

Personal Development Plan

Software Factory Group 1

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1 Introduction

This document defines the development of personal skills during the Software Factory (SoFa) module. During this module some learning goals should be met which contributes to the final skills of the Informatics study. Section 2 provides an overview over the current skill level (see table 2) according to the HBO-I matrix as defined in „HBO-I Domain Description Bachelor of ICT“.

The next section deals with the target skill level (see table 3) and how this level will be accomplished. The concrete improvements are marked in red.

The third section explains how the target skills will be reached in detail. It defines how the progress will be measured and when at which point the target will be reached.

As part of the learning goals, a topic has to researched. This research topic will be described in section 5.

1.1 Roles during the Project

During the project, I have to fulfill some roles inside the team. These roles are described here:

DevOps Engineer As a DevOps Engineer I have to create a test plan for the software artifacts, setup continuous integration services for the software components and - if supported by the customer - setup a continuous delivery or deployment pipeline, which automates the roll out of the release after each sprint.

Software Developer As a Software Developer I have to implement certain software functions as defined in the product backlog. I will be part of a team of developer who work together to produce a useful, running and well tested product.

1.2 Learning Goals

The learning goals of the module Software Factory (SoFa) as defined in the module description are:

LG1 Show professional behavior in a project with a real customer (e.g. communication, collaboration, problem orientation and effectiveness, criteria-based decision making, systematic and well-structured process)

LG2 Fulfill a function relevant for a development project (e.g. project manager, scrum master, quality manager, configuration manager, software architect, software developer – other functions need to be approved the group’s coach)

LG3 Define a research topic relevant to the project, do the research, report on it and care for adequate application of the results in the project.

LG4 Deliver a relevant contribution to the project (next to his/her function and research topic) in three activities (of Manage, Analyse, Advice, Design and Realise) on any architectural layer (User Interaction, Business Processes, Infrastructure, Software, Hardware Interfacing)

LG5 Work together (communication, systematic and well-structured process).

LG6 Deliver results relevant to the customer and of adequate quality.

Table 1: Learning Goals according to the Module Description

2 Current Skill Level

The following table describes the current skill level.

	Manage	Analyse	Advice	Design	Implement	Professional Behaviour	Research Skills
User-Interface							
Business Processes							
Infrastructure	2	2		2	2		
Software	2	2	3	2	2		
Hardware Interfacing							
Professional Skills						2	3

Table 2: Current Skills Level

3 Target Skill Level

The following table shows which skill levels I want to accomplish during this project.

	Manage	Analyse	Advice	Design	Implement	Professional Behaviour	Research Skills
User-Interface							
Business Processes							
Infrastructure	3	3		2	2		
Software	3	2	3	3	3		
Hardware Interfacing							
Professional Skills						3	3

Table 3: Target Skill Level

4 Development Plan

This section describes how I want to reach the targeted skill levels and how I want to measure or prove that I reached them. The definition of each level and an example as stated in the HBO-I domain description is included in each sub section.

4.1 Manage Infrastructure Level 3

Managing infrastructure on level 3 will be accomplished by setting up a running prototype of our application using different servers. Furthermore, as the DevOps Engineer, I need to set up a deployment pipeline to a certain server which deploys the application regularly and automatically. This requires an infrastructure of different server and services.

Infrastructure / Manage / Level 3:

Horizontal synchronization of ICT management (suppliers, third-party) and vertical synchronization. Set up and implement a cloud-based public or private infrastructure.

(HBO-I Domain Description, p22)

4.2 Analyse Infrastructure Level 3

Analyzing infrastructure on level 3 will be accomplished by researching on a proper infrastructure and technology for automated tests, continuous integration, and continuous delivery. During this research, the current technology trends will be taken into account for example cloud computing, infrastructure as a service and containerization.

Infrastructure / Analyse / Level 3:

Conduct trend research in the field of ICT infrastructure, based on (international) technological, economic en social developments and innovations. Execute a company infrastructure requirements analysis in order to identify functional and non-functional requirements.

(HBO-I Domain Description, p22)

4.3 Manage Software Level 3

Managing software on level 3 will be accomplished by setting up a delivery plan how releases will be carried out to the customer. Furthermore the use of scrum will ensure a proper change management: Before each sprint, the implemented product functions needs to be well defined and cannot be changed. Changes to functions or new functions can only be implemented in an upcoming sprint.

Software / Manage / Level 3:

Implement configuration, change and release management.

(HBO-I Domain Description, p24)

4.4 Design Software Level 3

Designing software on level 3 will be accomplished by creating a test strategy for the application and setup an automatic test environment.

Software / Manage / Level 3:

Set up a software architecture for a software system, consisting of both existing and new systems, taking into account both quality aspects and stakeholders. Draw up a test strategy for system tests.

(HBO-I Domain Description, p25)

4.5 Implement Software Level 3

Implementation of software on level 3 will be accomplished by implementing the product functions using different kinds of technology and frameworks. These technologies and frameworks has to be chosen carefully, taking customer needs and existing architecture parts into account. While implementing the application, unit tests will be written and automatically tested using a continuous integration approach. As the DevOps Engineer, it is my job to setup such an approach and supervise this process.

Software / Manage / Level 3:

Build and make available a software system in line with existing systems and on the basis of the designed architecture, using existing frameworks. Using test automation when performing tests.

(HBO-I Domain Description, p25)

4.6 Professional Behavior Level 3

The Professional Behavior Skill on level 3 will be accomplished by carrying out the project in a professional and defined way.

At first there will be a quality plan which defines the overall quality standards for the various parts of this project. This quality standards include a review process which will be applied to all documents to ensure a certain level of quality. Every document produced needs to be reviewed by another group member.

Furthermore, all configuration items will be listed inside a configuration item table. The table is intended to keep track of all items and who is owner of this item. Also after each update of a configuration item, the table needs to be updated as well to keep track of the newest version.

During the development process we will incorporate the scrum development approach which allows us to easily fulfill our customers requirements. One of the most important requirement is, that we can deliver a working product. Scrum ensures that at the end of each sprint, a working product in a well defined state can be delivered. The consequent use of scrum will also improve my knowledge about this development approach and how to carry out such a process.

5 Research Topic

As research topic to fulfill learning goal LG3, I will research on different approaches how to set up a continuous integration and continuous delivery infrastructure. Therefore I need to research current industry standards as well as bleeding edge technology approaches for example infrastructure as a service or containerization.

Before the research, I will define requirements which needs to be met by the infrastructure and will discuss them with both the team and the customer. After the research, there should be a proposal for an infrastructure which meets the predefined requirements.