

Business Case

(TINF19C, SWE I Practise project 2020/2021)

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Project: Service-Registry

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1. Propose and Scope

The goal of the project is to develop an application for an already existing Service-Registry that allows to use the DNS-SD mechanism to discover Services that aren't already known to the Service Registry. The application should also make it possible to announce the already known Services via DNS-SD in the Network. Additionally, the new interface must be implemented and integrated into an Example project on Linux. The developed applications shall be made publicly available in form of an open-source project.

Since the already existing service registry is to be made with further functionality-related decisions, the effort required for these must be estimated.

2. What is the usage of the Business Case?

The functionality of a business case is to get an overview of the cost amount and to analyze possible risks and their impact on the upcoming project. The results of this analysis will show if the upcoming project is profitable and consequently whether the project-conditions should be implemented.

3. Expected working hours

Each member of the Service-Registry-Project has 180 hours available to reach the goal. Since each team member has a different work area, the time invested to the respective category may differ.

In the following you can see the rough time distribution:

	Goran Erdeljan (Project Manager)	Tim Diehl (Product Manager)	Benedict Wetzel (System Architect)	Serdar Ilhan (Test Manager)	Daniel Baumann (Technical Editor)
Analysis	15	15	15	15	15
Draft	25	25	25	25	25
Documentation	30	35	25	25	35
Programming	30	30	35	30	25
Testing	25	30	30	35	30
Meetings	25	25	25	25	25
GitHub management	5	10	15	15	15
Project management	15	0	0	0	0
Presentation	10	10	10	10	10
Total	180	180	180	180	180

Table 1: Expected working hours for each team member

4. Gantt-Chart for working periods

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							

5. Cost Calculation

Due to the Corona pandemic, each team member will be working in home office which means there is no rent for an office to pay. However, it is important that all team members are accessible via the Internet for meetings and communication in general. This means that the additional costs are about 150 euros for Internet access. The costs for the server of the service registry are about 150 Euros monthly. In special cases, it could be higher. The costs of the team members and other work packages are shown below. In addition, all team members must be technically equipped, which means that they have computers in their home in addition to Internet access. For good technical equipment you must calculate around 700 Euros per team member, so a total of 3500 Euros.

	Costs (in €)
Analysis	3.495,00
Draft	5.825,00
Programming	7.170,00
Testing	7.160,00
Documentation	7.155,00
Project management	11.675,00
Total	42.480,00

Table 2: Costs for Project

	Costs (€ / hour)
Project Manager	50,00
Product Manager	45,00
System Architect	48,00
Test Manager	48,00
Technical Editor	42,00

Table 3: Costs for Salary

	Cost (€ / member)	Duration (in months)	Total Cost (in €)
Server Costs	150,00	6	4.500,00
Additional Costs	150,00	6	4.500,00
Technical Equipment	700,00		3.500,00
Total			12.500,00

Table 4: Fixed Costs

The total cost for the project is sum for the fixed costs (**12.500,00€**) and the costs for the project itself (**42.480,00 €**). The sum is therefore **54.980,00 €**.

6. Offer price

The following offer results from the sum of the total costs and the expected profit after completion of the project. The expected profit is 30%.

	Amount (in €)
Total cost	54.980,00
Expected win (30%)	16.494,00
Offer price	71.474,00

Table 5: Offer price