INTENT 4.0 – Interdisciplinary Teaching and Training 4.0

From product design to marketing

working in digitalised supply chains

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From product design to marketing – the methodology

***Project Global Aim*:**

- ✓ To boost interdisciplinary projects at school;
- ✓ To develop VET teachers' collaborative and teamwork skills;
- ✓ To provide students with transversal technical skills in areas related to their core technical ones;
- ✓ To make students to understand a holistic approach to an entrepreneurial and complete structure of product innovation, where every group has to work on all the steps, instead of focusing only in some areas.
- ✓ To promote curricular innovation, creativity, know-how and international cooperation among schools.

From product design to marketing – the methodology

***Teaching process aims*:**

- ✓ To prepare students to work in a multidisciplinary team to develop a digital marketing plan for a product;
- ✓ To think and to solve common problems, seen from different perspectives and realities, and within a framework of each technical area;
- ✓ To develop creativity and to be aware of the importance of designing solutions for a common purpose in a business perspective and customer satisfaction;
- ✓ To take advantage of new technologies to create products that satisfy needs resulting from market studies and SWOT analysis;
- ✓ To develop the ability to intervene and to discuss ideas by accepting and working on diversified ideas.

From product design to marketing – the methodology

***Teaching process*:**

Goal: to create a new product using three VET courses' students and their skills (Design + IT + Management), and prepare its business plan so it could be sold to the market.

Methodology:

* Selecting three classes and a minimum of three teachers from the same VET year (1st or 2nd or 3rd), and dividing its students in mixed groups. Each group must have representatives of the three courses.

* Teachers have a minimum of 3 hours on their weekly agenda to work with the groups, which should be the same time slots where students are also available.

* Before starting to work with the students, teachers clearly define the expected result (a new interdisciplinary product and its business plan), the deadlines for each step and final and the work schedule.

* Teachers define also which online collaborative platform will be used, and prepare it: steps, schedule and guidelines upload.

From product design to marketing – the methodology

***Teaching process*:**

* In the first session with the mixed work groups, teachers present the project, goals, methodology, platform, steps, schedule and guidelines.

* Groups are given a deadline to present a detailed idea of a new product that has to include inputs from their courses.

* At the end of first step, each group presents the team's ideas and proposals. A debate is held and one of the proposals is chosen; or several are grouped for a common idea, through analysis and negotiation;

* In the next step, all the teams start to work on the same idea previously chosen, preparing their suggestions for components or details, after identifying project opportunities.

From product design to marketing – the methodology

***Teaching process*:**

* At the end of this step, each team present their ideas and a common solution is achieved.

* The third step requires the teams to work on the Target definition and positioning, after which their proposals will be shown to the groups, and a common solution is achieved.

* The fourth step requires the teams to work on the Creation and development of the packages of the product: shape, material, different for basic and extras, …, after which their proposals will be shown to the groups, and a common solution is achieved.

* The fifth step focuses on the Cost analysis and definition of the price strategy to be adopted, after which their proposals will be shown to the groups, and a common solution is achieved.

From product design to marketing – the methodology

***Teaching process*:**

* The sixth step focuses on the Definition of the market approach: distribution (e-marketplaces) and digital communication, after which their proposals will be shown to the groups, and a common solution is achieved.

* The seventh step concerns the Creation of digital communication mix plans: site, social media, YouTube channel, … , after which their proposals will be shown to the groups, and a common solution is achieved.

* The eighth step has the product almost ready, so the groups select its potential influencers and how to promote it, after which their proposals will be shown to the groups, and a common solution is achieved.

* The final version of the product is ready to its public presentation, with external guests / jury.

Throughout the process, workshops with school's external guests, experts in the project's topics, should be held, to provide the students an outside and market view.

Teaching process evaluation:

- ✓ Included on the steps are its goals and the learning outcomes to be achieved by the students;
- ✓ Each step has a set of requirements and tasks to be worked within the groups, using collaborative approaches and negotiation. Focus on agreements between all members will be valued;
- ✓ The learning results will be assessed under a scale of 1 to 4, with clear descriptors;
- ✓ The evaluation will be made during and after the final sessions of each step, where group works are presented and discussed, and their contribution for the common idea is assessed;
- ✓ All steps have the same value to the final mark.

