

oi dialogoi

for human centred AI

«to open your mind»

Rosella Gennari

UNIBZ

Alessandra Melonio

UNIBZ

Mehdi Rizvi

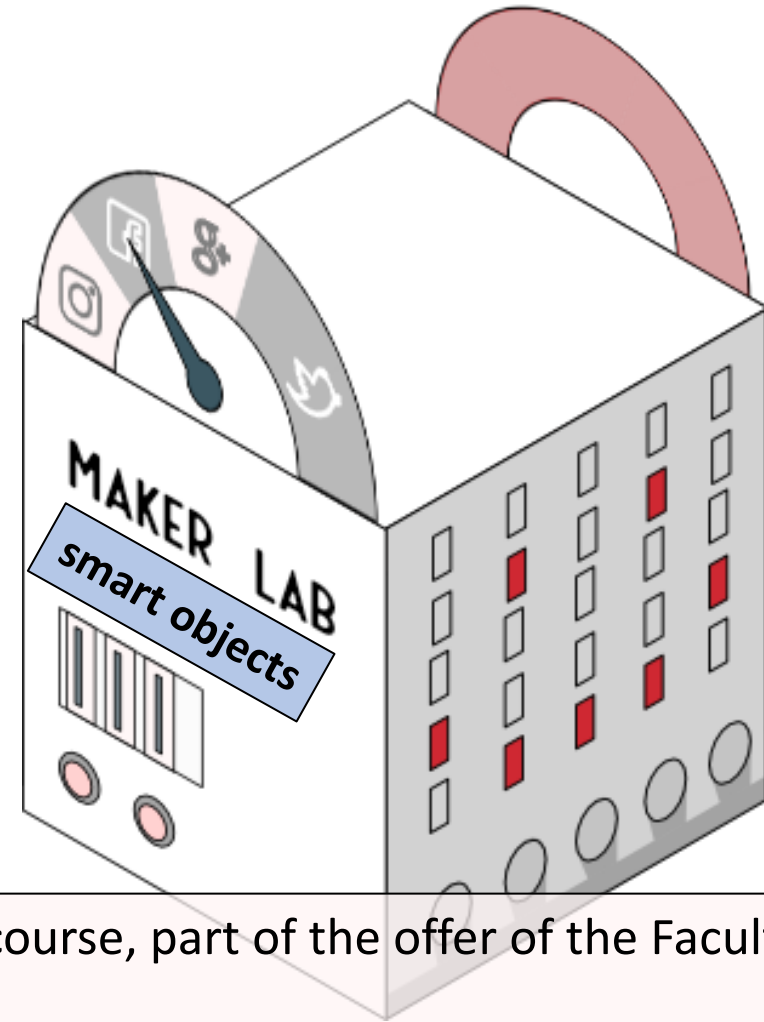
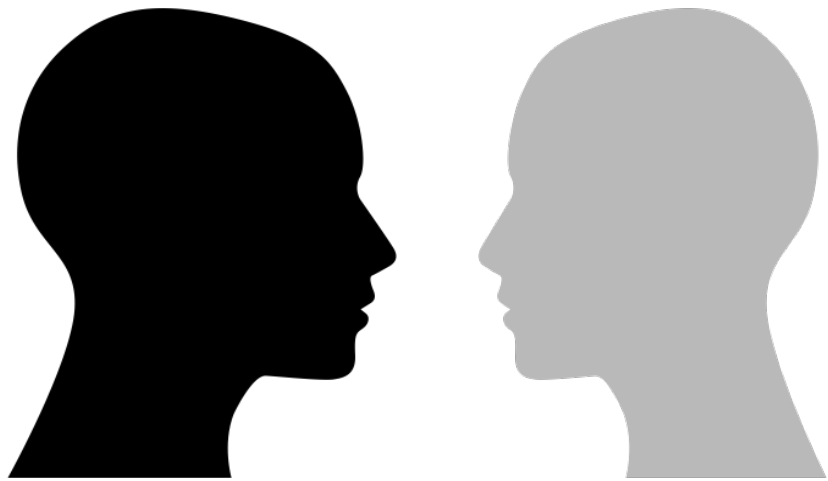
POLIMI

