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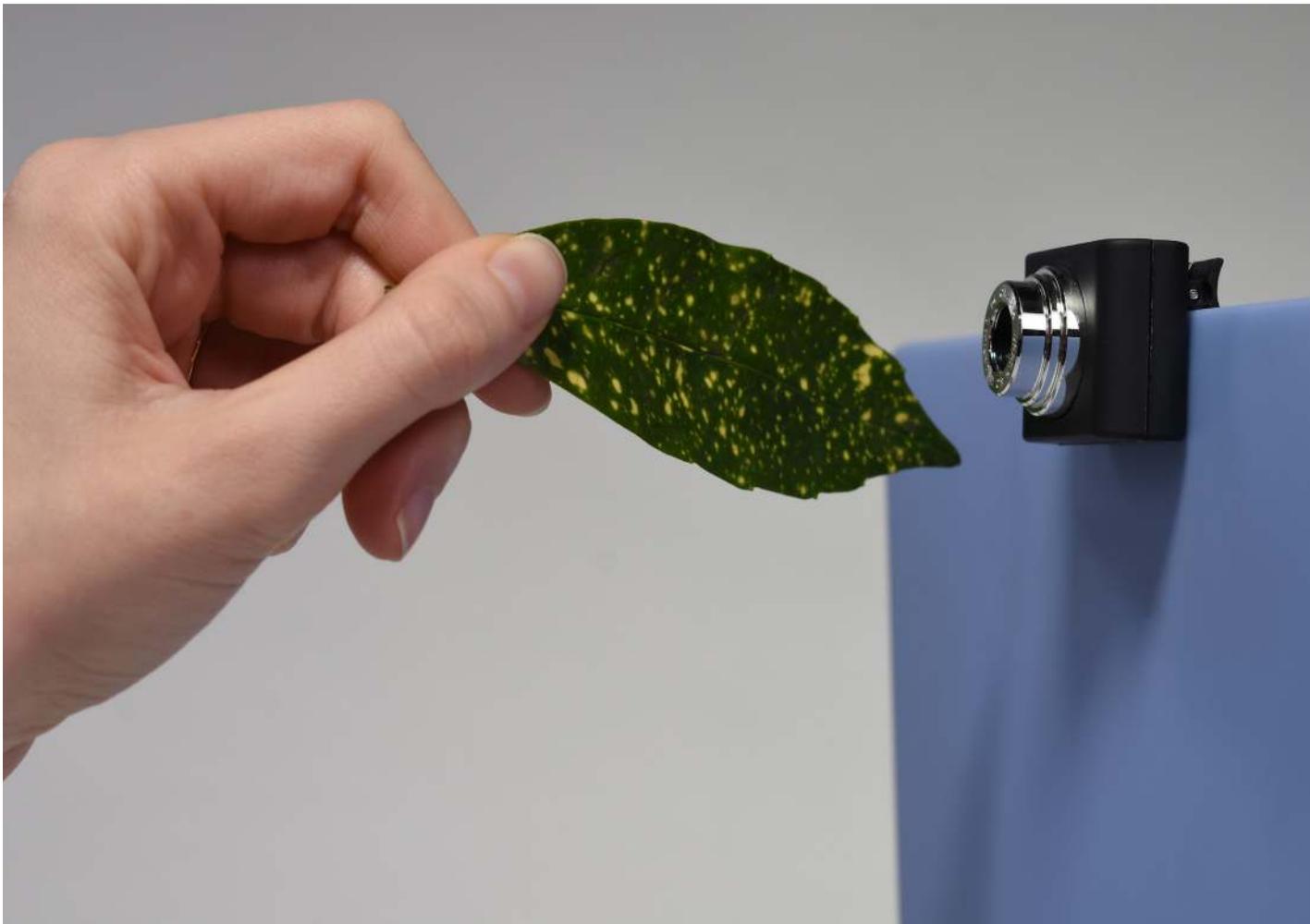
Master of Advanced Studies in Interaction Design 2019–2020
Designing Advanced Artifacts, Environments and Services

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cover image

Leafact, by Christina Rieder and Shiran Hirshberg

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MAS Program 2019−2020

Piano Synth, by Ramona Banfi, Giulia Galli, Aris Dotti,
Minal Juvekar and Patrizia Pfenninger, MAS 2015—2016

The MAS Program

The MAS Program in Interaction Design offers to graduate students an advanced professional training that amalgamates the design culture with technological innovation and social changes. As a specialized course, the MAS Program in Interaction Design merges knowledge coming from the design disciplines in a unique profile able to set new thinking in design, technological innovation and human needs. For this reason, the MAS Program has a multidisciplinary perspective and it is conceived as result of an original set-up of three domains:
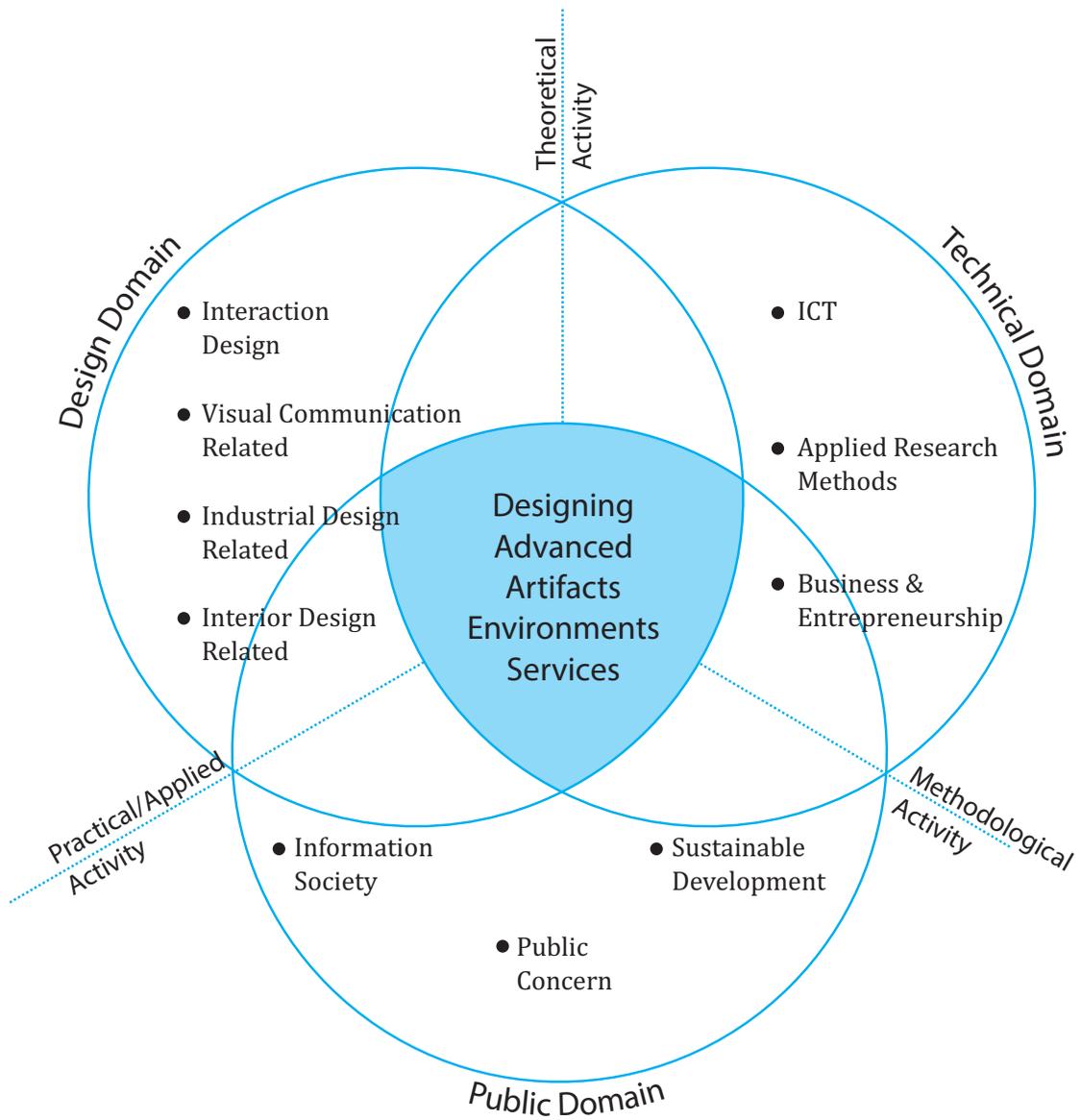
1. the Design Domain: interaction design disciplines and knowledge related to the wide field of design, such as the Visual Communication field, the Industrial Design field, the Interior Design field, as well as new fields, such as Services Design, Open Design, etc.;

2. the Technical Domain: composed of those ICT technologies useful to driving design innovation and for techniques of applied research methods and business models to provide the organizational feasibility and rigor of design solutions;

3. the Public Domain: the intellectual, critical and social role of the designer, where design answers human needs and rights considering three emerging topics: the information society, the sustainable development, and the public concern.

