**Business Case**

(TINF20C, SWE I Practice project 2021/2022)

Project: OMLOX als PC-Dienst

Customer: Rentschler & Holder

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Supplier: **Team 3:**

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| 1.0 | 05.11.2021 | Juliette Hild | Document completed for the 3rd semester |
| 1.1 | 04.05.2022 | Juliette Hild | Document revised and reviewed for final submission. |

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# Purpose and scope

The goal of the project is the development of an OMLOX-Service for the transmission of the geographical and possibly postal position of the PC to an OMLOX hub. The service shall communicate using the OMLOX REST API or WebSocket’s and run-on Windows. In addition, the service shall provide the function to query the position of other devices via the OMLOX hub.

The purpose of the Omlox PC-Service is to ease tracking technology on PC-devices and to create a convenient and easy-to-use Omlox extension for the PC. The service communicates with the Omlox Hub by using the REST-API. It allows for tracking the used PC-device as well as tracking other devices registered in the Omlox Hub from the currently used PC-device.

Setting up the service must be able in a user-friendly way. Therefore the target audience of the project is everyone who need a unified interface for diverse geographic localization systems.

# Reasons for creating a BC

A business plan should be prepared in advance in order to be clear about all the facts of the project. For example, the risks that may occur during the project. Or the costs that will be incurred for the individual project columns but also in total for the customer. Through the business case it is possible for the customer to get an insight into the project and its structure. In this way, misunderstandings can be discussed with the stakeholders and eliminated. Furthermore, the business case enables the visualization of the team members and their explicit tasks. In this way, it can be decided in advance who will contribute how many hours and for what salary to the project.

# Expected benefits

|  |  |
| --- | --- |
| **Benefits** | **Justification/Measurement** |
| **Cost reduction/**  **Efficiency increase** | OMLOX allows the combination of industrial software and hardware solutions in one common ecosystem. |
| **Quality increase** | OMLOX also ensures that networks function smoothly and interoperably. This allows companies to easily network applications, such as production control systems, asset tracking, and navigation. |
| **Standardization** | The OMLOX Hub is a central interface that establishes communication between various devices. As different technologies are used in different departments, it also enables easy interaction across multiple locating technologies such as RFID, 5G, BLE, WI-FI, and GPS. |

*Table 1: Qualitative and quantitative project benefits*

# Expected Restrictions

It may happen that individual team members will not always find time for the project. Likewise, time spent abroad can prevent a good exchange. Furthermore, cases of illness or dropping out of studies, falls into this category. The only measure we can take is to communicate early on any absence of a team member.

# Time frame

The project has a timeframe of 10.09.2021 - 30.05.2022, with no further work in December, January, and February due to an internal company T2000 project.

The first half of the project will be spent looking at the current state of the project and analyzing it for bugs and possible changes. This will then include developing a new concept for usability and developing a prototype to present to the customer to get their approval and thus approval of the specifications.

The second half will use the results of the first half to then also implement the concepts and prototypes. After this is done, the new version of the program must of course be thoroughly tested before it is handed back to the customer.

Detailed lists of tasks and time required to complete them by person:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Juliette Hild (PL) | Marcel König (PM) | Eric Höfert (SA) | Aaron Kupries (TM) | Julia Bai (TR) | Samir Ahmetovic (LE) | Aaron Weis (LE) |
| Documents | 40 | 40 | 60 | 40 | 60 | 20 | 20 |
| Analysis | 10 | 30 | 30 | 10 | 10 | 0 | 0 |
| Design | 0 | 0 | 0 | 0 | 0 | 20 | 20 |
| Coding | 0 | 0 | 0 | 0 | 0 | 50 | 50 |
| Tests | 0 | 0 | 0 | 40 | 0 | 0 | 0 |
| Meetings | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Customer exchange | 20 | 20 | 0 | 0 | 30 | 0 | 0 |
| Project management | 40 | 0 | 0 | 0 | 0 | 0 | 0 |
| GitHub Organization | 10 | 10 | 10 | 10 | 20 | 10 | 10 |
| Presentation | 50 | 30 | 30 | 20 | 30 | 50 | 30 |
| Total (hours) | 190 | 150 | 150 | 160 | 170 | 190 | 150 |

*Table 2: Project plan*

# Costs

Here you can find a cost calculation for our project "OMLOX as PC-Service", as well as our final offer.

The costs are divided into following work packages:

* **Analysis:** Finding out the current state of the project and finding improvement possibilities, which can then be presented to the customer with the help of a prototype.
* **Design:** The design of a new GUI, first a concept and then a prototype that meets the customer's requirement.
* **Coding**: The implementation of the prototype and other items specified in the requirements specification.
* **Testing:** After all points in the requirements specification and the prototype have been implemented, it must be checked that any bugs or limitations in functionality have arisen as a result of changes to the program. This can only be ensured by thorough testing.
* **Project management:** Since limited resources are available, the team is required to use the resources as efficiently as possible. Without a concept, planning, communication and regular meetings, this cannot be guaranteed.
* **Documents, Meetings, GitHub organization** and **presentation**, are not directly work packages, but does also require time and are therefore also cost we have to calculate.

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| --- | --- | --- |
| **Role** | **Costs after Bachelor** | **Real Costs** |
| Project manager (PL) | 124€ Hourly Wage | 62€ Hourly Wage |
| Product manager (PM) | 102€ Hourly Wage | 51€ Hourly Wage |
| System architect (SA) | 90€ Hourly Wage | 45€ Hourly Wage |
| Developers (LE) | 77€ Hourly Wage | 39€ Hourly Wage |
| Test manager (TM) | 88€ Hourly Wage | 44€ Hourly Wage |
| Technical Editor (TR) | 84€ Hourly Wage | 42€ Hourly Wage |

|  |  |
| --- | --- |
| **Work packages** | **Costs** |
| Analysis | 4.360 € |
| Design | 1.540 € |
| Coding | 3.850 € |
| Test | 1.760 € |
| Project management | 2.510 € |
| Documents | 13.040 € |
| Meetings | 6.440 € |
| GitHub organization | 3.520 € |
| Presentation | 13.760 € |
| **Total** | **50.780 €** |

# Offer

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| --- | --- |
| Costs | 50.780 € |
| + Profit (30%) | 15.234 € |
| **Offer amount** | **66.014 €** |

The real costs for analysis, design, coding, tests, project management, documents, meetings, GitHub organization and preparation for the presentation is 50.780 €With a profit of 30% then result in the offer amount of 66.014 €