Eftychia Roumelioti

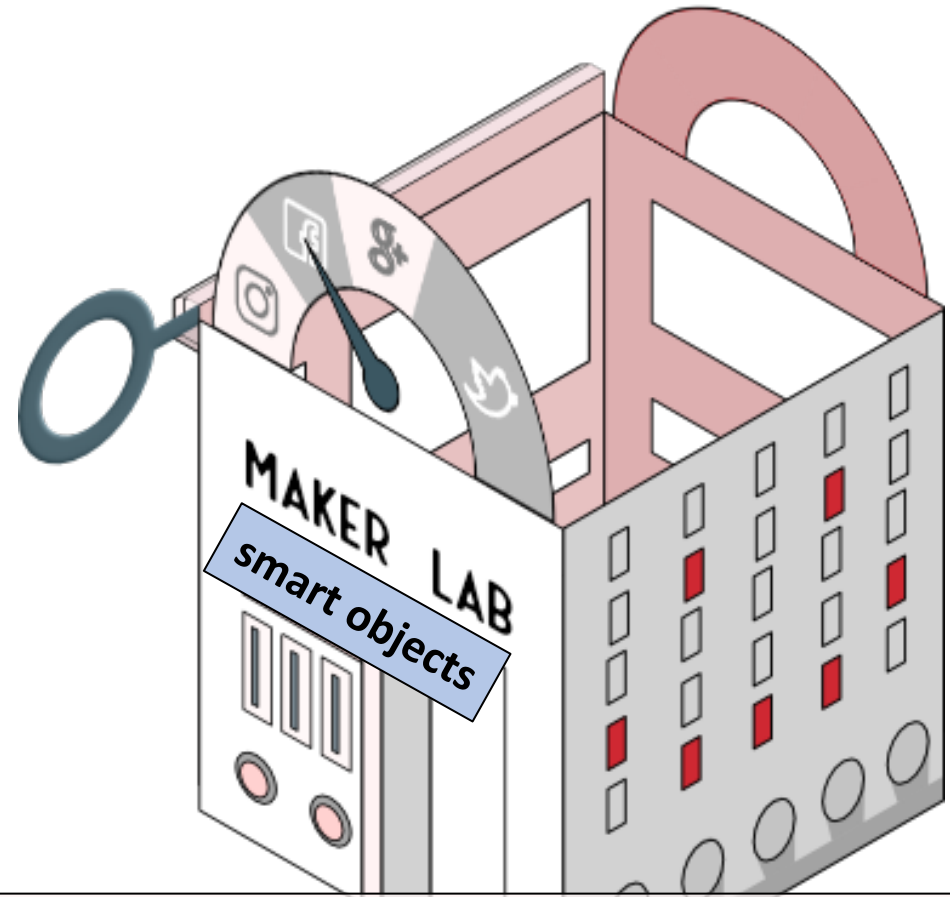
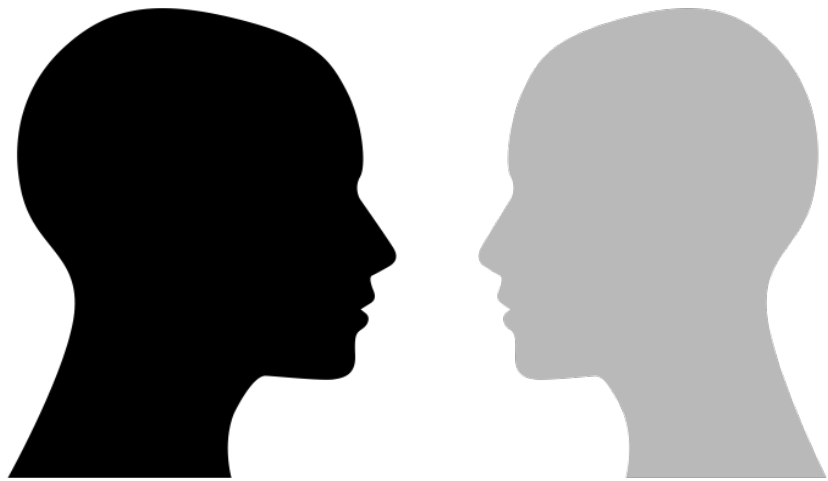
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with Maristella Matera