The MAS Program merges these different competencies in a specific curriculum, where Interaction Design is the key element for the conception and creation of Advanced Artifacts, Environments and Services.

Schema

The curriculum of the MAS Program provides students whit the opportunity to acquire specialized knowledge and competences, specific methods for the analysis and the solution of design problems and the ability to autonomously understand and practice research methods and to adopt these methods in their own work. The ability to adopt existing methods and to develop new ones is one of the central competences of the MAS Program that qualifies the student for careers in companies where innovation crosses interaction design area.

Modules of the MAS Program focus on the different specializations through these three main activities: theoretical activities (courses and seminars), methodological activities (courses, seminars and workshops) and projects (design workshops and courses), as well as the development of the thesis project.

Theoretical Activity

Design Domain

Technical Domain

- Interaction Design

- Visual Communication Related

- Industrial Design Related

- Interior Design Related

- ICT

- Applied Research Methods

- Business & Entrepreneurship

Designing Advanced Artifacts Environments Services

Practical/Applied Activity

Methodological Activity

- Information Society

- Sustainable Development

- Public Concern

Public Domain

Structure of the MAS Program

The MAS Program covers 2 semesters and it is developed through four modules. Each module awards 15 ECTS. Module 1, 2 and 3 award a Certificate of Advanced Studies (CAS).

The CAS1 Interaction Design Fundamentals gives students the basic skills for the interaction design practice.

The CAS2 Designing Advanced Artifacts and the CAS3 Designing Advanced Environments and Services are project-driven modules and give students the opportunity to face a particular area of interaction design through the development of projects on different scales and centred on specific design topics. CAS2 and CAS3 include theoretical, methodological and technical courses that give students the necessary knowledge to support the design activity.

The Thesis Project Module is focused on the development of the thesis project, where the student works in term of design research to generate innovative products and new forms of entrepreneurship.

CAS1 10 weeks	CAS2 8 weeks	CAS3 8 weeks	THESIS PROJECT MODULE 15 weeks
15 ECTS Interaction Design Fundamentals	6 ECTS Designing Advanced Artifacts	6 ECTS Designing Advanced Environments	15 ECTS Thesis Project Development
	9 ECTS Th/Meth/Tech courses	6 ECTS Designing Advanced Services	
		3 ECTS Th/Meth/Tech courses	

The CAS1 Interaction Design Fundamentals is organised in a series of workshops and courses that merge design competencies with those ones coming from the computer science fields. These work-shops give students the fundamental design and technical backgrounds of the interaction design discipline useful to prototype interactive artifacts, environments and services.

The CAS2 and CAS3 investigate three specific design topics:
    – the conception and the development of Advanced Artifacts, the relation between the human being and the development of new kinds of interactive objects;
    – the conception and the development of Advanced Environments, considering human beings and their immersion in a specific physical or cognitive context;
    – the conception and the development of Advanced Services, how human beings are involved in new work sequences and processes, new relations, experiences and forms of business.

The Thesis Project Module allows the thesis development. The student has to select and define the thesis topic, to write an essay to focus one's research area, to search for a thesis advisor and the establishment of a network of competencies with people, institutions and companies necessary to the completion of the thesis project.

The MAS curriculum is composed of theoretical (Th), methodological (Me) and technical (Te) courses in an average of 40%, and of project units for the remaining part.

CAS1 Interaction Design Fundamentals
The module offers an overview of the interaction design field through theoretical and methodological courses and a series of workshops that have the purpose to create a common background for students coming from different design fields, as well as from the computer science field. They offer an introduction to programming and physical computing for those students with a design background, and an exposure to design for those with a technical background, providing students the ability to merge and mix design competencies with programming and technologies.

CAS2 Designing Advanced Artifacts
The module investigates the relation between the human being and the development of new kinds of objects as well as the structuring of new relationships among human beings, objects and organizations through the use of information and communication technologies. The module gives to students the opportunity to delve into the conception and the development of cognitive and physical artifacts, considered as prosthesis able to extend the human action and communication.

**CAS3 Designing Advanced Environments and Services**
The module investigates human beings and their immersion in a specific physical context as well as one's involvement in new work sequences and processes. The module gives to students the opportunity to delve into the creation of environments able to define the spatial experience of people and into the strategic definition of new services and systems able to define new forms of socialization, exchange or business that satisfy emerging human needs.

Thesis Project Module
The thesis project module is organised in two parts dedicated to the development of the thesis project. The student has to identify a thesis topic and an internal or external professor to serve as thesis advisor. The student has to present the thesis project proposal to the Review Commission for evaluation and approval. After this step, the student has to develop the thesis project and present it to the Review Commission for the final evaluation.

CAS1
Interaction Design Fundamentals
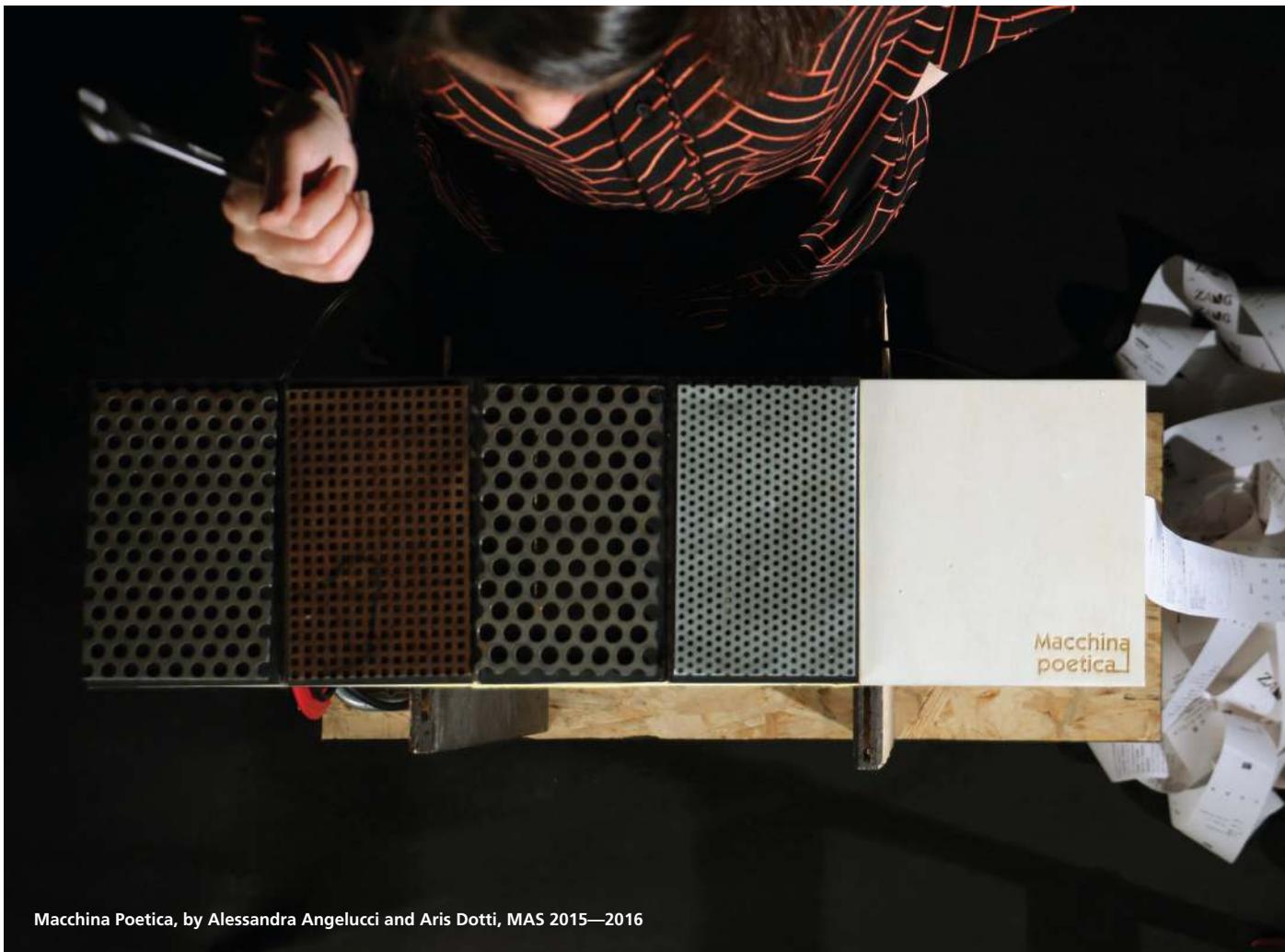
Macchina Poetica, by Alessandra Angelucci and Aris Dotti, MAS 2015—2016

