Assignment 3D Printing and IOT

The concept store “Details” is a store in the center of Doetinchem. This store is run entirely by Graafschap College students who are training in retail. An important aspect of this is conducting a sales conversation. Reflecting on the way in which the sales conversation takes place is an important part of the lesson. This is now done on the basis of direct observations. They want to do this on the basis of non-disruptive recordings in the store. The shots must be made from positions.
STRAX was asked for the technical realization. For this we use OBS studio in combination with 4 webcams and a Boya wireless tie clip microphones. In the pilot we installed the cameras wired. The wiring is unfortunately difficult to conceal. Now the question to you to come up with a wireless solution for the 4 cameras in the store.
An important requirement is that cameras function well and also look good, so that they contribute to the futuristic character of the store..
In this assignment you combine the IoT part - connecting the camera to the Raspberry Pi and making it work - with designing and 3D printing a housing for the Raspberry Pi and the camera.
The idea is that you show your way of working by means of a video. By means of the video you show which technical and design choices you have made.

Dura-tion	**Learning phase**	**Learning content** **(What should the apprentice learn?)**	**Learning activities** **(Apprentice actions to meet the objectives?)**	**Teacher/trainer activities** **(What is the role of the teacher/trainer and what is he/she going to do?)**	**Communication and collaboration forms**	**Resources, tools and media** **(Which tools or media are used and how are they used?)**
10 min.	**Intro-duction and Orien-tation**	The kick-off of the project will be held on the first day of the project. During this meeting you will receive an explanation about the project and there will be an opportunity to ask questions. Attention will be paid to the customer order, the layout of the store and the necessary functionalities and design requirements. In addition to the program of requirements and wishes, you also receive information about the planning and what you will ultimately be judged on.	• Listening to presentation of the assignment • Educational learning conversation	• Presentation of the assignment • Educational learning conversation	• One way • Conversation	• PowerPoint

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4/5 weeks	**Excecu-tion of the task**	The duration of the project is 5 weeks. 4 hours per week are scheduled at the STRAX workshop. In addition, 2 lesson hours are scheduled per week to work on the plan of action, make the film report, consult with the client (the employees in the store) and ask questions to your teacher and discuss progress. Ensure good planning and make timely appointments when you want to consult with your teachers, the customer and when you want to use machines and materials at STRAX.	• Research individual and in a group. • Generate ideas. • Make a functional and technical design. • Realize the plan.	• Coaching • Be the customer. • Be a critical friend. • Guard of the learning process	• Use of SCRUM methodology	• SCRUM-board • 3D Printer • Raspberry PI • Camera
30 min.	**Assess-ment /Check**	During the theory and practical lessons, students will be assessed weekly on commitment, attitude, progress, communication and coming to class on time. The wireless camera is assessed on the technical realization and the design, the way you come to design choices. Good reporting is also very important. Student will also be checked whether they have been able to apply the theory lessons in the project.	• Presentations and demonstrations: Require students to present their project progress, findings, and insights to the trainer • Project evaluation: Assess the students' 3D printing housing for raspberry PI on criteria such as functionality, efficiency, and alignment with project objectives.	• Observator • Evaluator	• Making videos for reflection with the students	• Observation list • Camera's

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30 min.	**End of the lesson**	• Customers presentation of al the solutions students came up with.	• Presenting the results	Hosting the product presentations. Be in the jury	• Group presentation	Prestation room with beamer

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