POLIMI



Let's see how to promote dialogues within the maker-lab course, part of the offer of the Faculty of Computer Science of the Free University of Bozen-Bolzano,

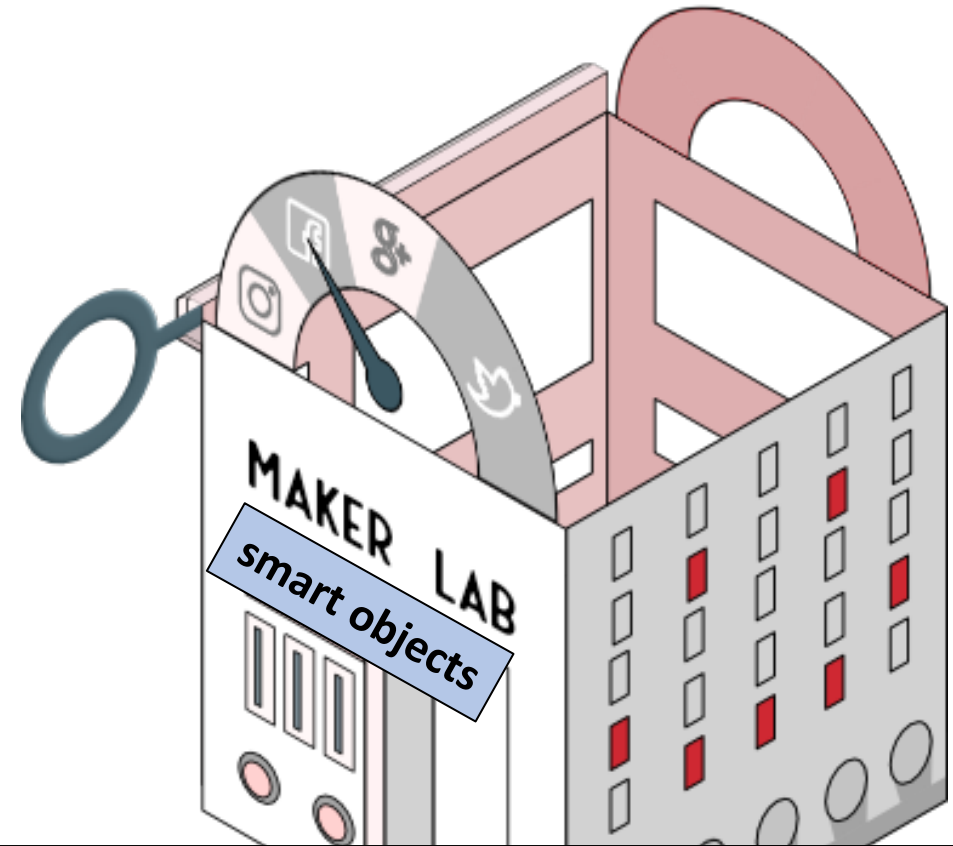


Let's see how to promote dialogues within the maker-lab course, part of the offer of the Faculty of Computer Science of the Free University of Bozen-Bolzano, and how dialogues helped open the course to different students—from Design & Arts, from Education

Design thinking

Co-design

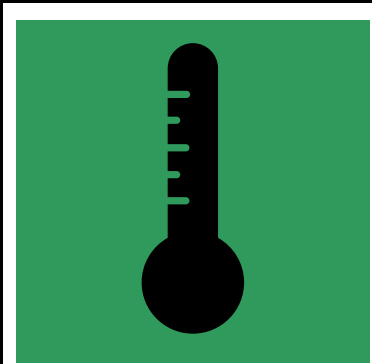
Action research



The maker-lab course, as similar computer-science courses, need to be experience based: one learns by doing, together with others, starting from real-world problems. That requires methods for promoting dialogues on ill-defined problems and among different people, such as design thinking, co-design and action research. We will focus on co-design and see an example of usage within the course: cards for designing smart objects.