1.1 Design Process and Methodologies
Ilaria Scarpellini (1 ECTS)

Description

The increasing complexity and fragmentation of the interaction design panorama represents a big challenge for the designers of the future, they will be confronted with rapidly changing scenarios and a multitude of fields of application. This requires strong methodological basis, a clear overview of the design process and the capability to understand people's and society's needs and expectations. This 3 day seminar will give an overview of a Human-centred design process and focus on the initial phases of research, analysis and ideation. The classes will entail theoretical matters and practical exercises to execute a (mini)design process.

Objectives

The seminar allows students to experiment the 'full' design process in a 'controlled' environment to increase their awareness at methodological level, since the aim is to correctly follow the process rather than focusing on the outcome. The aim is to increase their capability to manage and deeply understand (not only execute) projects. They will learn basic methods and techniques, and partially carry out, the different phases of the process and the corresponding activities (research, analysis, mapping, testing etc...).

Examination

At the end of the last day of the seminar students will present a summary of the mini project they will develop, focused on illustrating the activities performed and the respective outcomes, plus a high level concept to express the relationship between research and conceptualization.

References
Senova, M. (2017). This Human: How to be the Person Designing for Other People. BIS Publishers.
Hanington, B., & Martin, B. (2012). Universal methods of design: 100 ways to research complex problems, develop innovative ideas, and design effective solutions. Rockport Publishers.
Fokkinga, S., Hekkert, P., Desmet, P., & Özcan, E. (2014, June). From product to effect: Towards a human-centered model of product impact. In Proceedings of the Design Research Society Conference: Design's Big Debates (pp. 71-83).

1.2 Creative Coding with Processing
Fabio Franchino (4 ECTS)

Description

With our lives surrounded by technology, the importance of software understanding is on the rise. Nowadays, designers and artists have the opportunity to learn how to build interactive software with accessible tools and environments. The notion of "creative coding" serves this very purpose. Furthermore, this understanding has the ability to enhance skills, aptitude and thinking in the creative field. The course is meant to be an introduction to the creative coding providing the basics of programming aspects using Processing environment. The students will learn the coding strategies and the building blocks of Processing tool to write small interactive programs for creative purposes. The course follows the learn-by-doing principle featuring hands-on activities and teamwork. The approach follows the step-by-step process through incremental exercises.

Objectives

The main objective is to give all the students a common base and basic knowledge in programming paradigms with an angle to aesthetic and creative outcomes.
The students will learn to understand small Processing sketches to be able to modify them for their purposes. They will learn to write small interactive programs from scratch or make a combination starting from other samples.

Program

Week 1: Presentation sessions and assisted journey on Processing environment through small exercises
Week 2: Further tutoring sessions about more advanced aspects of the programming language as well as a project brief for a little personal project that will be evaluated.

Examination

Students' evaluation will be based on the final project presentation, from the concept idea to the final implementation, passing through all the iterative prototyping phases.
The attendance at the course is mandatory to be awarded the ECTS. In order to be admitted to the examination, students must deliver the documentation and communication materials according to the documentation guidelines (see Guidelines for documentation booklet) within the appropriate deadline.

Evaluation criteria:
– Quality and relevance of the project idea.
– Quality of the implementation outcomes.
– Quality of the presentation.

References
Shiffman D., The Nature of Code, 2012
Free online version with updated code examples:
http://natureofcode.com
Supplementary references will be provided during the course.

1.3 Designing Mobile Interfaces
Antonio De Pasquale & Frog Design Team (3 ECTS)

Description

Since the introduction of the iPhone in 2007 and the widespread of high-speed mobile networks, smartphones are our primary way to access information and services related to any aspect of our daily life: from social networks to media, from financial services to transportation, from healthcare to shopping.

What platforms can we leverage when designing for mobile and what possibilities they provide us with? How to design delightful experiences and show relevant information on small screens?

In this intensive course we will learn how to design a mobile application starting from the foundation of Digital experiences design: from defining its end-users, to value proposition and key features definition, building a solid UX framework and Information architecture and creating a distinctive visual language to design and prototype a modern mobile User Interface.

Objectives

Students will be given a design brief and will be asked to design, prototype and test (with end-users) a mobile application.

Examination
Evaluation criteria are based on the quality of the following:
– Interaction Design (Information Architecture, User Flows, Wireframes)
– Visual Design (Moodboards, Visual Language)
– Prototype (Web or Platform specific).
In order to be admitted to the examination, students must deliver the documentation and communication materials according to the documentation guidelines (see Guidelines for documentation booklet) within the appropriate deadline.

Schedule
Monday October 7 / Lugano / 10:30 AM – 4:20 PM
Lectures (background information): Mobile design principles, Mobile platforms: opportunities and challenges, Interaction Design basics, Visual Design basics.
Brief and discussion of the brief with the students.

Wednesday October 9 / Milano / 1 PM – 6 PM
Lectures (background information): UX Introduction & Case studies presentation
Research review with the students.

Friday October 11 / Lugano / 10:30 AM – 4:20 PM
Lecture (background information): User Flow and CX Storytelling (from Ideas to Concept presentation).Review of the initial Wireframes and Visual Language for each student.

Tuesday October 15 / Lugano / 10 AM – 4 PM
Lecture (background information): Mobile prototyping.
Review of the mobile application prototype and concept storytelling.

Friday October 18 / Lugano / 10 AM – 4 PM
Final presentation.

References
References will be provided during the course

1.4 Digital Fabrication
Marco Lurati (3 ECTS)

Description

The course aims at giving the basis of one of the most diffused and versatile 2D and 3D software Fusion 360 in order to create digitally designed objects that can be fabricated through fast prototyping machines. The focus of the course is placed equally on CAD theory, Fusion 360 lessons and practical exercises. The course provides an overview on both the Computer Aided Design and the Fusion interface. Following the overview, students will design a small 2D file of low or intermediate complexity and prepare it for the laser cut. The second step is to work on 3D models. The combination of different digital fabrication technologies allows students to develop and prototype, quickly and effectively the physical part of complex and interactive projects.

Objectives

The main goal is to introduce students to parametric CADs and to explain the different possible approaches based on the desired result. The focus of the course are the useful applications these technologies have for an interaction designer (like simplify the hacking of existing objects or design new interfaces from scratch), that can be produced with innovative digital technologies, like laser cut machines, CNC routers and 3D printers.

