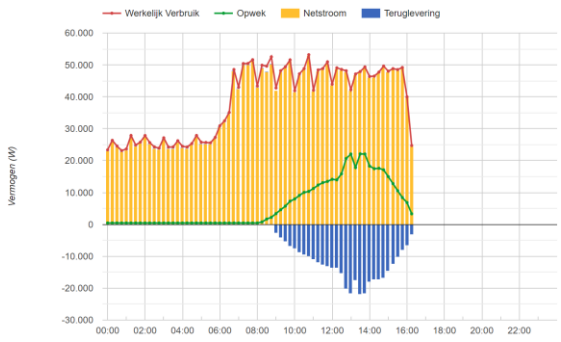
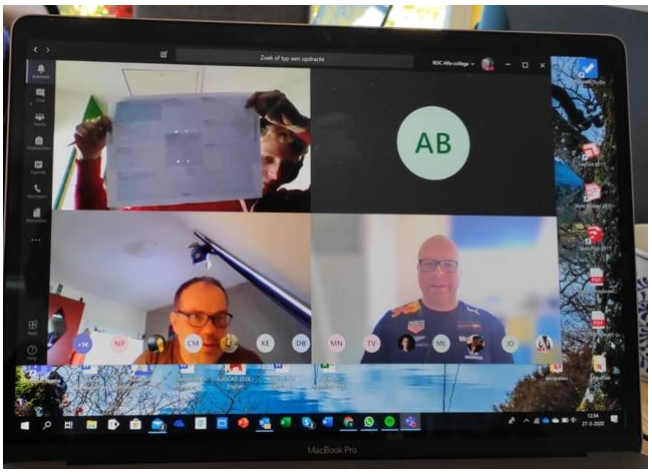
Aspect 1	Toolkit on “Smart Energy Management” – Training Modules Piloting	
Specific Modules	M5: UX Design	
Piloting group’s qualification	Human Technology	
SQF level	4	
SEM qualification: Aggregated Unit of LOs (Learning Outcomes)	U1 – UX Design of User Interface of Smart Energy System	LO1. Designing a paper prototype LO2. Designing a digital prototype LO3. Testing and finalising the User Interface
Aspect 2	**Definition of the Project Task**	
General task	Design and testing of a user interface for the smart energy system in school 	
Specific tasks which cover LOs of Training Modules	- Analysis of existing energy system interface, designing and testing user interface	

	
Aspect 3	**Time arrangements**
Teachers	The teaching team (teachers who deliver classes to the group) has been set up so as to have their workload concentrated, as much as possible, with the same group. That way there is the possibility to be flexible in terms of the specialist teacher taking charge of the group as the Project progresses and the need of guidance changes (in terms of subject covered by Project that time) for students. The team did work as a self-managed one.
Students	The student's timetable changes radically while they are carrying out the Project so there is no division in terms of subject taught but a continuous time during the day devoted to the Project.
Aspect 4	**Adaptation of spaces and infrastructure**
Furniture	There was one classroom where students could work in groups. There was a digital board available. 

	Due to Covid lessons were moved exclusively to online lessons after 3 weeks. For several days there were no lessons at all as everyone had to download MicrosoftTeams and had to adapt.
ICT connections	Each student has a portable computer so it is easy for him to move and work on a team basis or individual basis. There is wifi coverage so as to work on the Internet. During the lockdown it was more difficult. All lessons were moved to Microsoft Teams. All students had laptops and the internet coverage in The Netherlands is good but some students had no camera on the laptop or had difficulties to adopt new digital skills. It took some time to help everyone online but after +- a week a new online working environment was established. 
Aspect 5	**Process management: Teacher role/Student role**
Teacher role	At the beginning the role of the teacher has been more guiding students through complexities of the Project rather than delivering just contents. It has been very important to establish some check-points through the Project development so students don't lose the objective and cope with such a long work without getting lost or really depressed. This new role is not easy at first and pedagogically requires a change for the teacher who feels sometimes more comfortable delivering contents and not forcing students to get the results on their own. During the lockdown the role of the teacher became even more that of an organiser, supporter and facilitator.
Student role	Especially during the lockdown the Toolkit was a really helpful tool for them as it enabled them to have the knowledge related to the Learning Outcomes in a way (online) much more flexible. This means each group could have Access to the different concepts needed throughout the development of the Project in their own time. The teacher was online, of course, to give support while doing the tasks and for any query related to the online course itself. But it was a shame that the practical tasks could not be carried out. Students told us they learned a lot but are not sure if they can apply the lessons learned. They were happy with the

