

Service-Learning for Web Technology: Observations from a Small Case Study

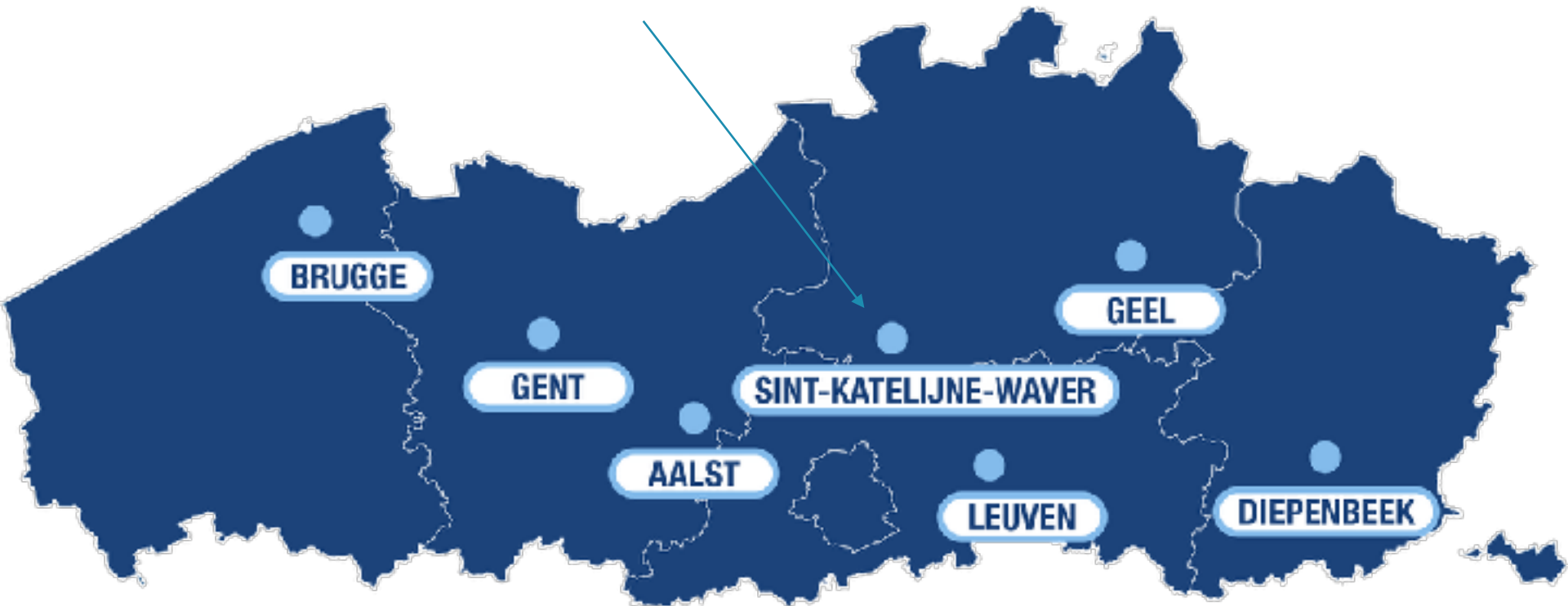
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What to expect from this talk