SenseHat joystick



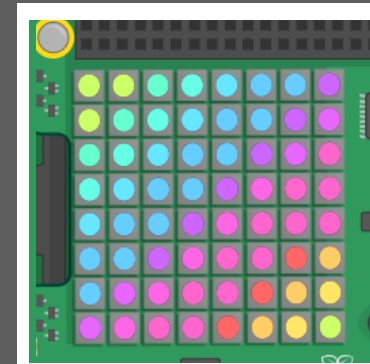
SenseHat temperature
or pressure



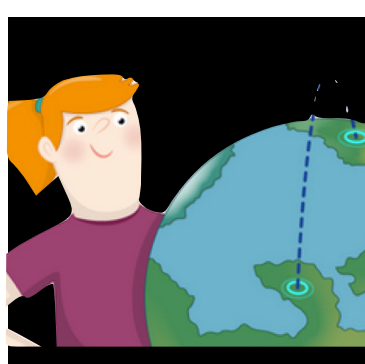
SenseHat humidity



SenseHat orientation



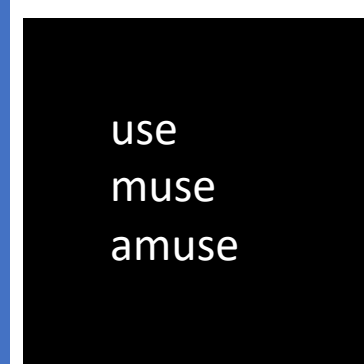
SenseHat LED matrix



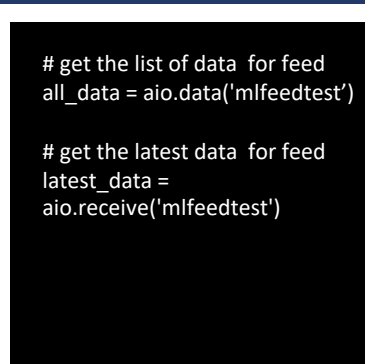
Oracle weather



bs4 for web



Datamuse dictionary



i can get 0/1 data

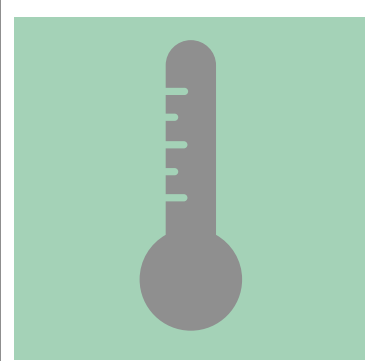


gTTS for text
to speech

The course requires that students work on progressive small challenges and **design smart objects.**