Examination

The attendance at the course is mandatory to be awarded the ECTS. In order to be admitted to the examination, students must deliver the documentation and communication materials according to the documentation guidelines (see Guidelines for documentation booklet) within the appropriate deadline.

References

https://www.autodesk.com/products/fusion-360/overview.
Supplementary references will be provided during the course.

1.5 Creating Tangible Interfaces
Ubi de Feo (4 ECTS)

Description
Due to the growing pervasiveness of computing systems in our physical spaces and the huge amount of digital information that people access and manage daily, new kinds of interfaces are necessary to connect analog and digital worlds and allow people to easily interact with them. The course introduces to the design of tangible interfaces and to the creation of physical modalities and experiences for accessing and manipulating information through sensing artifacts. The course is based on the approach of "learning by doing": students learn how to design and implement tangible interfaces by developing basic prototypes with Arduino platform.

Objectives
The goal of the workshop is to learn how to design and implement tangible interfaces through systems based on sensors and actuators controlled by Arduino. The goal will be achieved by learning basic notions of physical computing and by learning how to handle different typologies of sensor and actuators and how to connect them through the Arduino platform.

Examination
The examination will be carried out through the evaluation of a final presentation and the commitment of the student during the course. In order to be admitted to the examination, students must deliver the documentation and communication materials according to the documentation guidelines (see Guidelines for documentation booklet) within the appropriate deadline. References Banzi M., Getting Started with Arduino, Sebastopol, (Make: Projects) O' Reilly, 2008. Supplementary references will be provided during the course.

References
Banzi M., Getting Started with Arduino, Sebastopol, (Make: Projects) O' Reilly, 2008.
Supplementary references will be provided during the course.

CAS2
Designing Advanced Artifacts

DIME, By Silio Keiser, MAS 2017—2018

2.1 Designing Advanced Artifacts
Serena Cangiano, Lorenzo Romagnoli (6 ECTS)

Description

Artificial Intelligence and Machine Learning play a key role in shaping the future of work. New professions will emerge when society will make use of advanced smart technologies that can work in every sector of human life, from goods delivery to data analysis to food distribution and healthcare. The digital transformation brought by those technologies can have a huge impact on the way we work, on production processes as well as the management of free time.

The rise of this new breed of technologies is unlocking a series of new interaction modalities which were unthinkable until just a few years ago.

Interaction Design can contribute to the definition of the future of work by opening AI technologies to people and empowering them by making AI more understandable and programmable according to the human behaviors.

During the course we will focus on making understandable and usable by young kids the new emerging patterns. We will iteratively conceptualize, design and prototype new playful artifacts which will eventually shape the relationship that young kids will have with technology.

Objectives

The course focuses on the design and prototyping of a playground that, through playful approaches and interaction modalities, engages kids in learning experience of complex tech subjects influencing the future of work.

During the course the students learn how to research and simplify a complex topic and to design tangible interactive products by defining the language of the interaction. They learn how to refine the product design by sketching in hardware, prototyping and creating a good storytelling. Final goal of the course is to release functioning prototypes and a documentation to describe the context of use and interaction modalities.

Program

Week 1: Presentation sessions and external speakers contributions. Ideation phase, technology exploration and video-prototyping

Week 2: Presentation of preliminary projects, sketches and prototyping.

Week 3: Prototyping, refinement and documentation. Final presentation. Examination.

The work executed will be evaluated with the following criteria:
– 10% research
– 40% concept & design
– 30% execution, prototyping and product design

– 20% presentation and documentation communication materials according to the documentation guidelines (see Guidelines for documentation booklet) within the appropriate

In order to be admitted to the examination, students must deliver the documentation and deadline.

References
During the course a series of references will be provided to support the design and prototyping phase.

2.2 Special Project: Machine Learning for Creatives
Matteo Loglio (3 ECTS)

Description

The acceleration of processing power, large amounts of data, the release of open source frameworks and research papers are only a few factors that contributed in making artificial intelligence one of the most hyped and interesting trends of the last few years. Machine learning is watching over the devices we use every day, it listens and records our actions, learns our behaviors, predicts our intentions. There are many branches of AI where designers could have a great impact. So far the most obvious applications are conversational design, voice interfaces and natural language, but we are starting to move into more experimental directions. This workshop provides an introduction to artificial intelligence and the relative creative applications. Participants will learn how to include AI in their projects, and to experiment with some simple tools created for artists and designers.

Objectives

We hear news about artificial intelligence and machine learning almost every day, but what is it exactly, and how can we use it in the design practice? This workshop tries to shed some light on artificial intelligence and the relative creative applications. Participants will learn how to include AI in their projects, and to experiment with some simple tools created for artists and designers. We will look into existing projects that use this technology in the fields of art, science, design, and creativity in general. Then we will start to prototype ideas using machine learning as a design instrument. Participants will learn existing libraries and prototyping applications hands-on, and many examples will be provided for future reference.

We will use some simple programming tools, such as ml5.js, Wekinator, and others. Some basic skills of Processing or Javascript would be ideal, but not required. A laptop is required.

Examination

Students' evaluation will be based on the final project presentation, from the concept idea to the final implementation, passing through all the iterative prototyping phases.

In order to be admitted to the examination, students must deliver the documentation and communication materials according to the documentation guidelines (see Guidelines for documentation booklet) within the appropriate deadline.

References
1. Pj5, www.p5js.org
2. Posenet, www.github.com/tensorflow/tfjsmodels/tree/master/posenet
3. Wekinator, www.wekinator.org

2.3 Visualizing Data with D3.js
Fabio Franchino (3 ECTS)

Description

We are surrounded by data and information.

The exponential growth of generated data-points by our lives and experiences provides a new breed of material full of potentials. With this context in mind, understanding the Data Visualization field is key to figure out what's coming next. The course is dedicated to explorations into the field of data visualization using D3.js. D3.js is a powerful JavaScript open-source library used by thousands of websites that allow creating custom interactive visualizations running in every modern device through the web platform. It is widely used for online news websites, information dashboards for viewing data, producing maps and it became an essential tool for any designer working with data. The students will learn how to find, manipulate and visualize data sets with D3.js to make raw data perceivable through data-driven visualizations.

The course follows the learn-by-doing principle featuring hands-on activities and teamwork. The approach follows the step-by-step process through incremental exercises.

Objectives

The main objective is to give a clear overview of D3.js, its principles and techniques, in order to understand how to build an interactive data-driven visualization project. The students will learn the programming aspect of D3.js to be able to create data-driven visualization software compatible with the web.

Program

Week 1: Presentation sessions and assisted journey on D3.js library by means of small exercises. The last day will be dedicated to the personal project.

Examination

Students' evaluation will be based on the personal project presentation. The attendance at the course is mandatory to be awarded the ECTS. In order to be admitted to the examination, students must deliver the documentation and communication materials according to the documentation guidelines (see Guidelines for documentation booklet) within the appropriate deadline.

Evaluation criteria:
– Quality of the project idea.
– Quality of the implementation.

References
1. Pj5, www.p5js.org
2. Posenet, www.github.com/tensorflow/tfjsmodels/tree/master/posenet
3. Wekinator, www.wekinator.org

2.4 Interaction Design Seminars
(2 ECTS)

Description
The course is organized into a series of seminars that address issues of interest in interaction design. The seminars, taught by invited professors and professionals, have the goal of presenting theoretical knowledge and experiences useful for the design thinking and practice.

Objectives
The main objective of the seminars is to provide knowledge in interaction design, from broad topics to specific areas.

Examination
The attendance at the seminars is mandatory to be awarded the ECTS.

References
References will be provided during the seminars.

2.5 Projects documentation
(1 ECTS)

Description
The workshop aims to produce the documentation of the projects developed during the academic year. For each project the student will have to write a description of the project, produce an image documentation (digital outputs / screens in the case of digital software or photographs in the case of physical products), a video (the storytelling of the project), the software source files and the hardware schematics, accordingly to the provided examples and guidelines.