***Teaching process added value*:**

- ✓ Students can intervene directly in their technical area, being able to absorb knowledge and develop skills common to different areas, …
- ✓ … While creating a spirit of mutual help, …
- ✓ … Within an environment close to the business reality.
- ✓ The most relevant learning outcome is that in the end they will have a technical perspective of the problem, but also its implementation in the market and taking into consideration the needs of the customers.

***Teaching process potential difficulties*:**

- ✓ Schools may not have VET teachers in the required areas. Hence, they can partner with other schools that have them, carrying out a project not only intra but also inter schools. They should also do workshops with external experts to mentor the students;
- ✓ It may occur a lack of time for coordination between teachers in the various technical areas (matching schedules between teachers and students) and for planning and organizing within the project coordination team;
- ✓ Time may not be enough to coordinate and carry out the common sessions between the classes of the different courses, impacting the implementation of the project within groups of students;
- ✓ Teams of students may be heterogeneous in terms of knowledge and skills;
- ✓ Some equipment may not be available for prototyping the product.

From product design to marketing – a pilot result

POP LIGHT

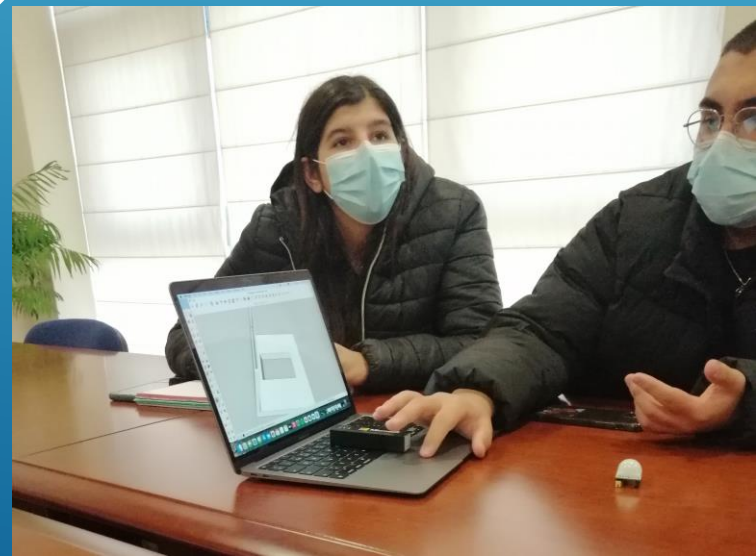
Our business idea is to create a business whose activity is focused on the creation of printed 3D products, which will serve as memories, advertising gifts, decorative frames, …

Actual photos are printed on the product and a small LED is switched on; it transforms the frame into a small light point, making the photo, or the logo, or the image you want to remember, visible in the element.

POP LIGHT

The products will be printed based on the lithophane process, starting from actual photographs, logos or images. Through backlight, the translucent object becomes a light point and makes visible the photograph, logo or image that is intended to highlight in the element. Additional objects, printed in 3D, can also be added.

A base will be elaborated, with LEDs and motion sensor, that backlits the photo, the logo, or the image placed there. When and whenever one wants, the user can change the element and vary the image that appears.



POP LIGHT

Despite being an idea that is not innovative, as the concept already exists, it is a project that aggregates various areas and skills such as design, electronics and management. It is intended to be a dynamic business based on direct marketing, for customized products that will be used as a souvenir, a decorative element, where one will materialize an image, with 3D printing, that is only visible when it is backlit.

It is a different way of having a personal photo, a company logo, a cartoon, a character, marked on an element that can be used for various purposes, printed only one or several times.

Market Study

Identifying the need – life passes by us at an incredibly fast pace, so one has to live the moment - only the memories remain. We all need to register / eternalize moments and this product is the solution.

What distinguishes us is the opportunity to exchange photos easily, without the need of specialized staff.

Our market segment are people older than 16 years, as they already have some purchasing power and value this type of product. It is also people with a modern lifestyle, from middle / upper class, as well as marketing staff from companies.