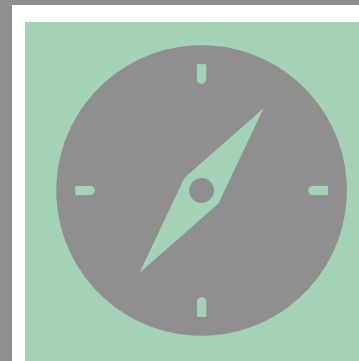
SenseHat joystick



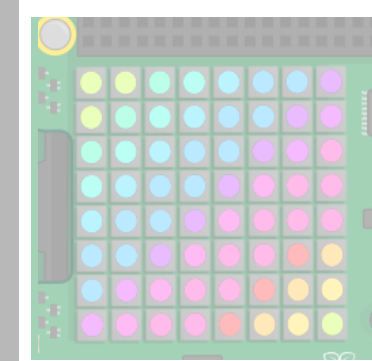
SenseHat temperature
or pressure



SenseHat humidity



SenseHat orientation



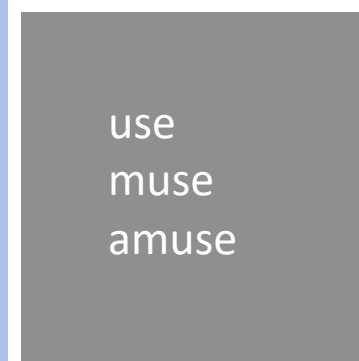
SenseHat LED matrix



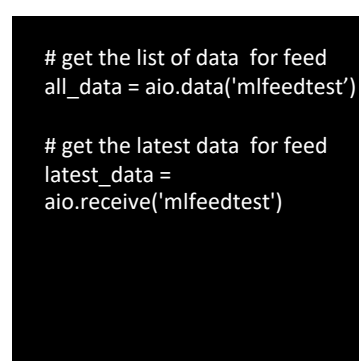
Oracle weather



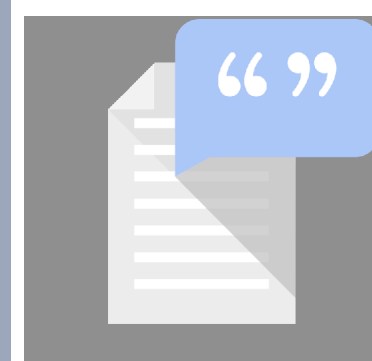
bs4 for web



Datamuse dictionary




i can get 0/1 data

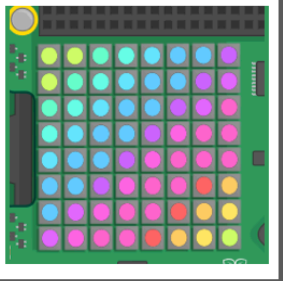


gTTS for text
to speech


The course requires that students work on progressive small challenges and **design smart objects**. Cards, with relevant examples of usage, are used to make design **tangible**, so that students can easily refer to them in their dialogues.



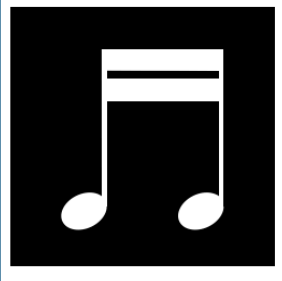
SenseHat orientation




SenseHat LED matrix



gTTS for text to speech



pygame for playing audio



SMART PLANT





SenseHat LED matrix



AIO dashboard sending data



writing HTML5 file(s)

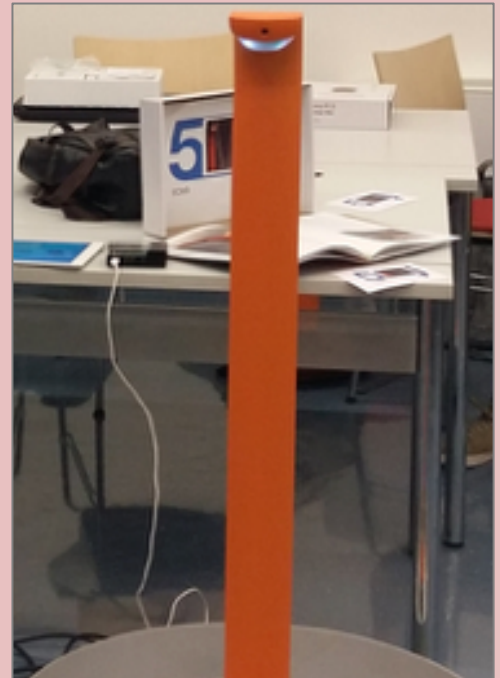


pygame for playing audio



HACKING STREET LAMPS

Next students «mash up» cards in conclusive design projects: starting from cards, they ideate, program and prototype their own smart objects reflecting together.

