Zürcher Hochschule
für Angewandte Wissenschaften

School of
Management and Law

Cross-Module Case Study for the ITPM, WENG, and INFOM Modules

From the Initiative to the Perspective.

Crossing Borders.

Degree Program: BSc in Business Information Technology

Modules: IT Project Management / Web Engineering / Information Management

Module Instructors: Andri Färber and Dr. Brigitte Bailer (ITPM), Max Meisterhans (WENG), Dr. Mike Krey (INFOM)

Why a Joint Case Study?

A joint case study has been developed for the IT Project Management (ITPM), Web Engineering (WENG), and Information Management (INFOM) modules. The aim of this case study is that you can work on an interesting, comprehensive case which includes knowledge areas from all three modules. The contents of the three modules are then applied using an ongoing example. By connecting the three modules, you not only plan the first version of a prototype of a web application at the end of the semester (in ITPM) but also implement it (in WENG and INFOM). The cross-module case study is described in this document and applies to all three modules.

Performance Assessments

In each of the three modules, you will work towards performance assessments. The performance assessments are **module-specific** but always **based on the current case study**.

The performance assessments for the three modules are coordinated and serve as inputs for each other. For example, Performance Assessment 1 in ITPM, functions, among other things, as input for the performance assessments in WENG and/or INFOM. The performance assessments are all evaluated independently of each other.

Detailed information on the respective performance assessments can be found separately (one document per module). Always keep the case study described below in mind when working towards your performance assessment!

Same groups in ITPM, WENG, and INFOM

The case study performance assessments are worked on by groups of four students. The groups are formed in ITPM and remain the same for WENG and INFOM.

For the case study, select an existing company to which you can adapt your work. Please note that this work is done *without* the involvement of the relevant company, i.e., you make assumptions where necessary.

Enter the final group details as well as the selected company (incl. industrial sector) in the corresponding Excel document on Moodle (ITPM). The deadline for group and company selection is **Sunday of the first week of the semester (24 February 2019, 11.55 pm).**

The groups will then be published on Moodle (all three modules) including the group number.

Note for groups with plans for an own idea of a web application

Decide on an idea you want to develop.

Discuss the idea with Max Meisterhans in WENG regarding feasibility.

If the plan is realistic, send a short description of the idea to all instructors by **Thursday, 28 February 2019, 11.55 pm**: leik@zhaw.ch, gmue@zhaw.ch, bude@zhaw.ch, meix@zhaw.ch, krey@zhaw.ch

Please also enter the group details in the list on Moodle by 23:55 on Sunday, 24 February 2019 (end of the first week of the semester). If you have not yet decided whether to implement your own idea, add a note "own web application" in the list.

Case Study "Management Cockpit"

The CEO of the company where you currently work in the IT department approaches your team with a request to develop a management cockpit to provide key performance indicators (KPI). A management cockpit - also known as a dashboard - helps to present relevant information and the key performance figures of a company to decision-makers in an easy-to-read format. For the development of the management cockpit, you should also take charge of the management of the project.

The management cockpit is required for the following reasons: The company is currently implementing an ERP system based on a SQL-based database. Great importance is attached to a suitable data model. Up to now, more emphasis has been placed on the generation and accuracy of financial figures, as these addressed the most pressing accounting requirements. However, to manage the company strategically and be able to compete in the future, decision-makers need a management cockpit to analyze the current situation. The management cockpit will also be used to track trends and generate leading indicators, such as an early warning system.

Your CEO has already seen the type of management cockpit he has in mind, and he likes the concept behind it. He can imagine his dashboard in a similar format and therefore briefly describes what he wants in a kick-off session.

Using different displays, the CEO needs to view the most important key figures over time, as well as other relevant facts. This will enable him to monitor trends, i.e., how KPIs are developing and on which (business) areas he would like to focus. “Sales” is an essential area for him. The management cockpit should make it possible to display precise sales figures by product category or individual product group. He also needs an overview of incoming orders from different customers and/or customer groups. Together with the sales team, he could, for example, analyze whether a product is more likely to be "on the up" or whether it should be slowly replaced on the basis of defined threshold values. By filtering results, he should also be able to generate more- or less-detailed statements. A graphical representation would make it easier for him to read the key figures, especially with regard to target vs. actual comparisons.

Your CEO is also interested in early warning indicators in addition to the usual financial figures. These indicate whether a business activity is successful or not and help to identify potential risks and threats before they occur and become genuinely detrimental. An example of an early warning indicator is that of incoming orders (in contrast to realized turnover, which in some industrial sectors is only visible through the books at a much later date). Think about and identify which early warning indicators are necessary for your company.

The management cockpit should be developed in such a way that it can be upgraded (e.g., to include further key figures/graphics). In your initial prototype, you should be able to display at least four key figures.

Notes regarding the minimum requirements for the performance assessments are described in the following box (Figure 1). The detailed task including minimum requirements will be published again for the respective modules.

Choice of Company

The choice of company for this exercise is entirely up to you. Your task is to align the content of your management cockpit with that company or industry. Therefore, think about and identify industry-specific key figures.

Technical Requirements

1. Model requirements/complexity of your data model (Information Management):
   - Use of multiple entities including attributes and relationships per entity
   - Exact requirements: See task descriptions for the performance assessments in INFOM.
2. Rest API (Information Management and Web Engineering):
   - Endpoints for the entities
   - Basic functions: create, read, update, and delete (CRUD)
   - Exact requirements: See task descriptions for the performance assessments in INFOM and WENG.
3. Interface (Web Engineering and IT Project Management):
   - Dashboard for the presentation of key figures
   - Use of suitable indicators, ideally early warning indicators
   - Presentation of key figures
   - Exact requirements: See task descriptions for the performance assessments in WENG and ITPM.

Figure 1: Minimum requirements for performance assessments

Note for groups with plans for an own idea of a web application

When implementing an own idea, you should also orientate yourself regarding the complexity of the solution mentioned in Figure 1, as well as other technical specifications.

The solution of your group depends on the idea and should be coordinated with the teachers of the modules in terms of complexity. Max Meisterhans will review your idea and give you feedback if it is not sufficiently complex or unnecessarily so.