**<Project Name>**

**Software Architecture Document**

**Version <0.5>**

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| <15/Juni/14> | <0.5> | Eerste versie document | Ilja fiers |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Table of Contents**

[1.       Introduction](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#1.                  Introduction)

[1.1     Purpose](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#1.1               Purpose)

[1.2     Scope](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#1.2               Scope)

[1.3     Definitions, Acronyms and Abbreviations](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#1.3               Definitions, Acronyms and Abbreviations)

[1.4     References](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#1.4               References)

[1.5     Overview](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#1.5               Overview)

[2.       Architectural Representation](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#2.                  Architectural Representation)

[3.       Architectural Goals and Constraints](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#3.                  Architectural Goals and Constraints)

[4.       Use-Case View](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#4.                  Use-Case View)

[4.1     Use-Case Realizations](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#4.1               Use-Case Realizations)

[5.       Logical View](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#5.                  Logical View)

[5.1     Overview](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#5.1               Overview)

[5.2     Architecturally Significant Design Packages](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#5.2               Architecturally Significant Design Packages)

[6.       Process View](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#6.                  Process View)

[7.       Deployment View](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#7.                  Deployment View)

[8.       Implementation View](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#8.                  Implementation View)

[8.1     Overview](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#8.1               Overview)

[8.2     Layers](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#8.2               Layers)

[9.       Data View (optional)](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#9.                  Data View (optional))

[10.     Size and Performance](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#10.             Size and Performance)

[11.      Quality](file:///D:\Development\Rational\RationalUnifiedProcess\webtmpl\templates\a_and_d\rup_sad.htm#11.             Quality)

**Software Architecture Document**

**1.**                  **Introduction**

Dit document beschrijft de implementatie van de casus “Fotolab” zoals ons aangeleverd. Deze uitwerking is het derde deel van het semester Enterprise Software van de NOH-i ICT opleiding.

In de casus “Fotolab” wordt een werkwijze beschreven van een foto reproductie laboratorium, dat foto’s en bijbehorende producten (denk aan frames, posters) produceert en deze door klanten kan laten bestellen.

De casus beschrijft een huidige werkwijze, die ervan uit gaat dat er veel handmatig wordt gewerkt. Daarna worden er verbetervoorstellen gedaan, waarvan wij de architectuur gaan uitwerken en delen van deze architectuur gaan implementeren.

**1.1**               **Purpose**

Dit document is een onderdeel van de op te leveren producten van deze casus. Het bevat een architectuuroverzicht van het te bouwen systeem, en beschrijft diverse aspecten van de casus. Hierin worden ontwerpbeslissingen vastgelegd en overgebracht.

Het is geschreven als product, en dus bedoeld als aanwijzing voor de werkelijke implementatie van de hier beschreven casus. De doelgroep is allereerst wijzelf, zodat we de beschreven onderdelen ook kunnen bouwen. Daarnaast is dit document bedoeld als eindproduct, ter beoordeling van de casus.

**1.2**               **Scope**

In deze casus gaan wij niet alles zoals beschreven implementeren. Het gaat vooral om een goede beschrijving van de onderliggende architectuur, en niet zozeer de implementatie van het geheel. De architectuur gaan wij volledig uitwerken, met een beschreven databasemodel inclusief DDL en insert-script. Verder maken we een high-level beschrijving van de omgeving waarin deze database draait.

En deel van de beschreven systemen gaan wij ook werkelijk bouwen. Deze systemen worden specifiek benoemd, waarbij de lezer er van uit kan gaan dat delen die niet specifiek genoemd zijn ook niet gebouwd gaan worden.

Dit document gaat kort in op zaken als performance en beveiliging. Deze zaken zijn in ieder geval geen onderdeel van de bouw.