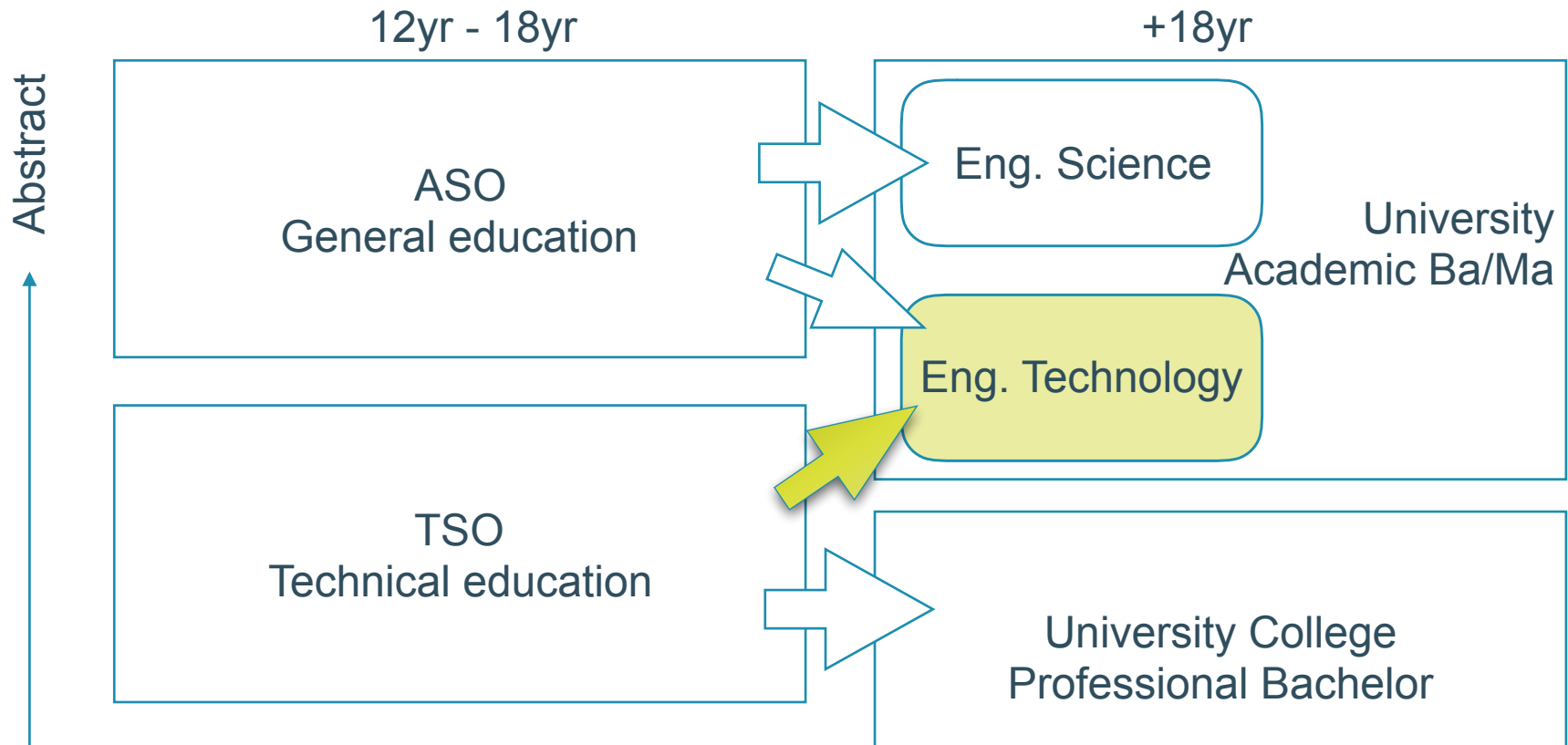
- Last year I experimented with Service Learning in one of my courses
 - Report on my experience
 - Maybe get your advice 😊
- Content of this talk
 - Which students and why?
 - What I did
 - Some reflections

Campus De Nayer



KU Leuven | Faculty of Engineering Technology

- 3 Bach in **Engineering Technology: Electronics-ICT**
 - 20 students

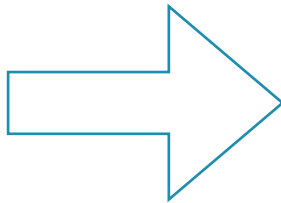


Compared to typical university students

- May have less non-technical background / interests
 - Language and literature, history, philosophy, ...
- May be worse at writing

Master in Engineering Technology

- Electromechanics
- **Electronics-ICT**
- Chemistry
- Civil engineering



Software developers



Gaps in software curricula

Skills taught

Skills needed for succes

Skill	SLR	LO	Delphi (Academics)	Delphi (Industry)
Communication (1)	96	67	63	29
Teamwork (1)	96	100	88	83
Self-reflection (2)	50	50	/	39
Conflict resolu. (2)	50	28	/	1
Mentoring	38	39	6	1
Leadership (2)	27	22	/	52
Motivation	23	<	38	89
Role awareness (2)	15	67	/	/
Cultural intell.	15	<	/	/
Creativity (3)	15	1	44	63
Ethics (2)	12	89	/	/
Lifelong learn.	12	17	13	77
Empathy (3)	8	<	75	61



Missing?



Ineffective?

Maths and tech specialists need Hippocratic oath, says academic



▲ Hannah Fry: 'The future doesn't just happen. We are building it all the time. Photograph: Paul Wilkinson

Advertisement

Software industry: “Hacker culture”

- Focus on yourself
 - Build what you know
 - Be your own first user
- “Move fast and break things” — Zuckerberg
- Impact of software on other people?

