**Personal Development Report**

**Johnson Domacasse**

**Smart Industry and IoT Specialization Semester 4**

**spring 2023/24**

**Document update history**

|  |  |  |
| --- | --- | --- |
| **Update Date** | **Version** | **Comments** |
| **23/02/2024** | **0.1** | **Personal information** |
| **08/03/2024** | **1.1** | **Modules Chosen** |
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# A person with curly hair wearing glasses Description automatically generated*Persona*

Hi there. My name is Johnson Domacasse. I am a student at Fontys university of applied science. I am currently in my 4th Semester. In this section I will tell you a bit more about myself.

My hobbies include spending time with my friends. Usually this is in the form of video games. Otherwise, we spend time with each other personally.

Before this study I did Mechatronics for one year at Fontys Engineering. This was because I have a lot of love for electronics and all that come with them. The reason for the change was because at the time, I didn’t like the direction the physics part of the study was going. I changed to ICT and chose technology because in short, its basically Mechatronics without the physics. I do miss the application of mechanical skills to projects.

My skills range from both technical and professional. My technical skills include everything I have done so far in my school career at Fontys. I will list the ones that come to mind but there may be some I may have missed.

### Technical Skills:

* Knowledge in both C and C++ (object-oriented) programming
* Knowledge in embedded register programming in C (STM32)
* Knowledge in communication protocols
* Knowledge in microcontrollers, actuators and sensors
* Minimal knowledge in 3D modelling
* Knowledge and affinity for 3D printing

### Professional Skills:

* Knowledge in proper documentation of projects.
* Strong leadership skills within a project.
* Minimal experience in being a scrum master in the group.
* Knowledge in researching topics.

# *2. Smart Industry & IoT Context*

What I understand from smart industry is that it mainly deals in industrial machines, manufacturing and production processes. A simple example of this is a factory that produces a product. Currently we are experiencing industry 4.0 because of the technology that is incorporated within this industry. This specialization for me aims to teach us as much about the current industry 4.0 as possible to prepare us for the potential coming of 5.0. In doing so, we as the future engineers are better prepared for new jobs that may come up in the future.

For now, my opinion on this study is that it will teach me a lot. Not just about the technical side of things but also other parts of an entire operation that I would typically neglect. These Include data that is being processed and used for different appliances. Another, would be the business side of the entire operation.

**(rewrite what I think about what this specialization is all about when I have more experience and a better understanding within this domain).**

# *3. Orientation*

I would be lying if I said from the start I knew which modules I wanted to do. I did have a rough idea but I was not completely certain. Orientation gave me a chance to start the process of elimination for the five modules. I knew for certain I wanted to pursue the **module of M2M** simply because anything that has to do with hardware excites me. The second module was open for choices however I was leaning towards the **IoT module**. When I got the **data and machine learning module** I will admit, it was very interesting to me how data can be manipulated to do different things. How you can process it. How you can make it predict an event. How you can store it. I chose not to pursue this module because although it was interesting to know, it was very boring. When doing the first challenge, it would easily getting boring for me. To the point where the a 1 day assignment turned into 3 days of procrastinating. When I got the first class of the **HMI module**, I was not as interested in the topic as I thought I would be. There was only one subject that interested me and that was “Digital Twins” and how the technology is used in todays world. Aside from this I didn’t like the module. The challenges themselves were fine, but it is not something for me. The intelligent management module interested gave me a bit more interest compared to the HMI class solely because I personally like the idea of leading a team to success. It was one of the choices I was considering because with some management knowledge and skill that this course could provide me I could get further in my career. Finally, I decided to chose **IoT module** solely because the teachers assured me that IoT is not just a topic for hobbyists. I chose this one because it makes more use of hardware then the intelligent management class.

## *3.1 My ambitions this semester*

As described in section 1 of this PDR, I am someone that has a strong affinity for electronic system in general. Almost every aspect of it intrigues me as to how they work and how it can relate other concepts I have learned throughout my lifetime.

With this specialization I hope to gain more knowledge in hardware programming in general and how this can work in the industry. I hope to maybe even use this knowledge in a potential project at some point in the future. I want to gain more experience with working with a company on a project so I can understand how they work a bit better.

Since all of my semesters from here on out are going to be research based, I hope to get more knowledge in how I can apply myself in certain situations when I am met with a topic that I have minimal to no knowledge on.

Finally I am here to find out what my passion really is. I am interested in electronics, but also embedded programming to some degree. C and C++ programming as well. There are a number of things I am interested in but not one that I truly want to do for the rest of my life. I hope to have a better understanding of what that is at the end of this semester.