**1.3**               **Definitions, Acronyms and Abbreviations**

*[This subsection should provide the definitions of all terms, acronyms, and abbreviations required to properly interpret the****Software Architecture Document****.  This information may be provided by reference to the project Glossary.]*

**1.4**               **References**

*[This subsection should provide a complete list of all documents referenced elsewhere in the****Software Architecture Document****.  Each document should be identified by title, report number (if applicable), date, and publishing organization.  Specify the sources from which the references can be obtained. This information may be provided by reference to an appendix or to another document.]*

**1.5**               **Overview**

*[This subsection should describe what the rest of the****Software Architecture Document****contains and explain how the****Software Architecture Document****is organized.]*

**2.**                  **Architectural Representation**

*[This section describes what software architecture is for the current system, and how it is represented. Of the****Use-Case****,****Logical****,****Process****,****Deployment****, and****Implementation Views****, it enumerates the views that are necessary, and for each view, explains what types of model elements it contains.]*

**3.**                  **Architectural Goals and Constraints**

*[This section describes the software requirements and objectives that have some significant impact on the architecture, for example, safety, security, privacy, use of an off-the-shelf product, portability, distribution, and reuse. It also captures the special constraints that may apply: design and implementation strategy, development tools, team structure, schedule, legacy code, and so on.]*

**4.**                  **Use-Case View**

*[This section lists use cases or scenarios from the use-case model if they represent some significant, central functionality of the final system, or if they have a large architectural coverage - they exercise many architectural elements, or if they stress or illustrate a specific, delicate point of the architecture.]*

**4.1**               **Use-Case Realizations**

*[This section illustrates how the software actually works by giving a few selected use-case (or scenario) realizations, and explains how the various design model elements contribute to their functionality.]*

**5.**                  **Logical View**

*[This section describes the architecturally significant parts of the design model, such as its decomposition into subsystems and packages. And for each significant package, its decomposition into classes and class utilities. You should introduce architecturally significant classes and describe their responsibilities, as well as a few very important relationships, operations, and attributes.]*

**5.1**               **Overview**

Het fotolab bestaat uit de volgende onderdelen, die aan elkaar verbonden zijn.

Database

Een database met alle gegevens van de onderliggende objecten. Deze database draait op een lokale PC en wordt in ons geval op een SQLEXPRESS installatie gedraaid. Deze database wordt mee-geinstalleerd met alle versies van Visual Studio en lijkt goed te voldoen; er zijn geen relevante beperkingen gevonden tot nu toe.

WebAPI

Toegang tot de database wordt verzorgd door een WebAPI, deze is de enige die toegang heft tot de onderliggende database. Deze WebAPI is opgezet in ASP.NET

Website

Er wordt een website geproduceerd in ASP.NET, hierin worden enkele gegevens uit de database getoont zoals bijvoorbeeld een klantenlijst.

**5.2**               **Architecturally Significant Design Packages**

*[For each significant package, include a subsection with its name, its brief description, and a diagram with all significant classes and packages contained within the package.*

*For each significant class in the package, include its name, brief description, and, optionally a description of some of its major responsibilities, operations and attributes.]*

**6.**                  **Process View**

*[This section describes the system's decomposition into lightweight processes (single threads of control) and heavyweight processes (groupings of lightweight processes). Organize the section by groups of processes that communicate or interact. Describe the main modes of communication between processes, such as message passing, interrupts, and rendezvous.]*

**7.**                  **Deployment View**

*[This section describes one or more physical network (hardware) configurations on which the software is deployed and run. It is a view of the Deployment Model. At a minimum for each configuration it should indicate the physical nodes (computers, CPUs) that execute the software, and their interconnections (bus, LAN, point-to-point, and so on.) Also include a mapping of the processes of the****Process View****onto the physical nodes.]*

**8.**                  **Implementation View**

*[This section describes the overall structure of the implementation model, the decomposition of the software into layers and subsystems in the implementation model, and any architecturally significant components.]*

**8.1**               **Overview**

*[This subsection names and defines the various layers and their contents, the rules that govern the inclusion to a given layer, and the boundaries between layers. Include a component diagram that shows the relations between layers. ]*

**8.2**               **Layers**

*[For each layer, include a subsection with its name, an enumeration of the subsystems located in the layer, and a component diagram.]*

**9.**                  **Data View (optional)**

*[A description of the persistent data storage perspective of the system. This section is optional if there is little or no persistent data, or the translation between the Design Model and the Data Model is trivial.]*

**10.**             **Size and Performance**

*[A description of the major dimensioning characteristics of the software that impact the architecture, as well as the target performance constraints.]*

**11.**             **Quality**

*[A description of how the software architecture contributes to all capabilities (other than functionality) of the system: extensibility, reliability, portability, and so on. If these characteristics have special significance, for example safety, security or privacy implications, they should be clearly delineated.]*