Project Name

Study Project

Module Project Management

at Hof University of Applied Sciences

Department of Computer Science

Software Engineering for Industrial Applications

Submitted to:

Submitted by:

Team Member 1

Team Member 2

Team Member 3

Team Member 4

Team Member 5

Prof. Dr. Matthias Meitner

Alfons-Goppel-Platz 1

95028 Hof

Germany

Hof, January 26, 2025

**Content**

[1. Project & Project Goals 3](#_Toc127721373)

[1.1. Project Description 3](#_Toc127721374)

[1.2. Goal Description 4](#_Toc127721375)

[2. Project Context and Stakeholders 6](#_Toc127721376)

[2.1. Project Context 6](#_Toc127721377)

[2.2. Stakeholders 6](#_Toc127721378)

[3. Risk Management 7](#_Toc127721379)

[3.1. Identification & Description of Risks 7](#_Toc127721380)

[3.2. Quantitative Evaluation of Risks and Risk Management Plan 7](#_Toc127721381)

[4. Project Organization 9](#_Toc127721382)

[4.1. Organizational Structure of the Project 9](#_Toc127721383)

[4.2. Communication Planning 9](#_Toc127721384)

[5. Phase Plan 10](#_Toc127721385)

[5.1. Description of Project Phases and Milestones 10](#_Toc127721386)

[5.2. Graphical Representation of the Project Phases 10](#_Toc127721387)

[6. Project Structure Plan (PSP) 11](#_Toc127721388)

[6.1. Form and Coding of the PSP 11](#_Toc127721389)

[6.2. Work Package Descriptions 12](#_Toc127721390)

[7. Schedule 13](#_Toc127721391)

[7.1. Activity List 13](#_Toc127721392)

[7.2. Gantt Chart 13](#_Toc127721393)

[8. Resource and Cost Planning 14](#_Toc127721394)

[8.1. Resource Demand 14](#_Toc127721395)

[8.2. Cost Planning 14](#_Toc127721396)

# Project & Project Goals

Todo: Choose a project topic! The project must not be an IT project (some connection to IT is allowed).

Todo: Describe briefly: Who is carrying out the project? Who is the customer?

# Project Description

Todo: Write a short description of your project!

**The Project Charter**

Todo: Fill in the project charter!

Hint: One quality feature is that the project charter is described in a way that is easy to understand – even for a non-expert.

Hint: Show material costs and personnel (human resources) costs; at the end the information must be consistent with the cost planning.

Hint: The project charter itself should not be too long, so work in keywords!

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PROJECT CHARTER** | | | | |
| **Project name** |  | **Project ID** | |  |
| **Client** |  | | | |
| **Project manager** |  | | | |
| **Business case** |  | | | |
| **Main goal** |  | | | |
| **Important stakeholders** |  | | | |
| **Other team members  and their roles** |  | | | |
| **Risks** |  | | | |
| **Total project budget** |  | | | |
| **Costs** | Human Resources  Internal:  External: | | Material: | |
| **Time frame** | Start: | | Finish: | |
| **Important milestones** |  | | | |

Table 1: Project charter

# Goal Description

Todo: Fill in the list of project goals!

Hint: Take special care here to formulate measurable acceptance criteria for each goal!

Hint: You should have at least 10 project goals.

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Goal** | **Acceptance criteria** | **Category „must“ „should“ „can“** |
| **Scope** |  |  |  |
| **Time** |  |  |  |
| **Cost** |  |  |  |
| **Social** |  |  |  |

Table 2: List of goals

Todo: Briefly describe what the non-goals of the project are/were in order to be able to delimit the project even better!

**Interfaces between different goals**

Hint: Project work is goal-oriented work. Due to the fact that a project has several different stakeholders, it can be assumed that there are also different goals. The goals of the stakeholders can be neutral, complementary or in competition/contradiction with each other. Conflicting goal relationships must be avoided for a coherent goal hierarchy.

Todo: Create a goal relationship matrix!

