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| Fontys Hogescholen |
| Process Report |
| Project MB |

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# Definitions, Acronyms and Abbreviations

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| *Term* | *Description* |
| URS | User Requirement Specifications |
| CRUD | Create, Read, Update, Delete |
| Front-end | Design of the website |
| Back-end | Functionalities of the website |

# Summary

In this process report there will be description of 7 different aspects of the project. Firstly, there is a brief introduction followed by problem description. There is stated the initial problem in details. After that there is the solution approach, where it is explained, what approach was taken. Moving on to the work division, where every member’s responsibilities are stated. The next section is all about the process and the achieved results from it. In the end there is the conclusions and recommendations section, where a summary of previous sections is presented as well as ideas for the future of the software product. After that there is the last section, which concerns the reflections of each and every member of the development team.

Table of Contents

[Definitions, Acronyms and Abbreviations 3](#_Toc43840105)

[Summary 4](#_Toc43840106)

[1. Introduction 6](#_Toc43840107)

[2. Problem Description 7](#_Toc43840108)

[3. Solution Approach 8](#_Toc43840109)

[4. Work Division 9](#_Toc43840110)

[5. Process and Results 10](#_Toc43840111)

[6. Conclusions and Recommendations 11](#_Toc43840112)

[7. Personal Reflection 12](#_Toc43840113)

[1.1 Gabriel 12](#_Toc43840114)

[1.2 Jaklin 12](#_Toc43840115)

[1.3 Kristian 12](#_Toc43840116)

[1.4 Vasil 12](#_Toc43840117)

# Introduction

In the beginning of the semester the team – Jaklin, Kristian, Gabriel and Vasil, had to start a new project for a company named 'Media Bazaar', which has the intention to open their very first shop in Eindhoven. The task was to develop a solution for the problem of the company with their administrative system. The company expects the project group to develop a solution in the form of both a C# app, dealing with the employees, the products and the departments and a website, made for the employees to see their profile, their schedule and interact with each other.

# Problem Description

As mentioned in the introduction, a new hardware store “Media Bazaar” is opening their first shop in Eindhoven. Funded by the parent company “Jupiter”, they intend to start as well-prepared as possible. The biggest challenge that Media Bazaar’s management foresees, is keeping track of their employees and products. They want to hire a team of software professionals to develop an administrative system that allows its users to keep track of employees and products. Furthermore, it should be possible to allow the users to assign work shifts to employees and view these work shifts per person but also for the entire store. The system could possibly become bigger in the future. Ideas such as the addition of departments, in store attendance registration and a dedicated website for employees to view their schedule can possibly be added in future versions. But for now, they would like to focus on the employee and stock management. A transcript has been made from the initial interview between your team’s representative (James) and one of the managers of Media Bazaar (Henriette) in.

That was the initial problem description after that at week 7 the requirements were updated and were focused more on the website for the employees and adding the departments and statistics part to the desktop app and a few modifications of the employees and products management. Than the last six weeks were focused on design rework, cashier app and exporting of information.

# Solution Approach

All requirements in the URS document were completed: Successful authentication, both for the website and the C# app; Useful statistics for employees, products and departments; CRUD operations for employees, products and departments; Manager and Seller accounts access to C# App; Employee accounts access to website; Modifiable personal information in website(phone number, profile picture and etc.); Schedule management in C# app; Schedule Overview and calling sick in website;

# Work Division

The work was divided equally between all of the team members. It was decided that two people are working on the website and the other two on the desktop application(of course, if there was a problem the team worked together on solution). Most of the requirements were completed by Kristian. The departments part was completed by Jaklin. The statistics for the employees and products as well as the orders management were completed by Vasil. Moving on to the website, where the front-end was completed by Jaklin and the back-end was completed by Gabriel.

# Process and Results

The project started out with the waterfall method, where the group presented a rough idea of the project to the client, showcased some design ideas and asked for requirements and specifications.

The website was set as a place where employees can check their schedule and call in sick while the app was meant for management only.

In the first week the wireframes and design were created, then the second week was spent working on the code. By the end of the third week all requirements were implemented according to the waterfall method. The time remaining until the deadline in week six was spent changing the design to look more professional and testing the code to make sure it has no bugs.

After the sixth week, the group’s approach to the project was changed from the waterfall method to the iterative method, for us this meant that we could be free when making decisions based on how our app will continue from now forwards.

For the first three weeks of the iterative method the main priority was on the website, where the main focus was getting the requirements done. The development of the app still continued, but it was not the main priority at the time.

By the end of the fourth week implementation was done and the only thing left to do was to test and change code in order to be more efficient. This included : Database data storing and fetching, faster methods, more efficient Javascript code(website only).

After the presentation of the sixth week of the iterative method, it was pointed out by the client that the design is undesirable , so the next week was spent redesigning the website and app.

After the major redesign of the frontend , the requirements were completed one by one as before.

The website is a place for the employees to check their schedule and call in sick while the app is for management only.

The website has accounts creates based on keys generated in the app when an employee is registered, these will be sent to employees after they have been hired. On the website they can see their schedule and call in sick in case something happens.

The stand out part of the website is the live-updated schedule/personal schedule.

The app is mainly used by management and has full CRUD functionality for employees, products and departments. A cashier app is also present which can be accessed using cashier accounts.

The stand out part of the app is the detailed employee hiring system, where a manager can select the shifts of the employee by a day by day basis.

# Conclusions and Recommendations

In conclusion, the team made all the required functionalities on the C#-application for the employees, the products and the department, such as adding, creating, updating, searching, removing, viewing all. On the website, which is made for the employees, there is the possibility for them to register, then to log in, which will lead to the main website, where not only can they see their profile and their schedule, but also the schedule overview of others' shifts.

As recommendations for the future - there can be created a chat page where employees can interact with each other, instead of an announcement page. Also, for the C#-app-secure authentication and daily back-up of data.

# Personal Reflection

## Gabriel

Personally I think that the iterative method was better for us that the waterfall, however I have enjoyed working with both of them. I think that I developed my skills in both OO and WAD due to this being our first “Real” project. The feel of the project also gave me an insight of how we will work with clients in the future. Overall I think this project made me a better programmer in both OO and WAD.

## Jaklin

I find the project helpful, because it made me develop new skills, such as a better communication with my team members and I had the opportunity to improve my software skills. The new method we used in this semester was more useful than the waterfall one.

The waterfall method is not useful for students because there is no way of correcting previous work done. However, the iterative method offers the opportunity to analyze each work and then test it to see whether it is successful.

## Kristian

The project was very beneficial to improve my teamwork and my skills both in programming and documentation aspect. As far as the different methods are concerned, I believe, the iterative method is much better than the waterfall. Iterative method offers better results and more bug fixes. The waterfall method is based on going onto the next step, but sometimes it is needed to go back and fix something or make it efficient. That is exactly what iterative method does – Analyze, Implement, Test and Repeat.

## Vasil

I think I learned a lot about working with other people and how important teamwork actually is in order to successfully complete a big project. In the beginning I wasn't really good at it but I think that I've become better since the first week of the project. I try to express my opinion more frequently and listen to my teammates more. The iterative process provided the opportunity for us to make some quality of life changes by testing our application on each iteration, while the waterfall process was easier to follow for me, because it is more flexible than the iterative in my opinion. Also, I think that in order to complete such a big project it is really important to use both, like we did.