READERS GUIDE PORTFOLIO

S3

Welles,Nick N.H.M.

2022 - 2023

# Version control

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Changes | Author | Date |
| V0.1 | Initial version | Nick Welles | 19-10-2022 |
|  |  |  |  |

# General information

* For course: S-DB-IPS3 and S-DB-GPS3
* Class: S3-DB03
* Coaches: Marc M.H. van Grootel, Hans J.B.H.M Heumen
* Date: October 19th 2022
* Version: 0.1

Portfolio for semester 3 of the bachelor's program of IT from Fontys University of Applied Sciences.

Inhoudsopgave

[Version control 1](#_Toc117072622)

[General information 1](#_Toc117072623)

[Introduction 3](#_Toc117072624)

[Learning outcomes 3](#_Toc117072625)

[Research 5](#_Toc117072626)

[Security 5](#_Toc117072627)

[Agile 5](#_Toc117072628)

[Techstack 5](#_Toc117072629)

# Introduction

This document fills in as a reading guide for my portfolio from semester 3 of the Four year certification program in Information Technology at Fontys University of Applied Sciences. The portfolio contains the items that I have created during the semester, demonstrating that I have acquired adequate information to meet the set necessities in the last fulfilment levels. This guide gives a concise outline of every item and segment, and focuses the peruser to the records that contain the completely evolved renditions of the point.

# Learning outcomes

|  |  |  |  |
| --- | --- | --- | --- |
| # |  |  |  |
| 1 | Web application | You design and build **user-friendly**, **full-stack** web applications. | **User friendly**: You apply best practices when creating user interfaces and basic user experience testing and development techniques.  **Full-stack**: You design and build a full stack application using a commonly accepted front end JavaScript framework and back end application implementing relevant communication protocols, persistence of data by usage of ORM and addressing asynchronous communication issues. |
| 2 | Software quality | You use software **tooling and methodology** that continuously monitors and improve the software quality during software development. | **Tooling and methodology**: Carry out, monitor and report on unit integration, regression and system tests, with attention for security and performance aspects, as well as applying static code analysis and code reviews. |
| 3 | Agile method | You **choose** and implement the most suitable agile software development method for your software project. | **Choose**: You are aware of the most popular agile methods and their underlying agile principles. Your choice of a method is motivated and based on well-defined selection criteria and context analyses. |
| 4 | CI/CD | You **design and implement** a (semi)automated software release process that matches the needs of the project context. | **Design and implement**: You design a release process and implement a continuous integration and deployment solution (using e.g. Gitlab CI and Docker). |
| 5 | Cultural differences and ethics | You **recognize** and **take into account** cultural differences between project stakeholders and ethical aspects in software development. | **Recognize**: Recognition is based on theoretically substantiated awareness of cultural differences and ethical aspects in software engineering.  **Take into account**: Adapt your communication, working, and behavior styles to reflect project stakeholders from different cultures;  Address one of the standard Programming Ethical Guidelines (e.g., ACM Code of Ethics and Professional Conduct) in your work. |
| 6 | Requirements and design | You analyse (non-functional) requirements, elaborate (architectural) designs and validate them using **multiple types of test techniques**. | **Multiple types of test techniques**: You apply user acceptance testing and stakeholder feedback to validate the quality of the requirements. You evaluate the quality of the design (e.g., by testing or prototyping) taking into account the formulated quality properties like security and performance. |
| 7 | Business processes | You analyse and describe **simple** business processes that are **related** to your project. | **Simple**: Involving stakeholders, predominantly sequential processes with one or two alternative paths.  **Related**: Business processes during which the software that you are developing will be used (business processes that the software must support by fully or partially automating them).  or  Business processes needed for the success of your software development project (e.g., product release, market release, financial assurance). |
| 8 | Professional | You act in a **professional manner** during software development and learning. | **Professional manner**:  You develop software as a team effort according to a prescribed software methodology and following team agreements. You are able to track your work progress and communicate your progress with the team.  You actively ask and apply feedback from stakeholders and advise them on the most optimal technical and design (architectural) solutions.  You choose and substantiate solutions for a given problem. |

# Research

Over the span of this semester, I have carried out a ton of groundwork into new innovations, business cycles and strategies.

## Security

When you develop and publish a Web application, you expose it to a potentially malicious environment. There are those who scour the Internet looking for security vulnerabilities in order to exploit them and cause damage or steal sensitive data. When you are developing a Web application, you naturally want to make sure that your application has as few security problems as possible, preferably none at all! the assignment for this research was to properly research exactly which security problem fits your project. My answer to that, all of them. you obviously don't want your application to have vulnerabilities if you don't pay attention to such security problems.

In this research document I have done research to a lot of available risks given, and how to prevent them. This research relates to learning outcomes 2 and 8: Software Quality and Professional.

[View file](Research/Security.docx)

## Agile

Software development is in many cases upheld by Agile practices. During this semester I have utilized an Agile method called Scrum for my individual project and my group project. Yet, there are numerous other Agile methods accessible to utilize and each has their own utilization cases and advantages. I have carried out some analysis into the meaning of Agile, the various methods that are accessible, and the way things are utilized by and by. This item demonstrates my capability at learning outcome 3: Agile method.

[View file](Research/Agile.docx)

## Techstack

Of course, a Web application does not spring up out of nowhere. For this, you use various languages to build the most complete application possible. Since we had a number of workshops concerning possible choices for a front-end and backend framework, I researched what would possibly be the best choice for a front-end framework, backend framework, in what database the data would be stored and possibly an API in between. This product helps prove my proficiency at learning outcome 6: Requirements and design.

[View file](Research/Techstack.docx)