# *4.1 Module A* : *M2M Interaction and Control*

My reasoning for choosing this module is because it aligns with my interests. As mentioned, I chose mechatronics previously because I enjoyed seeing big, and even smaller, industrial projects come to life. I made the change for personal reasons but I still miss the idea of seeing these projects come to life. In choosing M2M I feel like I am one step closer to what I love while still maintaining some distance from the physics. I enjoy coding projects. I enjoy having to come up with the idea on paper, implementing it, debugging it and re-implementing the new working version. The challenges given to me in orientation weeks were fun for me and when I asked, I was reassured that if I choose this module, then this would be the style I would be working with for the remainder of the semester.

As the semester evolves, you keep track of the knowledge you have gained in the field of this particular module. Keep it short and focus on the gained knowledge and not on delivered work (see also section 7).

# *4.2 Module B* : *IoT Communication and Infrastructure*

My reasoning for choosing this module is because it aligns with my knowledge. Like the previous module, my interests also peak when I simply hear the name of the module. In semester 3 I already gained some knowledge on this topic however just the first lesson made me realize how much I don’t know about this topic. This intrigues me and makes me want to learn more about it. On top of that, I always thought that this topic mostly applies to hobbyists. There is some truth in this case, however I underestimated how this topic can be applied in the industry. This makes me want to learn this topic to potentially pursue a career in it. This applies to the previous module as well. For these reasons I chose this module.

As the semester evolves, you keep track of the knowledge you have gained in the field of this particular module. Keep it short and focus on the gained knowledge and not on delivered work (see also section 7).

# *5. Industry project \*name (\**here you substitute \*name with the concrete name of the project)

You start by motivating your choice for this project, and what do you expect to learn by working on it and you shortly describe the project objectives, project goals and what you expect to be working on more concretely.

As the semester evolves, you keep updating the short summary of the knowledge and skills you are gaining, the work you are doing for the project, your own contribution, products or parts of a product, research, reports, documents you have delivered, etc. Make clear what your **own contribution** has been. Find a good balance between making a good short summary of your work supported by links and references to the work you have done and delivered.

# *6. Evidences Learning outcomes*

During the semester you collect evidence which show your progress on the learning outcomes. You summarize the evidence per learning outcome and you indicate in which context (a module, a project or other context) it took place. You do that in the given table below which displays the LO's and their (general) description. Note that you can add as many as you like/need evidences and the three examples which are given in the template are only examples. Also make sure that you provide evidences from the different modules and the project, as the learning outcomes need to be demonstrated in different contexts and more than once.

In the first phase(s) you have probably no or few evidences yet, but as time progress you add more and more evidences to show your progress.

|  |  |  |  |
| --- | --- | --- | --- |
| **Learning outcome** | **Evidence** | **Module/Industry Project /other** | **Self-evaluation** |
| Analysis | Challeng 1: Add a description and a link to a canvas assignment  Challange 2: Add a description and a link to a canvas assignment  Product 3: Add a description and a link to a canvas assignment | Module A  Module B  Industry Project | Orienting  Beginning  Beginning |
| .  . |  |  |  |
| Design | Challange x: Add a description and a link to a canvas assignment  Individual project x: Add a description and a link to a canvas assignment | Module A  Module B | Orienting  Beginning |
| .  . |  |  |  |
| Implementation |  |  |  |
| .  . |  |  |  |
| **Professional Development** | | |  |
| Future orientation |  |  |  |
| Investigative problem solving |  |  |  |
| Personal leadership |  |  |  |
| Targeted interaction |  |  |  |

# *7. Sprint retrospectives of your total activities and work*

Every three or four weeks (see the weekly planning) you will have a review/delivery/demo moment for the modules and for the industry project. For the modules these will be done with your module teachers, and for the industry project with the problem owner and your semester coach. After every sprint you will have a retrospective. You will reflect on **YOUR** progress, achievements, process, gaining knowledge, study load and study discipline, working method and the communication with your teachers, project group members and the clients. Include a summary of each retrospective in this document.

## *7.1 Semester Sprint 1 (wk4-wk6)*

## *…..*

## *7.2 Semester Sprint 2 (wk 7 - wk10)*

## *…..*

## *7.3 Semester Sprint 3 (wk11 – wk 13)*

## *…..*

## *7.4 Semester Sprint 4 (wk14 – wk 17)*

## *…..*

## *7.5 Semester Final delivery*

# *8. Evaluation and Reflection*

Add an evaluation and a reflection of your whole Smart Industry and IoT semester. Your evaluation describes what went good and bad during your process and how you dealt with that. Your reflection describes how **you** have grown as a person, and what **you** will take with you in your further professional career. In the reflection you should also shine a light on the following aspects:

### *Gaining technical knowledge*

### *Improving professional skills*

### *Problems solving capabilities*

# *9. Feedback and Feedpulse*

During your semester, you will receive feedback. This has been done via email, comments by your submission or in Feedpulse. Add a screenshot of feedbacks to the end of this document.

**References (\* follow the** [**APA**](https://apastyle.apa.org/style-grammar-guidelines/references/examples) **style for any reference you want to add)**