

FlexTech

Introduction to Projects

Guy André Boy



Human Systems Integration

HSI Course Website

<https://www.flextechchair.org/cours-2025-cs-ds.html>

Start	February 24, 2025			Start Time: 8:00 AM		
	Mon 24 Feb	Thr 27 Feb	Thu 6 Mar	Fri 7 Mar	Mon 17 Mar	Mon 31 Mar
08:00--08:30	L1. Introduction to HSI GAB	C1. Digital Twins Gauthier Fanmuy	C3. Human-Machine Teaming Pierre de Bodman	L6. Ethnographical Design (GEM) GAB	L9. MB-HSI for Railways Marc Sango	
08:30--09:00						
09:00--09:30						
09:30 --09:45	Break	Break	Break	Break	Break	
09:45--10:15	P1. Projects Presentation GAB	C2. Systémique en médecine Nicolas Dritsch et Jean-Noël Vergne	L5. MOHICAN BPMN Chloé Morel	L7. Ingescape Platform Stépahen Vales	L10. HSI & context Remote Virtual Tower Alexandre Disdier	
10:15--10:45						
10:45--11:15						
11:15--13:00	Lunch			Lunch	Lunch	
13:00--13:30	L2. Automation Evolution GAB			L8. INRS Program Prevention Edwige Quillerou	L11. Scenario-based Design Dimitri Masson	Start: 13:30
13:30--14:00						
14:00--14:30						
14:30--15:00	Break				Break	E2. Projects: Final Presentations
15:00--15:30	L3. TOP Model Organization D&M GAB				E1. Mid-term	
15:30--16:00					GAB	
16:00--16:30						
16:30--17:00						

PROJECTS

Objective

full literature review (both scientific and technological)

an appropriate problem statement of the project and requirements that have been assigned to

a first mock-up of the system to be designed (a PowerPoint slide presentation)

product as complete, clean and original as possible

Process

start from the beginning of the HSI course

during each class, have your project in mind

take notes and articulate them for your project

read & review literature on the Web

ask questions to advisors/referents (by email)

make syntheses incrementally (be agile)

Every two weeks, on Friday before 21:00 (from 24/02 to 31/03), a small report on the progress of the project must be posted.

What are you going to do?

Work on a project...

Communicate on your project!

State your project...

Model it...

Simulate it...

Iterate on it...

This is for later!...



reading

doing



LITERATURE INDEX

GoogleScholar
ResearchGate
HAL
...

**Where can you find student reports
from the last 5 years?**

<https://www.flextechchair.org/innomed-publications.html>

Publications INNOMED

Liste des présentations et rapports d'étudiants 3A et Masters (2021-2023)

2021 ESTIA [PowerPoint Rapport](#)

2021 CentraleSupélec [PowerPoint Rapport](#)

2022 ESTIA [PowerPoint Rapport](#)

2022 CentraleSupélec #1 ([PowerPoint Rapport](#)) - #2 ([PowerPoint Rapport](#)) - #3 ([PowerPoint Rapport](#))

2022 ISAE-SUPAERO [PowerPoint Rapport](#)

2023 ESTIA [PowerPoint Rapport](#)

2023 CentraleSupélec [PowerPoint Rapport](#)

2024 ESTIA #1 ([PowerPoint Rapport](#)) - #2 ([PowerPoint Rapport](#)) - #3 ([PowerPoint Rapport](#)) - #4 ([PowerPoint Rapport](#)) - #5 ([PowerPoint Rapport](#)) - #6 ([PowerPoint Rapport](#)) - #7 ([PowerPoint Rapport](#)) - #8 ([PowerPoint Rapport](#))

2024 CentraleSupélec #1 ([PowerPoint Rapport](#)) - #2 ([PowerPoint Rapport](#)) - #3 ([PowerPoint Rapport](#)) - #4 ([PowerPoint Rapport](#)) - #5 ([PowerPoint Rapport](#)) - #6 ([PowerPoint Rapport](#)) - #7 ([PowerPoint Rapport](#)) - #8 ([PowerPoint Rapport](#)) - #9 ([PowerPoint Rapport](#))