SWOT Analysis

Strenghts:

- Quality of the product;
- Commitment with the customer / tailor made product;
- Several uses (presence light; memory; decorative piece;
- Reality sensation;
- Printed photos diversity;
- Unique angles view

Weaknesses:

- Price: this technology is still expensive, but might be less in the long term;
- The product already exists & it's fragile;
- It requires a 3D printer or that service for a new print;
- Low autonomy battery

Opportunities:

- It creates a sense of eternal memories;
- Bringss back the tradition of physical photos in a new frame;

Threats:

- Competition;
- Technologic evolution

Marketing Mix

Product:

- Decorative and emotional element;
- Useful for merchandising
- Mixes traditional product (photo) with technology to provide a distinctive element;
- Offered in basic (base + 1 photo) and premium (base + 3 photos) packages

Price:

- Similar to competition;
- 75€ the basic, 90€ the premium.

Promotion:

- Social media + site;
- Mass emailing to companies, namely the ones who usually offer their customers a souvenir
- Mass emailing to stationary makers & to photo studios.

Placement:

- Site;
- Technology outlets;
- Photo studios;
- Stationary companies.

Marketing Mix

Packaging:

- Cardboard box including the product & all the components;
- Eye catching image on the top and bottom;
- Reinforced card inside to protect the components;
- Not too much texto outsider – instructions booklet inside.

Positioning:

- Bringing light to your memories;
- Innovating your company's stationary presence.

People:

- IT students – in charge of preparing the electronic componentes. Researching for stronger / lasting ones;
- Management students – in charge of global coordination of the company; financial and marketing.
- Design students – in charge of developing the base and the photos components. Researching for continuous Innovation on the product and its package.