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Goals | | **LZ1** | | **LZ2** | **LZ3** | | **LZ4** | | **TZ1** | | **TZ2** | | **TZ3** | | **KZ1** | | **KZ2** | | **KZ3** | | **SZ1** | |
| **LZ1** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **LZ2** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **LZ3** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **LZ4** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **TZ1** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **TZ2** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **TZ3** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **KZ1** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **KZ2** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **KZ3** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
| **SZ1** | |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |
|  |  | |  | | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  |  | | Goal neutrality | | | | |  | |  | |  | |  | |  | |  | |  | |  |
|  |  | | Goal complementarity | | | | |  | |  | |  | |  | |  | |  | |  | |  |
|  |  | | Goal competition | | | | |  | |  | |  | |  | |  | |  | |  | |  |

Todo: Describe at least five identified relationships in the project as structured text!

# Project Context and Stakeholders

# Project Context

Todo: Fill in the table of project context factors (social, political, legal, technological etc.)!

Hint: The first indications of risks may appear among the “other aspects”. These must be included again later in the chapter "Risk Management" and also later in the description of the work packages.

**Context Factors**

|  |  |  |
| --- | --- | --- |
|  | **Social** | **Other aspects** |
| **Internal** | 1. … 2. … | 1. … 2. … |
| **External** | 1. … 2. … | 1. … 2. … |

Table 3: Context factors

**Description of other aspects**

Todo: Describe at least 2 other aspects in more detail by filling in the following table.

|  |  |  |  |
| --- | --- | --- | --- |
| **Nr.** | **Name** | **Description** | **Impact on the project** |
| 1 |  |  |  |
| 2 |  |  |  |

Table 4: Other aspects

# Stakeholders

Todo: Fill in the table of stakeholders!

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Nr.** | **Stakeholder** | **Expectations of the Stakeholder** | **Conflict potential (high/low)** | **Power (high/low)** | **Actions to be taken** |
| 1 |  |  |  |  |  |
| 2 |  |  |  |  |  |

Table 5: Stakeholders

Todo: Create a stakeholder matrix!

# Risk Management

# Identification & Description of Risks

Todo: Fill in the risk list!

Hint: Risks must be consistent to those in the project charter.

|  |  |  |  |
| --- | --- | --- | --- |
| **Nr.** | **Risk** | **Risk category** | **Risk description** |
| 1 |  | e.g. ecological, financial, schedule |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |

Table 6: Risk list

# Quantitative Evaluation of Risks and Risk Management Plan

Todo: Create a risk portfolio!

Todo: Fill in the three tables about risk management!

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Risk Evaluation before Risk Management Plan** | | | |
| **Nr.** | **Description of Risk** | **Probability in %** | **Threat 1 in Euro** | **Risk Value 1**  **in Euro** |
| 1 |  | 20 | 16000 | 3200 |
| 2 |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table 7: Risk evaluation before risk management plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Risk Management Plan** | | | |
| **Nr.** | **Strategy** | **Action** | **Costs** | **Responsible** |
| 1a | preventive |  | 2000 |  |
| 1b | corrective |  | 500 |  |
| 2 |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table 8: Risk management plan

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Risk Evaluation after Risk Management Plan** | | | |
| **Nr.** | **Final Risk** | **Probability in %** | **Threat 2 in Euro** | **Risk Value 2**  **in Euro** |
| 1a |  | 10 | 16000 | 1600 |
| 1b |  | 20 | 10000 | 2000 |
| 2 |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table 9: Risk evaluation after risk management plan

Todo: Which of the identified actions do you want to implement and which you would refrain from implementing? Justify your decision!

Todo: Calculate the risk surcharge for the project! This information is needed in chapter 8 for the calculation of the total project budget.

# Project Organization

# Organizational Structure of the Project

Todo: Provide a list of all project team members and their respective project role!

**Role Descriptions**

Todo: Fill in the table with the role descriptions!

|  |  |
| --- | --- |
| **Role in the project** | **Tasks** |
| Steering committee |  |
| Project manager |  |
| Project team member |  |
| … |  |

Table 10: Role descriptions

# Communication Planning

Todo: Fill in the communication matrix!