Rapports de stages

2021 ESTIA [Rapport](#)

2022 ESTIA [Rapport](#)

THE FLEXTECH CHAIR

Evaluating the Readings

Dimensions of Consideration

Impactful, solves problem / drives adoption

Innovative, suggests new directions

Orienting, clarifies the research landscape

Clear, exemplar of good communication

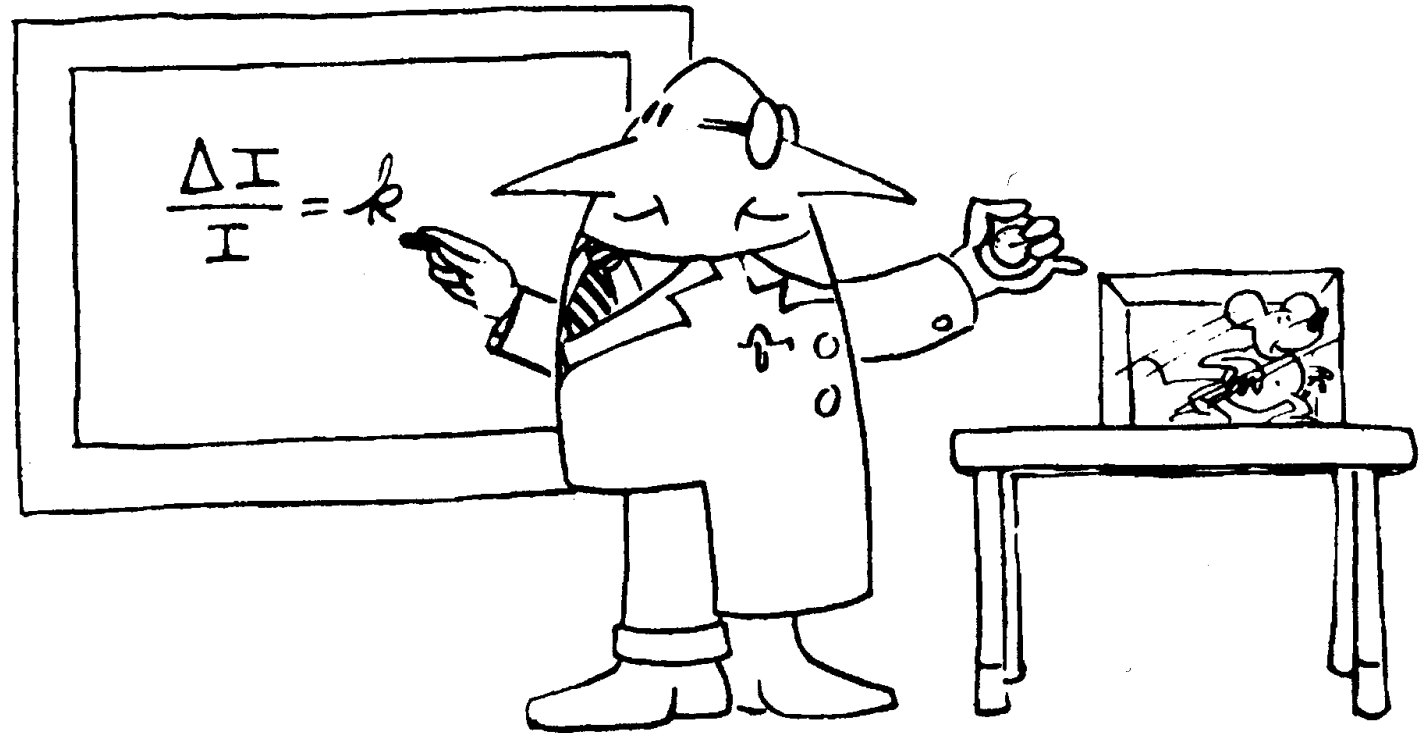
- *How does the literature you will have read map onto the dimensions?*
- *Is there a useful typology (ontology)?*
- *What model can you derive?*



RESEARCH METHODS

THEORY &
PRACTICE

EXPERIMENTATION
&
RATIONALIZATION



Be creative & work with expert and experienced people



Writing



Technical Presentation



Critical Thinking

Work breakdown

Gather	Gather information and knowledge on design alternatives
Develop	Develop an ontological/M&S model
Test	Test the model with respect to the three T.O.P. dimensions
Share	Share and incrementally refine model •à The model should help in collaborative design work

Questions?

Final Mini-Project Presentations (1/3)

Monday March 31, 2025 – 13:00-17:00

15 min for each presentation, 5 min for questions (crisp is better!)

Start with an overview:

1 sentence statement of your research result

1 slide / 4 sentences of what you did and why

Rest of time on details.

Assume audience is not too familiar with HSI issues: focus on *your* work

Send paper (6 pages max) & slides to guy-andre.boy@centralesupelec.fr

Final Mini-Project Paper (1/3)

Deadline: Monday April 7, 18:00 - 6 pages, ACM format

- *You will have a small week to correctly write your group paper*

Note that it is hard to write a good 6-page paper!

- *Try writing a longer paper first, then trim it down*

The abstract is the most important part

- *Communicate the contributions exactly: don't be vague!*

Related work is important, but be judicious

- *Frame prior work in terms of how it relates to your work*
- *Be clear how you build on and extend prior research*

Use favorite paper(s) as inspirational templates

Nice pretty-printing presentation is important

Early submissions are appreciated!