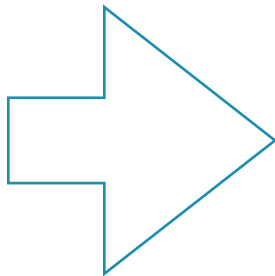
Our students are especially at risk

- EngTech: Limited non-technical knowledge / interests
- Electronics-ICT: “Hacker culture”
- Homogenous student group



Goal

- Empathy / Ethics
 - Technology has a real impact on people's lives
 - Not everyone is like you
- Creativity
- Separate courses don't seem to work



Service Learning

Web Technology

- Technical content
 - Build dynamic websites
 - HTML/CSS, Javascript, PHP / Python, AJAX, XML
- Activities
 - Lectures
 - Lab sessions
 - Project (30h)
 - Build website fictional car dealership
 - or
 - Service learning project

Motivation



Tom Laenen



Startpagina

Zoeken...



Nieuw



Mijn WAI-NOT



Berichten



Chatten



Gastenboek



Wedstrijd



Krant



Spelletjes



Vrije tijd



Weten



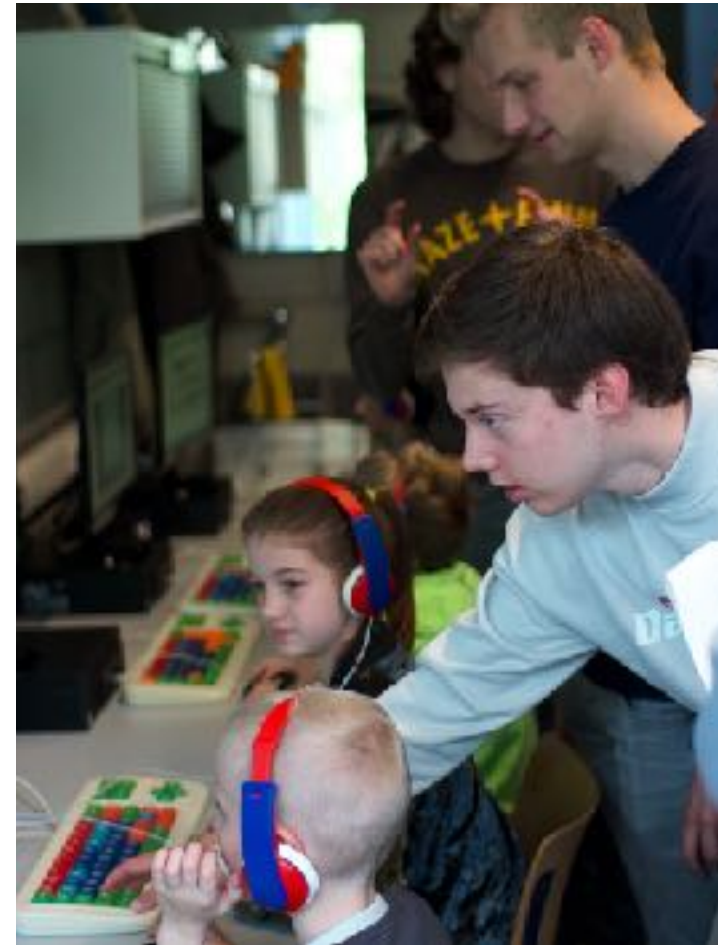
WAI-NOT+



Naar school

Service Learning trajectory

- Introductory session
 - Explanation by *Wai-Not* and me
- Startup session @ school
 - Some more details
 - Meet **target audience**
- **Develop first prototype**
- Feedback session @ school
 - Demonstration to **target audience**
 - Individual feedback from *Wai-Not*
- **Finish game**
- Final presentation: me & *Wai-Not*