Objectives
The main objective of the week is to produce proper documentation of the projects developed during the academic year to allow students to build their personal portfolio.
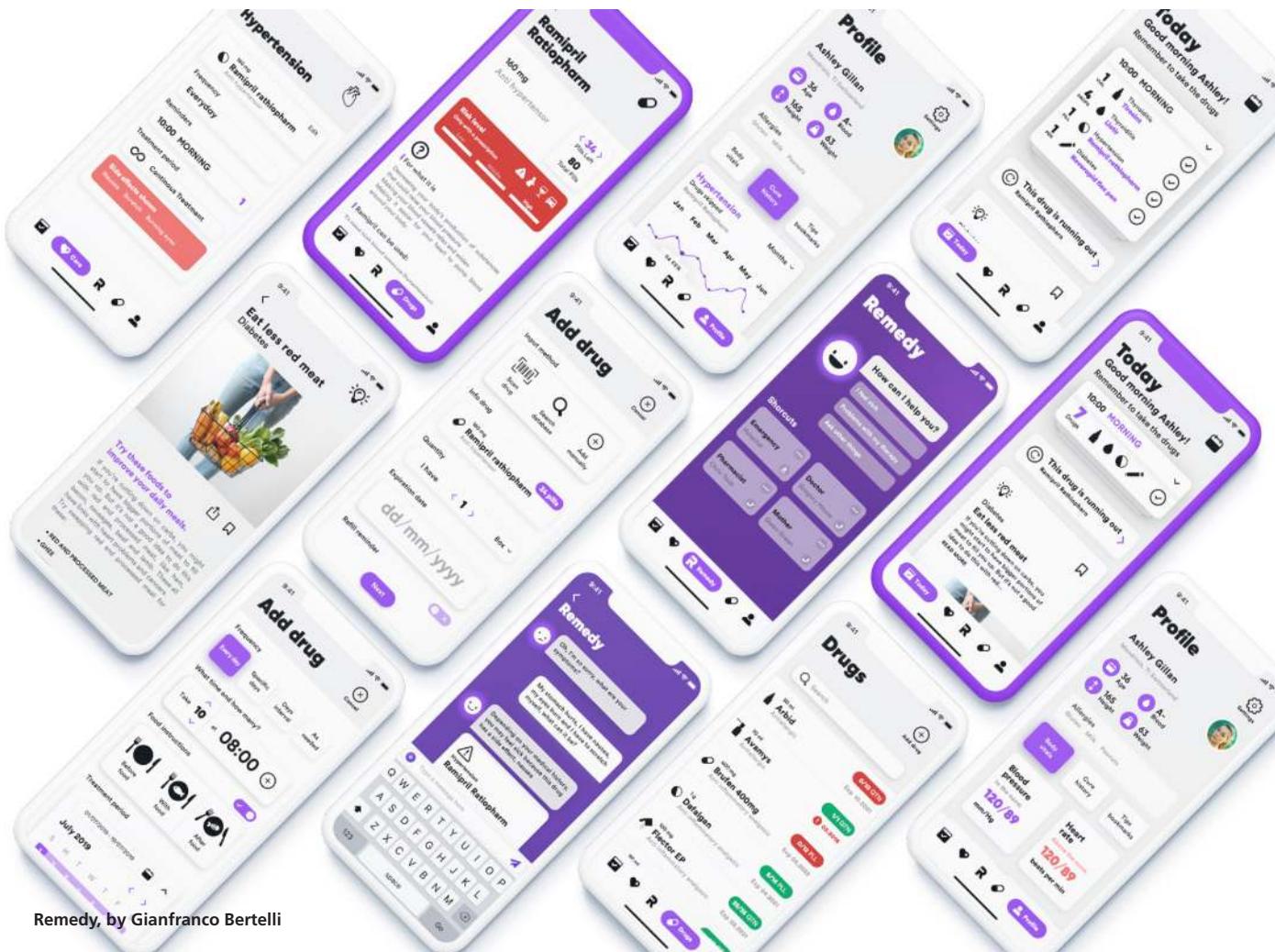
Examination
Students' evaluation will be based on the review of the requested materials.
The delivery of the documentation is mandatory to be awarded the ECTS.

References
References will be provided during the course

CAS3
Designing Advanced
Environments & Services

Remedy, by Gianfranco Bertelli

3.1 Designing Advanced Environments
Fabio Franchino (6 ECTS)

Description

"Building Interactive Installations with the Web Platform"
Interactivity can be everywhere and people are more and more used to interact with digital means around them. Interactive installations have the potential to engage people, therefore, there's increased use of them in a variety of situations, from art to advertising fields.
In this context, the web-platform provides a device-agnostic set of tools that allows the development of interactive software for a variety of endpoints. After two decades of evolution alongside the Web's progress, today creatives can work with a mature platform that is fluid and adaptive by design and supports unprecedented and novel ways to craft interactive experiences.

The students will learn to become familiar with the web-platform alongside its built-in technologies such as javascript, html, svg, css and some third-party libraries. They will learn sketching user interactions straight in the browser, which allows fast-paced iterations of the creative process. Finally, they will learn how to build an interactive digital installation according to a given project brief. The course follows the learn-by-doing principle featuring hands-on activities and teamwork. The approach follows the step-by-step process through incremental exercises.

Objectives

The main objective is to give the students a clear understanding of the complexity of an interactive installation as well as a common foundation to prototype it using the web-platform. They will learn how to integrate together with the different technologies that belong to the web-platform with their pros and cons.

Program

Week 1: Presentation sessions and assisted journey on the web-platform and its technologies using small incremental exercises.
Week 2: A second journey about more advanced techniques to solve common issues in the context of interactive installations.
Week 3: A project brief with a tutoring session about defining team-works and projects.
Week 4: Further assisted sessions to learn more on specific techniques that are required for the final projects.

Examination

Students' evaluation will be based on the final project presentation, from the concept idea to the final implementation, passing through all the iterative prototyping phases.
The attendance at the course is mandatory to be awarded the ECTS. In order to be admitted to the examination, students must deliver the documentation and communication materials

to the examination, students must deliver the documentation and communication materials according to the documentation guidelines (see Guidelines for documentation booklet) within the appropriate deadline.

Evaluation criteria:
– Quality and relevance of the project idea.
– Quality of the implementation outcomes.
– Quality of the presentation.

The evaluation of this course is group-based.

Requirements
Attendees have a basic understanding of HTML, CSS and Javascript paradigms that they can learn by following these online courses:
https://www.codecademy.com/learn/learn-html-css
https://www.codecademy.com/learn/learn-javascript

References
https://developer.mozilla.org/en/
https://greensock.com/
Supplementary references will be provided during the course.

3.2 Designing Advanced Services
Giorgio Baresi & Spark Reply Team
(6 ECTS)

Description
"Designing Intelligent Experiences"
The widespread use of smartphones, wearable devices, connected products and smart assistants has changed the way people experience services. Nowadays, the expectation is not only to have a coherent, omni-channel experience but also interactions that are personalised (only for me), intelligent (learning from me), context-aware and, ultimately, capable of raising a brand's relevancy in an ever-changing, hyper-competitive landscape.
In this course we will learn how to design an intelligent service experience across different touch-points and contexts: from gathering insights directly from our target users, to identifying opportunity areas that satisfy unmet needs to generating ideas that lead us to a concept that will be developed and prototyped.

Objectives
Each workgroup will be asked to choose a specific opportunity space in a defined industry and shape a multi-touchpoint service to improve the life of the intended target users.
Each workgroup will also be asked to design and prototype one (or more) of the service touch-points (e.g. web and/or mobile – wearable application)

Examination
Evaluation criteria are:
– Quality of design research (User Personas, Customer Journey, Opportunity Areas)
– Quality of the overall service concept (Ecosystem & Flows)
– Quality of the execution of the chosen touchpoint(s): product/visual/interaction design & prototype (Web and/or Mobile User Interface Design / Prototype)
– Quality of the prototype
– Quality of the presentation.