From product design to marketing – the result

Management + IT Team

Design Team

From product design to marketing – the result

Product base – concept

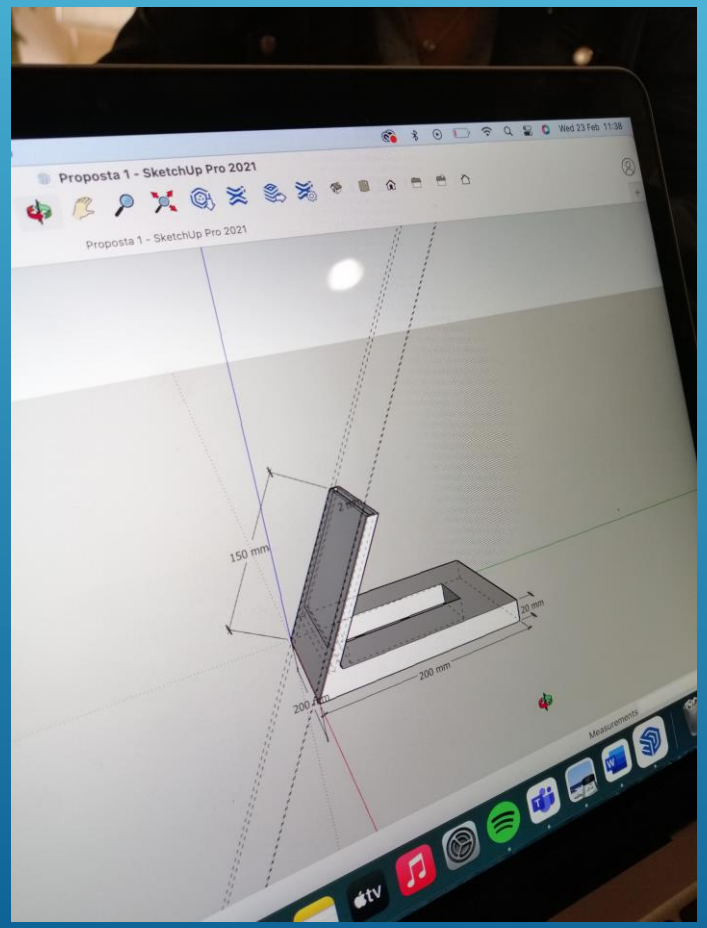


Photo – 3D design

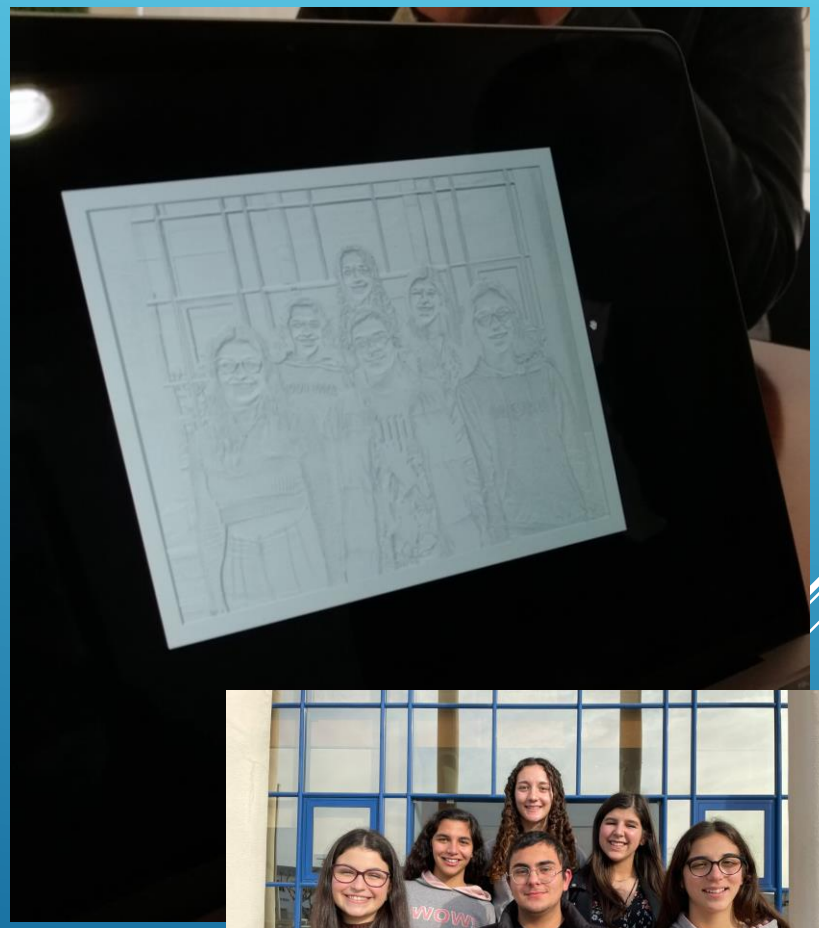


Photo – 3D print

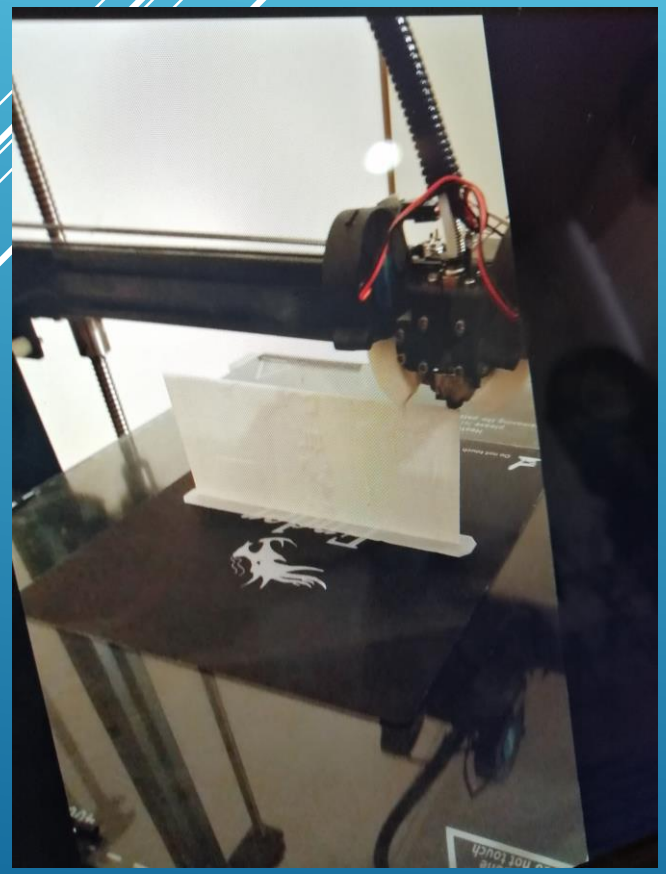
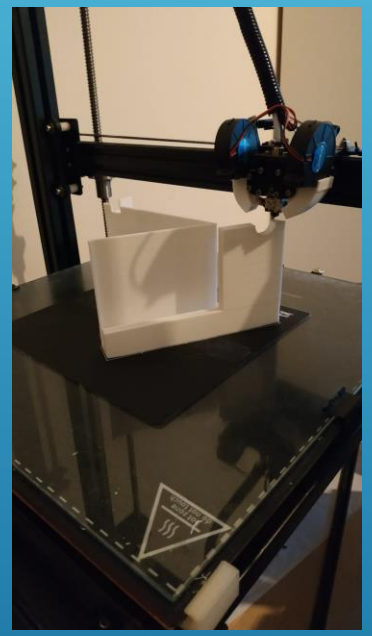