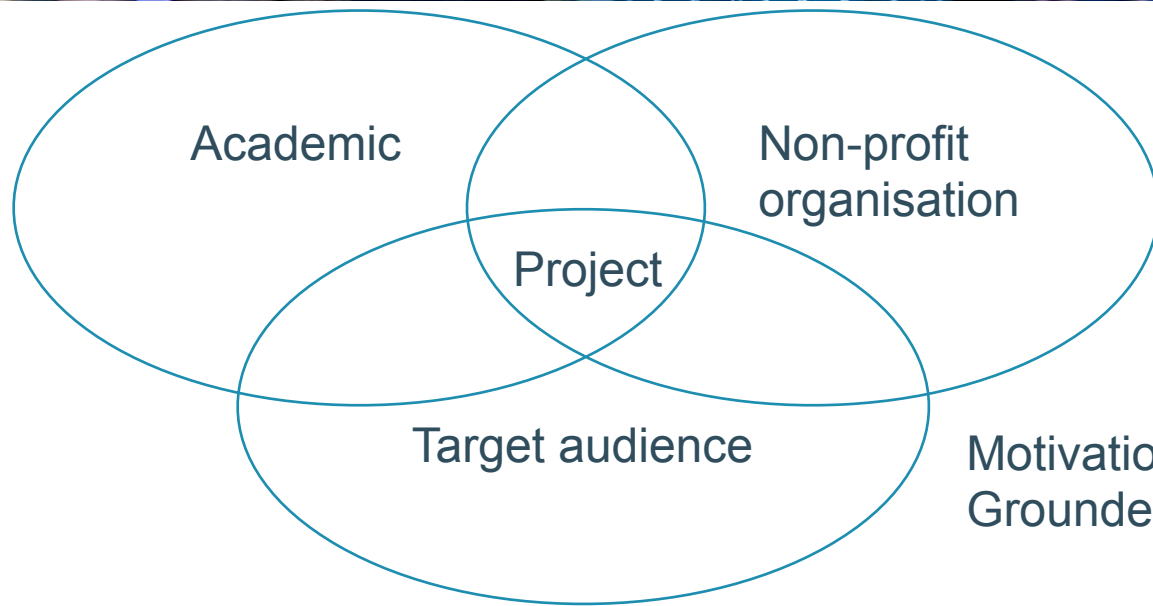








Technical challenge



Guidance
Feedback

Non-profit organisation

Project

Target audience

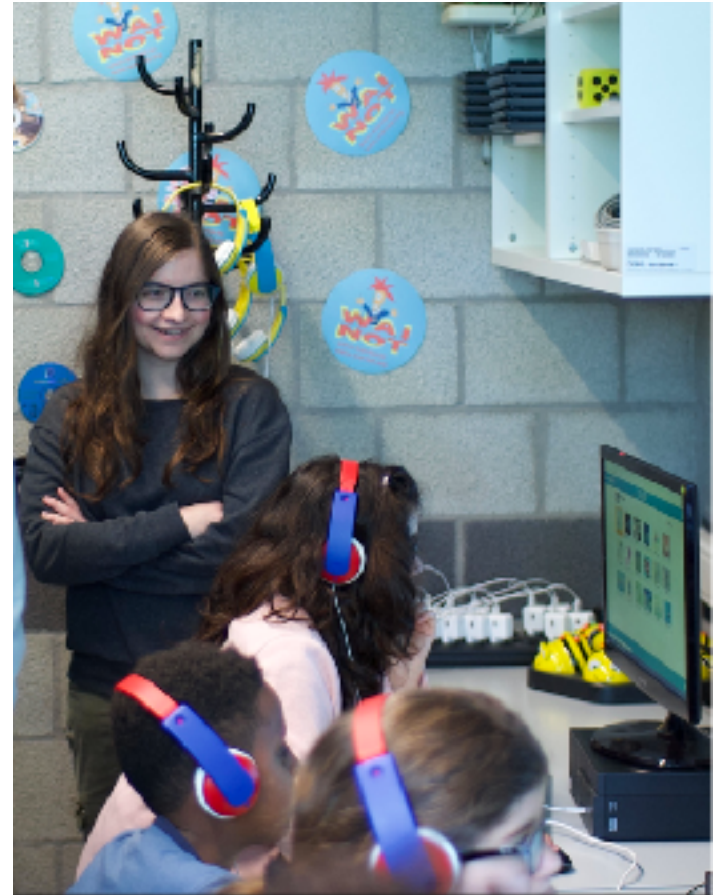
Motivation (creativity)
Grounded in reality

Reflection

- Before startup session
 - *Why do I participate in the service learning project? What do I want to learn, experience, ... ? When will the project be a success for me?*
 - *What do I expect from meeting the pupils? Which information do I think I can learn to help me develop the site?*
 - *What do I want to learn in the startup session? To which questions do I definitely want an answer?*
- Group discussion (no written report)

Results: good news

- Service learning was very popular
- All students (deservedly) passed
- All project are online at Wai-Not site
- Some projects were really great!



Results: possible concerns

- Interaction with target audience: very different gains
 - Important to have target audience for motivation and empathy
 - Important to have Wai-Not for feedback as well !
- Reflection: can we do more?
- Time investment: particularly in practical setup
- Academic requirements vs. target audience
 - Not everything fit equally well