Schedule
Monday, March 09 / Lugano / 10 AM – 4 PM
Lectures (background information): Competitive context, Primary & Secondary User Research, User Personas, Multi-channel Experiences, Customer Journey
Brief and discussion of the brief with the workgroups (opportunity area selection), user research planning & preparation.

Friday, March 13 / Lugano / 10 AM – 4 PM
Review of competitive analysis (desktop research) to date
Review of user research plan and/or initial insights derived from initial user research.

Tuesday, March 17 / Milano / 10 AM – 4 PM
Review of final competitive analysis (desktop research) & insights from user research
Discussion around initial service concept.

Friday, March 20 / Lugano / 10 AM – 4 PM
Presentation of final User Research results & insights (User Personas, Customer Journey, Opportunity Areas) and Service Concept (Mission Statement, Target Users).

Tuesday, March 24 / Milano / 10 AM – 4 PM
Review of final Service Concept.
Discussion around hero flows, touch-point design & focus (web and/or mobile and/or physical product).

Friday, March 27 / Lugano / 10 AM – 4 PM
Review/workshop on initial touch-point detailed design (e.g. web/mobile/physical product user experience / user interface / interaction).
Discussion around evaluative research, user-tests and next steps.
Discussion around final presentation structure & narrative.

Tuesday, March 31 / Milan / 10 AM – 4 PM
Review/workshop of touch-point detailed design & prototype(s).
Review of initial insights derived from evaluative user research, user-tests.
Review of final presentation structure & narrative.

Friday, April 3 / Lugano / 10 AM – 4 PM
Final presentation.

References
References will be provided during the course

3.3 From Project Ideas to Market
Leandro Bitetti (3 ECTS)

Description

Entrepreneurship is a fundamental process that promotes innovation, growth at the corporate level as well as at the level of entire economic and social systems. It is also a process that leads to self accomplishment. There are many ways to support and promote this process. One of these is to discover potential business ideas and hence interesting business opportunities looking at market, social, technological, institutional and economic trends and needs. This is also a way to support another fundamental process which is the knowledge and technology transfer from Science to Business. Graduates and master students are key agents in this process. Some recent developments in the business entrepreneurship field are particularly linked to the general framework of the MAS in Interaction Design teachings. We particularly refer to the entrepreneur considered in a broader view as a sense-maker, as a language-maker, as a culture-maker and as a history-maker. That is why we do believe that there are good chances to find interesting entrepreneurial seeds in the MAIND students' projects, ideas or even dreams that deserve to be nurtured, supported and promoted throughout the module.

The module aims at developing a Business Concept, with a particular attention on the Value Proposition and the Business Model. The module will also provide an introduction on the Business Plan document and its main chapters (included the financial projections). The best Business Concepts will have the chance to be pitched at the Business Ideas events promoted by the Innosuisse startup training federal Program.

Objectives

At the end of the module, the participants should:
- Be able to discover Business opportunities
- Be able to write and describe a Business Idea
- Be able to write and describe a unique Value Proposition in response to
  customers' needs
- Be able to design and test a Minimum Viable Prototype
- Be able to write, describe and discuss a Business model
- Be able to describe the main chapters of a Business Plan
- Be able to present and advocate their own business project

Examination

The attendance of the module is mandatory.

As outcome of the course students are expected to understand the business side of a project and able to apply its basic concepts in their practical work.

The certification of the module is made of two main parts: The Business Concept written report (80%) and the final presentation after the seven lectures on February 25th (20%)

Schedule
Day 1: Monday, January 20 / Trevano / 08.40 AM – 12.00 AM
Lectures: Introduction on the entrepreneurial process and the business idea identification
Workshop: Participants work on the discovery of Business Opportunities

Day 2: Wednesday, January 22 / Trevano / 08.40 AM – 12.00 AM
Lectures: The Value Proposition Canvas (jobs to be done and competing alternatives)
Workshop: Coached activity on the designing of the Value Proposition Canvas and competitive analysis

Day 3: Tuesday, February 4 / Trevano / 08.40 AM – 12.00 AM
Lectures: The Minimum Viable Prototype and Market testing
Workshop: Coached activities on the designing of a minimum viable prototype and definition of the MVP test strategy

Day 4: Thursday, February 6 / Trevano / 08.40 AM – 12.00 AM
Lectures: The business model around the value proposition
Workshop: Coached activity on the Business Model design (key aspects)

Day 5: Monday, February 10 / Trevano / 08.40 AM – 12.00 AM and 01.00 PM - 04.20 PM
Lectures: From the Business Model to the Business Plan
Workshop: Coached activities on the writing of the main chapters of the Business Plan, in particular the financial aspects

Day 6: Tuesday, February 18 / Trevano / 08.40 AM – 12.00 AM
Lectures: How to pitch a Business Concept
Workshop: Coached activities to finalize the business concept

Final Presentation: Tuesday, February 25 / Trevano / 08.40 AM – 12.00 AM
Final presentation in front of experts

References
- Bjerke, B., (2013), About entrepreneurship, Cheltenham UK & Northampton, MA, USA, Edwar Elgar.
- Kuratko, D. F. (2016). Entrepreneurship: Theory, process, and practice. Cengage Learning.
- Lewrick, M., Link, P., & Leifer, L. (2018). The design thinking playbook: Mindful digital transformation of teams, products, services, businesses and ecosystems. John Wiley & Sons.
- Osterwalder, A., & Pigneur, Y. (2010). Business model generation: a handbook for visionaries, game changers, and challengers. John Wiley & Sons.
- Osterwalder, A., Pigneur, Y., Bernarda, G., & Smith, A. (2014). Value proposition design: How to create products and services customers want. John Wiley & Sons.
- Shane, S. (2003), A General Theory of Entrepreneurship: The individual-Opportunity Nexus, Cheltenham UK & Northampton, MA, USA, Edwar Elgar.

Thesis Project Module

Pico, by Edy Radice, MAS 2017—2018
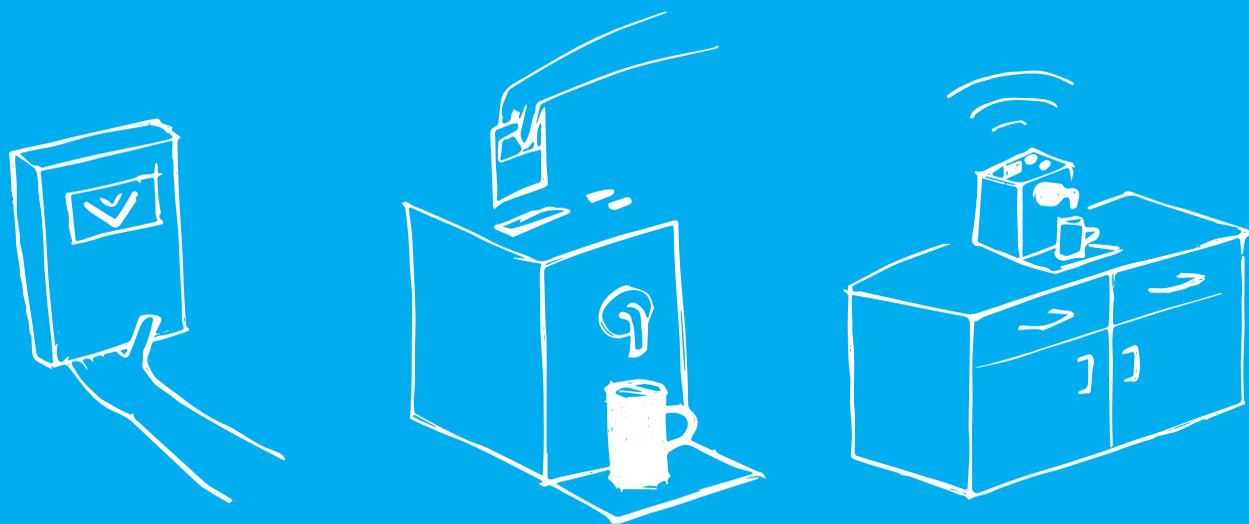
4. Thesis Project
(15 ECTS)

The thesis project module is organised in two parts devoted to the development of the master thesis project. Participants are expected to identify a thesis topic, to write a short essay focusing on their research area, to select a thesis advisor, and to establish a network of people, institutions and companies, if necessary for the completion of the thesis project.