References for the Projects

Handouts

FlexTech website

<https://www.flextechchair.org/home/index.html>

The Handbook of Human-Machine Interaction

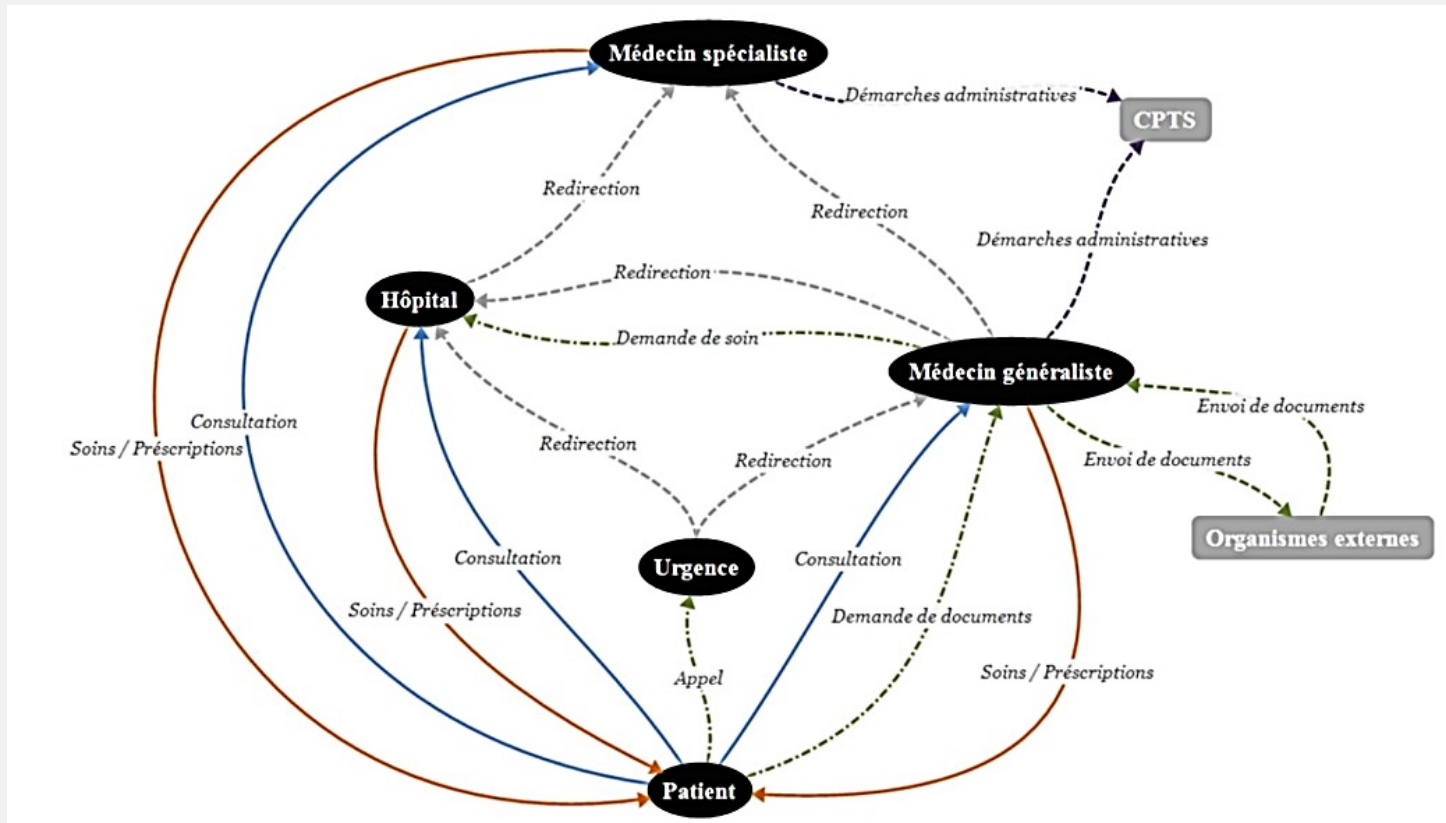
Orchestrating Human Centered Design

Human Systems Integration

... be curious!

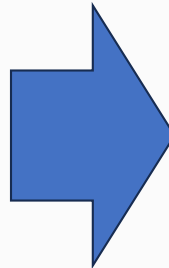
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2024 - 9 Groups

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Mohamed Rayen REJAB
Arthur RENOUT
Clément RIOTTE
Sacha SABATIER
Patrick SARKIS
Léo TESSIER
Maud VALENTIN
Ayoub ZEGHARI



Make 9 groups of 5 students working on 4 topics

GP & HOSPITAL (GROUPS XX)
GP & PATIENTS (GROUPS XX)
GP ADMINISTRATION + FINANCE (GROUPS XX)
HOLISTIC INTEGRATION & COORDINATION (GROUPS XX)

GP: GENERAL PRACTITIONER

**You have a
question:
Send me an
email...**

guy-andre.boy@centralesupelec.fr