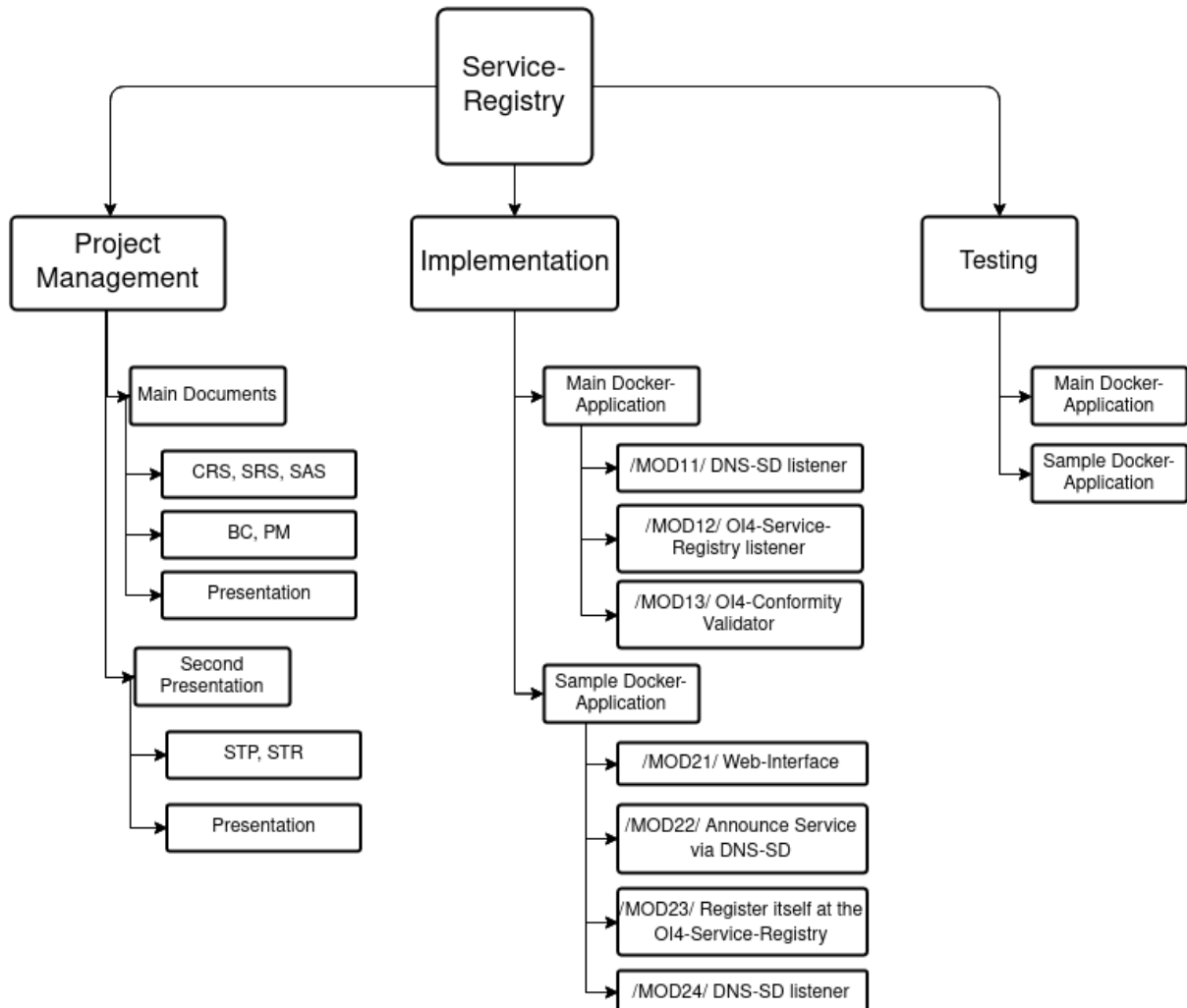
Factual Context	
Context	Required Measures
Dependence on OI4-Service-Registry	The implementation and documentation of the OI4-Service-Registry must be available to the team members

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	<ul style="list-style-type: none"> Client 	Markus Rentschler, Christian Holder
Project manager	<ul style="list-style-type: none"> Project Manager 	Goran Erdeljan
Team members	<ul style="list-style-type: none"> 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