Participants have to present the thesis topic to the Review Commission for evaluation and approval. After this step, participants will develop the thesis project and present it to the Review Commission for the final evaluation.

Thesis Project Plan
The plan of activities listed below represents the necessary issues/item/points that participants have to develop for the completion and the dissertation of the thesis project. The plan is organised into three main parts: A. Thesis Project Definition; B. Thesis Project Development; C. Thesis Project Delivery.

A. Thesis Project Definition

1 Research Topic Definition
The following sections include mandatory material for the first deliverable. Participants can add sketches, images, videos, paper prototypes, etc. in order to better highlight the features of the research process or outcome.

1.1 Research Topic
The research topic has to outline the main theme of the thesis project and to briefly describe the area/domain of interest. A discussion of existing literature or a state of the art of current technology has to be provided (5'000-10'000 characters, spaces included).

1.2 Research Question and Hypothesis
The base of all further research steps is the definition of one or more research questions, as well as a research hypothesis.
Research question is the methodological point of departure of research: the research has to answer this question.
Research hypothesis is the statement created in order to speculate upon the outcome of a research or experiment.
Both research question and hypothesis must be tested at the end of the research phase to provide arguments and evidences on the completion of the research phase. (1'000-2'000 characters spaces included).

1.3 Research Aim
As a consequence of research question and hypothesis, participants are asked to describe what they want to find/prove through their research: the research aim. Insights on how these results will be reached are expected and they also concern the methodology employed. (2'000-5'000 characters spaces included).

1.4 Research Outcome

The research outcome is a critical description and motivation of the design solution adopted in order to answer the research question, be it an artifact, a service, an environment, or a mix of these. (2'000-5'000 characters spaces included).

1.5 References

The Project Definition includes lists of sources employed for defining the above mentioned sections (questions, hypothesis, aims and outcome). These sources typically take the form of book, film, website references or other specific items (i.e. products, applications, softwares, etc.). Discrimination among primary, secondary and tertiary sources is suggested.

B. Thesis Project Development

2   Analysis of the State of the Art

2.1 Topics and disciplinary areas

2.2 Existing/Future Design Solutions

2.3 Existing/Future Tools and Technologies (HW/SW)

2.4 Insights

3   Scenario Design and Concept Generation

3.1 Context/Domain Analysis, User Research and Opportunity Areas

3.2 Personas, Context Scenario and Requirements

3.3 Framework Definition, Concept Generation

3.4 Detailed Concept for Prototyping

4   Project Development

4.1 Initial Design and Prototype

4.2 Test and Iterative fine-tuning of the Prototype (continuous activity)

4.3 Detailed Design of: User Experience, System Behaviour, Interaction Modalities and User Interface

4.4 Detailed System Specifications

4.5 Hardware and Software Development

4.6 Usability Test and Evaluation Report

4.7 Final Product

4.8 Standard Project Description

(title, author, licenses, abstract, interface and interaction modality, technology, user experience, research and development context, main references)

C. Thesis Project Delivery

5   Thesis Project Deliverables

5.1 Thesis Project Book

The Thesis Project Book is to be page set according to the corporate image of the master programme. Standard files in Indesign format will be provided and checked by the Review Commission.

5.2 Thesis Project Prototype

A budget of 350.– CHF is available for each participant in order to buy materials or services for the development of the final outcome.

5.3 Thesis Project Video

5.4 Thesis Project Presentation

5.5 Thesis Project Exhibition

Faculty
Coordination

Massimo Botta
head

Massimo Botta holds PhD in Industrial Design and Multimedia Communication from the Polytechnic of Milan and he worked at Domus Academy Research Centre and at Philips Design as Senior Design Consultant. He carries on a theoretical and research activity in the field of interaction design, the design of new products and services, user centered interfaces (GUI, TUI, PUI), interaction modalities and techniques, knowledge organisation and information visualisation. He is the author of the theoretical book on computer-based systems Design dell'informazione. Tassonomie per la progettazione di sistemi grafici auto-nomatici (2006) and the editor of the books: L'ambiente dell'apprendimento. Web design e processi cognitivi (2006) with G. Anceschi and M. A. Garito; Multiple ways to design research. Research cases that reshape the design discipline (2009).
At SUPSI, he is the Head of the Master of Advanced Studies in Interaction Design and of the Laboratory of Visual Culture - Interaction Design Lab of SUPSI, where he leads applied research projects in the field of web and mobile services and applications, digital archives, graphical user interfaces and software design.

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Serena Cangiano
coordinator

Graduated in Communication Sciences and pursued a Master in the design of interactive applications at the University of Lugano. She collaborated on projects about virtual archaeology, interactive art and web design. She is currently carrying out projects of design research at the Laboratory of Visual Culture - Interaction Design Lab of SUPSI with a focus on the design of social media platforms and DIY design. She carries out didactical activities about interaction design and interactive installation prototyping within the bachelor programme in Visual Communication SUPSI and she collaborates on the organization of the Master and the workshops in Interaction Design SUPSI.

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Silvia Converso
administration manager

Silvia Converso (1985) is a cultural producer with a solid background in literature and a keen interest in architecture and art. She completed her studies in Languages, Literature and Curating in Milan, Berlin and Zurich, focusing on the interdisciplinarity of arts. She worked as project manager for major festivals of arts and literature in Europe. Currently, she is based in Zurich and Lugano, where she works as communications consultant and freelance curator for art and architecture, as well as admin manager of the MAS Interaction Design at University of Applied Sciences and Arts of Southern Switzerland.

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Marco Lurati
assistant

Graduated in Micro-engineering at Bern University of Applied Sciences in Biel/Bienne, Marco Lurati holds a Master of Advanced Studies in Interaction Design from the University of Applied Sciences and Arts of Lugano. As engineer he worked at Sensoptic SA in the production and quality control of optical sensors, as well as the design and customisation of production tools and mechanical and micro-mechanical manufaturing. He is currently working at the Laboratory of Visual Culture - Interaction Design Lab of SUPSI as scientific collaborator. He collaborates on the development of web and mobile applications and carrying out interaction design projects.

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Giovanni Profeta
assistant

Giovanni Profeta holds a Master Degree in Visual and Multimedia Communication at University Iuav of Venice. He collaborated on projects about web design and digital publishing. At the Laboratory of Visual Culture - Interaction Design Lab of SUPSI he is carrying out projects of applied research, focused on data visualization and interaction design. He also teaches interaction design at the Bachelor in Visual Communication. Currently he is a PhD Candidate in Design at Politecnico di Milano.

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Teaching staff

Massimo Banzi

Massimo Banzi is the co-founder of the Arduino project and has worked for clients such as: Prada, Artemide, Persol, Whirlpool, V&A Museum and Adidas.
He spent 4 years at the Interaction Design Institute Ivrea as Associate Professor. Massimo has taught workshops and has been a guest speaker at institutions like: Architectural Association - London, Hochschule für Gestaltung und Kunst Basel, Hochschule für Gestaltung Schwwbisch Gmünd, FH Potsdam, Domus Academy, Medialab Madrid, Escola Superior de Disseny Barcelona, ARS Electronica Linz, Mediamatic Amsterdam, Doors of Perception Amsterdam. Before joining IDII he was CTO for the Seat Ventures incubator. He spent many years working as a software architect, both in Milan and London, on projects for clients like Italia Online, Sapient, Labour Party, BT, MCI WorldCom, SmithKlineBeecham, Storagetek, BSkyB and boo.com.