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sender** | **Receiver** | **How often** | **Kind of communication** | **Content** |
| P1 | P2 |  | e.g. newsletter |  |
| P3 | P4 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table 11: Communication matrix

# Phase Plan

# Description of Project Phases and Milestones

Todo: Fill in the list of project phases!

|  |  |  |
| --- | --- | --- |
| **Phase name** | **Duration** | **Description of the phase  (activities & outcome)** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Table 12: Project phases

Todo: Fill in the table of milestones!

|  |  |  |
| --- | --- | --- |
| **Milestone** | **Date** | **Result reached at the milestone** |
| M10 | Start |  |
| M20 |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Table 13: Milestones

Hint: Make sure that the milestone list corresponds with the milestones in the project charter. This table may contain more milestones than the project charter.

# Graphical Representation of the Project Phases

Todo: Give a graphical representation of your phase plan!

# Project Structure Plan (PSP)

# Form and Coding of the PSP

Todo: Which kind of PSP did you use? Justify your decision!

Todo: Give a graphical representation of your PSP!

**Project ID (from project charter)**

1100  
Insert text here

1500

1200

1300

1600

1700

1110  
xxx

1230

1220

1210

1120  
yyy

1140

1130  
zzz

1150

1320

1310

1510

1530

1520

1610

1620

1630

1240

1400

1410

1420

1430

Project

Subtask

Work Package Arbeitspaket

1720

1710

1730

Figure 1: Graphical structure of the PSP

# Work Package Descriptions

Todo: Write at least four work package descriptions using the form below!

|  |  |  |  |
| --- | --- | --- | --- |
| **Work Package Description Form** | | | |
| Date: | Version: | WP Nr.: | Project: |
| Project phase |  | | |
| WP Owner |  | | |
| Result(s) |  | | |
| Activities |  | | |
| Pre-requirements |  | | |
| Risks |  | | |
| Estimated costs |  | | |
| Workload |  | | |
| Progress  measurement | For example, using the milestone method:  30% done when xy is reached  50% done when yz is reached | | |
| Start |  | | |
| Finish |  | | |
| Project team  members involved |  | | |

Table 14: Work package description form

# Schedule

# Activity List

Todo: Fill in the table with all activities & milestones (milestones have a duration of 0)!

| **Code** | **Activity / Milestones** | **Duration** | **Predecessor Code** | **Logical relationship between activities** |
| --- | --- | --- | --- | --- |
|
| M10 | Milestone 10 | 0 |  |  |
| M11 | Activity 1 |  |  |  |
| M12 | Activity 2 |  | M11 | FS |
| M20 | Milestone 20 | 0 |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Table 15: Activity list

# Gantt Chart

Todo: Create a Gantt chart consistent to your list of activities!

Todo: Determine the critical path!

Hint: To create the Gantt chart you can use e.g. spreadsheet programs like Excel or project management software like ProjectLibre.

# Resource and Cost Planning

# Resource Demand

Todo: Fill in the resource table!

Hint: In case of human resources, the description should include a reference to the necessary qualification of that person.

|  |  |  |  |
| --- | --- | --- | --- |
| **Category of resource** | **Type of resource** | **Description of resource** | **Quantity needed** |
| Human resource | Programmer |  |  |
| Material |  |  |  |
| Machines |  |  |  |
| Tools |  |  |  |
| Parts from suppliers |  |  |  |

Table 16: Resources

# Cost Planning

Todo: Fill in the table of resource costs!

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Nr.** | **Resource** | **Type of resource** | **Quantity (hours or pieces)** | **Costs per unit** | **Total costs** |
|  |  |  |  |  |  |

Table 17: Resource Costs

Todo: Calculate the total project costs!

Hint: In addition to the resource costs, the total project budget also includes the risk surcharge. The risk surcharge was calculated in chapter 3.2!