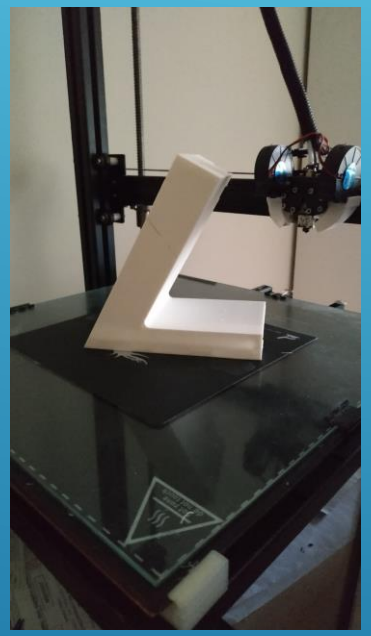
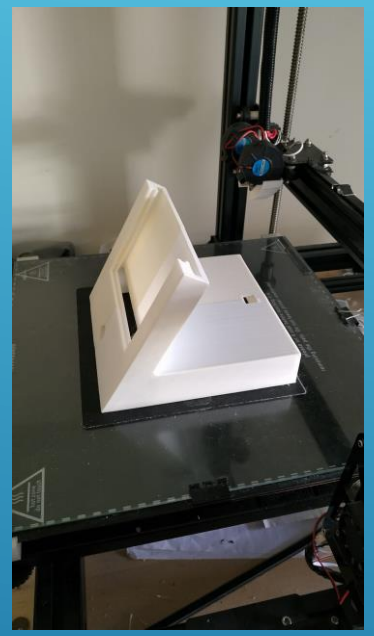
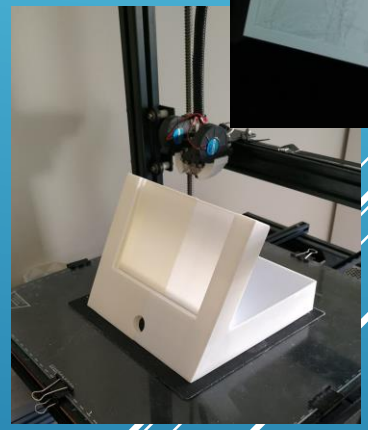


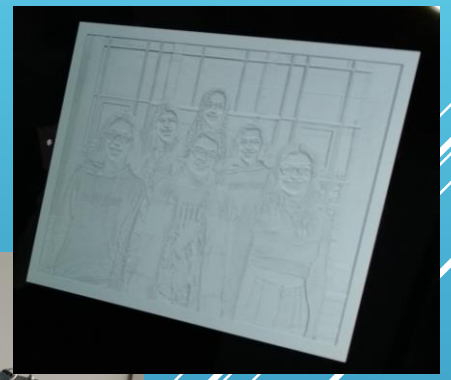
Photo – 3D print











The base will have a simple electronic system, which will allow the printed photo to be retro iluminated.

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