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Giorgio Baresi

Giorgio is Executive Design Director at Spark Reply, where he leads a multidisciplinary team of service, interaction and visual designers based in Milan and Munich.
As a creative leader with 15+ years of experience both as a designer and as a manager, Giorgio has partnered with clients such as Novartis, Roche, General Electric, Intel, AXA, Generali and Swisscom, shaping new ideas and distilling them into products and services that meet users' needs and advance their experience by bringing meaning to their life. Finally, both as a professor and a design director Giorgio coaches and mentors young design talent to ensure they are ready to face today's challenges in an ever-evolving industry.

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Leandro Bitetti

Leandro Bitetti is a lecturer and researcher at the Competence Centre for Management and Entrepreneurship at the Department of Business Economics, Health and Social Care of the University of Applied Sciences and Arts of Southern Switzerland (SUPSI). He holds a Master of Science in Management with Major in Organizational Behavior from the University of Lausanne (HEC) and a Bachelor degree in Economics from the Università della Svizzera italiana (USI), in Lugano. After some years working in the banking audit industry, he joined SUPSI in January 2014. He has also been a PhD student in the topic of Business Model Innovation at USI since 2018. He works closely with several companies in Ticino. His main duties concern education, research and consulting activities in the field of innovation management, in particular in the area of Innovation Strategy, Business Modeling and Business Entrepreneurship. He is member of the Regional Jury of the Boldbrain Startup Challenge.

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Nicolò Calegari

Nicolò is an Interaction Designer at Spark Reply, where he covers the design process "end-to-end" for large international clients: from UX conceptualization to detailed design to quality assurance. His main role is to translate users' needs and business requirements into valuable experiences through high-fidelity wireframes and prototypes, also supporting tech teams in the development of the designed solution. Nicolò's main challenge is to overcome the concept of a prototype as just a user testing tool, considering it as the first delightful moment for users in experiencing the solution that will be developed and delivered.

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Letizia Cannerozzi

Letizia is a Visual Designer at Spark Reply. After graduating in Industrial Design, she stepped into Service Design and immediately loved the idea of having an impact on people's experiences, making their life easier and more pleasant. At Spark Reply, she works in close cooperation with service designers, interaction designers and technology experts to help clients find the right answers to the right questions, contributing to projects from the framing of the problem/opportunity to the delivery of the solution. Letizia believes in Visual Design as a strategic asset that is able to establish a deeper, more emotional connection with the end-user of an experience.

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Marco Colussi

Marco is Senior Designer at Spark Reply, where he works at the intersection of Digital Strategy, Service Design and User Experience Design to create experiences that match people's expectations and deliver both business value and technological innovation. Throughout the past 7 years, Marco has been working between London and Milan in developing meaningful experiences able to connect people to their favorite brands, ranging from designing complex digital platforms to developing social and mobile strategies. Marco's mantra is "leave the World in a better shape than you found it".

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Ubi de Feo

Born in 1974, Ubi belongs to one of the most lucky, unique generations ever lived: part of a demographic which grew up without Internet, he slowly saw it appearing on computer screens, and gradually transitioned to a world in which connectivity lies in our pockets, on our wrists, in our fridge and many more connected devices. Ubi started taking stuff apart when he was 6, and this desire to discover the inner workings of objects has guided him throughout his whole life via hacking computers, engines, code and electronics. Armed with this curiosity he became interested in many aspects of computing and technology, as well as many other things "technical". Ubi moved to Amsterdam in 2002 where he worked as a Creative Technologist for Wieden+Kenney. He supervised and/or developed projects for Nike, Nokia, GoreTEX, Heineken, Bottega Veneta, Mandarina Duck, Electronic Arts, MTV and many more. He currently teaches programming, electronics and other things to whomever wants to learn, often developing his own methods to explain really complicated things in a more tangible, down-to-earth fashion. He does do not try to teach things he doesn't thoroughly understand, which often leads him to learn entirely new subjects in order to explain them to himself and others. In his off-time (mostly when doing the dishes) he thinks about ways to improve things or invent new ones. He began experimenting with mobile devices in 2001, and internet connected objects in 2007. Ubi loves talking about the future.

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Antonio De Pasquale

Antonio De Pasquale is an Associate Creative Antonio De Pasquale is an Associate Creative Director in Frog specializing in digital user experience and service design. He believes that designing the interaction is the most important part in communication and is fascinated by how you can communicate through movement and gestures.

He has worked on numerous digital projects ranging from the field of web-tv, e-commerce, healthcare, online newspapers, corporate website to mobile and tablet applications and he participated in teaching activities at SUPSI, IED, Politecnico di Milano and Digital Accademia.

He is also a speaker at conferences like IXDA, SXSW, CodeMotion, APCHI and Social Media Week, and he is a certified Mentor of Interaction Design Foundation and a Jury Member of the international web design awards platform CSSDA.

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Fabio Franchino

Fabio is a computational designer and a founding partner at ToDo. He has always been involved in creative processes, ranging in fields from music to design, passing through performing and generative arts. One day he discovered the potential of programming as a medium and unconventional tool for his creative purposes. He explores ideas through evolving processes, often finding unexpected, meaningful outcomes and new aesthetics. After gaining senior experience with ActionScript and Processing, he has been exploring the Web Platform, trying to exploit the creative potentials of that platform. He has taught at several institutions and has held workshops in his field of expertise; he also organized the first Italian event devoted to computational practices in art and design.

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Matteo Loglio

Matteo Loglio is a designer and creative technologist working at Google Creative Lab and at the University of the Arts, London. He co-founded the ed-tech startup Primo Toys and his work was exhibited at the MoMA NY, the MIT and the V&A.

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Mattia Parietti

Mattia is an award-winning Interaction Designer based in the Milan studio. He has been at frog for more than 4 years. He holds more than 5 years of experience working for companies in the telco, healthcare, insurance and finance sectors.

He's collaborative, resilient and determined. He's helped clients in digital transformation programs, and he's obsessed by innovative technologies. He designed digital experiences for major players in Italy that are now live and running.

Mattia holds a MA from Politecnico di Milano University in Communication Design. He has also been a teaching assistant in SUPSI, Politecnico di Milano and Scuola Politecnica di Design.

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Lorenzo Romagnoli

Lorenzo Romagnoli is an interaction designer, with an expertise in digital media, physical computing and digital fabrication Together with Enrico Bassi, he was a member of the team that founded and ran Italy's first Fablab in 2011. From 2012 to 2014, Lorenzo returned to school to pursue a master's in Design for Interaction at the Delft University of Technology (TU Delft) in the Netherlands. Here, he designed a system for simplifying the design and prototyping of connected objects.

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Andrea Renna

Andrea is a designer specializing in Interaction Design, Experience Design and User Experience. In 10 years of professional experience he delivered and managed digital projects ranging from Web, Mobile, In-Store, connected home and the intersection of physical spaces and the digital divide. His experience spans into different industries like Retail, Fashion, Food & Beverage, Consumer Goods, Automotive, Telco, Digital Identity & Financial Services.

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Ilaria Scarpellini

Ilaria Scarpellini graduated in Design for Interaction and Integrated Product Design at TU Delft, and currently she a human-centred Researcher and Designer focused on innovation, strategy and service. Her mantra is to understand people, undertake new challenges and think beyond boundaries with the aim to design for impact, creating even small improvements which can address many people's daily life.

Her main expertise is: to carry out desk research to deepen the understanding of the market and technologies and trends outlining insights to support decision making; to perform contextual inquiries and user research for the development of behavioural models, personas and customer journeys to elicit further development of ideas and concepts: to Identify opportunities for developing strategies and service, also involving stakeholders within participatory sessions.
She has worked within different industrial fields and with clients such as Intesa Sanpaolo, Bradesco, BNP-Paribas, Unipol SAI, 3M, Facebook, Pinterest, Japan Tobacco International, Pininfarina, Delcon, Vodafone.

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University of Applied Sciences and Arts of Southern Switzerland
Department for Environment Constructions and Design
Interaction Design Lab

Campus Trevano

Bulding A
Atelier, level -1
FabLab, level -1
Rooms A004, A005
Library, level -1

Bulding B
Photo shooting studio
Canteen
Cafeteria

Building D
Room 201, faculty offices

D

A

B

E

C

Bus
stop