	online content in a uncertain time but they missed the execution of the tasks.
Aspect 6	**Team building**
Techniques	In our piloting experience, we did not use any technique for building up the teams since our group was a second year group so we knew how each student was in terms of character and profile. We did try to mix up people in groups of 2-3 people in which their characters (creative, manager, hard worker…) did have a balanced structure so as to have a better experience. Nevertheless, sometimes it is better to mix up homogeneous character students so as to force them to take up roles they are not used to. Nevertheless, the use of any technique or dynamic should be envisaged in case students from the group are new and there is not any experience with them by the group of teachers.
Aspect 7	**Assessment / Qualitative experience**
Assessment	Students were assessed both in technical and transversal skills. Technical aspects were corrected by each corresponding teacher and the transversal skills were assessed by the group of teachers together. These late ones were based on evidence taken about initiative and responsibility, team working and communication skills. Implementation was not assessed due to modifications done in lockdown.

Technical competences (%60)	Transversal competences(%40)			
Analysis of old User Inetrface and design and testing of new interface **(%100)**	**Report and presentation** **(%10)**	**Team Work** **(%10)**	**Individual work (implication and autonomy)** **(%10)**	**Advisory skills** **(%10)**

U04: UX Design and testing of user interface for smart management system

Assessment criteria	1	2	3	4
Learning Outcome-1 designing a paper prototype				
■ He/She does not know the character and goal of the user interface, can not create user flow charts and can not create a paper prototype	**1**			
■ He/She knows the character and goal of the user interface, but can not create user flow charts or a paper prototype		**2**		
■ He/She knows the character and goal of the user interface, creates user flow charts but can not create a paper prototype			**3**	
■ He/She knows the character and goal of the user interface, creates user flow charts and creates a paper prototype				**4**
Average				
Learning Outcome-2. Designing a digital prototype				
■ He/She is not able to define logical groups, can not identify the most logical symbols and artwork and can not design a digital prototype	**1**			
■ He/She is able to define logical groups, can not identify the most logical symbols and artwork and can not design a digital prototype		**2**		
■ He/She is able to define logical groups, can identify the most logical symbols and artwork but can not design a digital prototype			**3**	
■ He/She is able to define logical groups, can identify the most logical symbols and artwork and can design a digital prototype				**4**

Average				
Learning Outcome-3. Testing and finalising the user interface				
■ He/She can not set up user tests or analyse the data, is not using an iterative design process and can not deliver and explain the final user interface	1			
▪ He/She can set up user tests and analyse the data, does not use an iterative design process and can not deliver and explain the final user interface		2		
■ He/She can set up user tests and analyse the data, using an iterative design process but can not deliver and explain the final user interface			3	
■ He/She can set up user tests and analyse the data, using an iterative design process and can deliver and explain the final user interface				4
Average				

- The transversal competences to assess in this challenge will be teamwork, communication (in written support), individual performance and advisory skills and they will be assessed individually.
- The ponderation of the transversal competences will be as shown below.
- The way to assess these will be done in different ways: teachers, auto-assessment by students and coevaluation among them. Finally, we will do an average of all the marks.

COMPETENCE	Who will assess			
	Teachers (google forms)	Teammate	Auto-assessment	**AVERAGE**
Teamwork (%10)				
Report, presentation (%10)				

Individual work and autonomy (implication) (%10)				
Advisory skills (%10)				

Qualitative experience	The experience was really interesting for both students and teachers since after lockdown it was a real piloting of distance learning. Students judged the implemented material very useful for the Project development since it was possible for them to access the needed knowledge in a moment of their choosing within limits. Because teachers choose to give weekly deadlines to retain some control in these first weeks of online learning. The last three weeks of the project students only got the last deadline and a weekly progress interview.

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