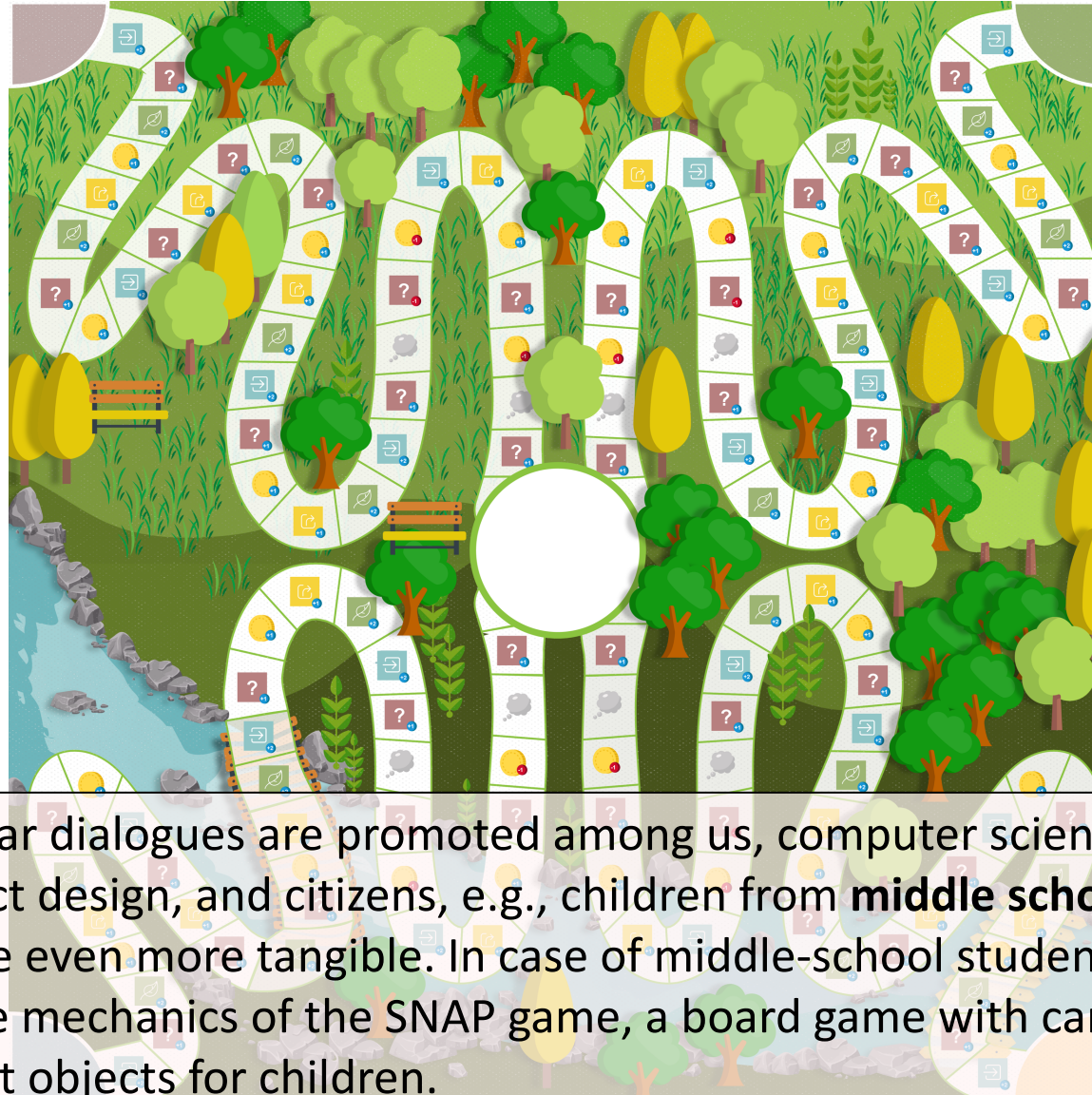


SNAP

slide by E. Roumelioti



SNAP CARDS



MISSION CARDS

Each player chooses a mission



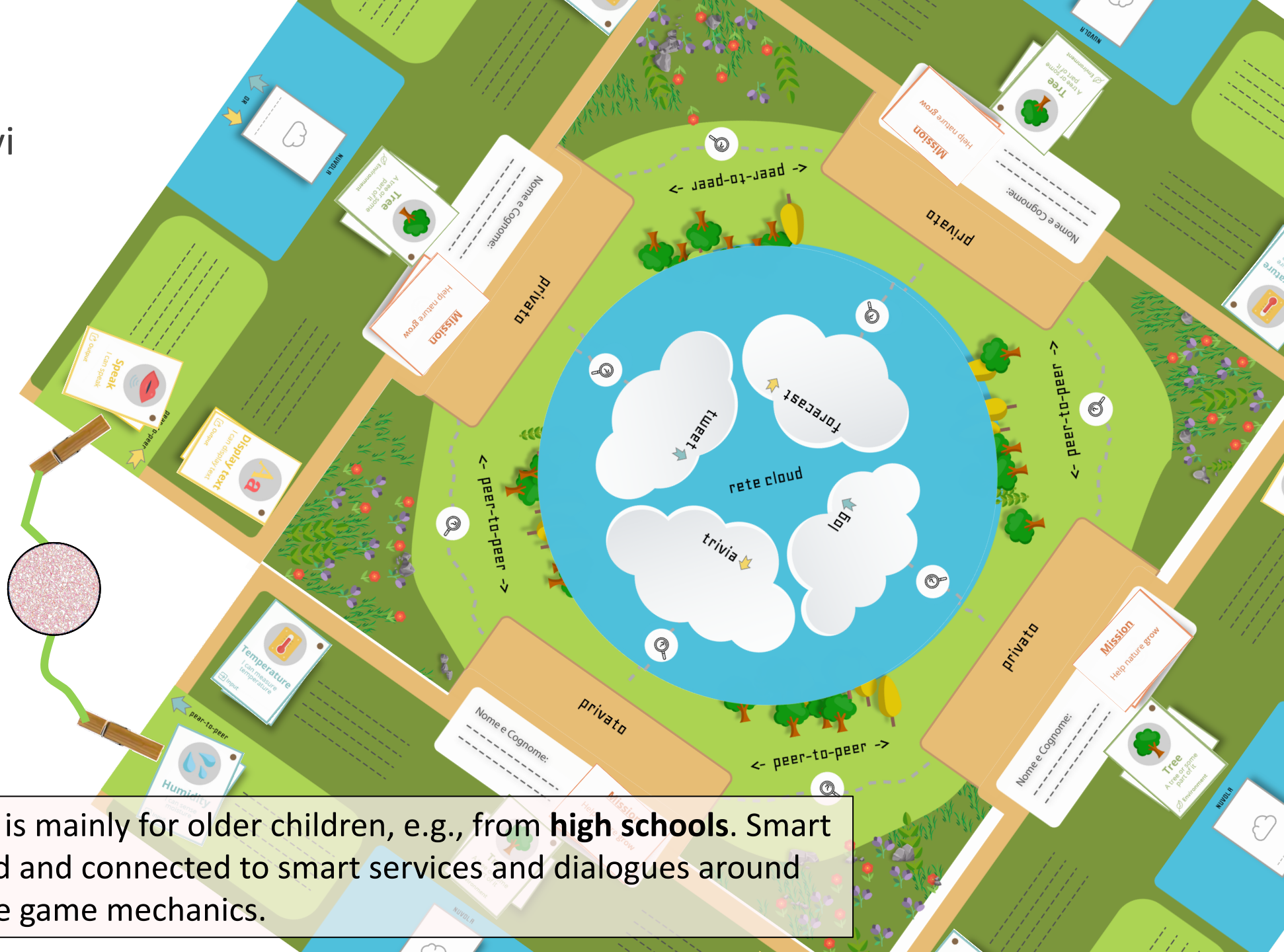
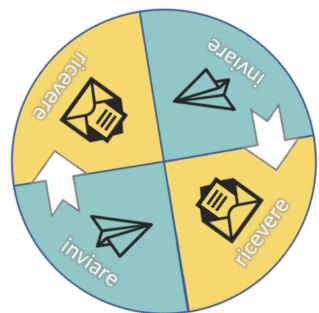
TOKENS AND COINS



Similar dialogues are promoted among us, computer science researchers working on smart object design, and citizens, e.g., children from **middle schools**. Then the design process is made even more tangible. In case of middle-school students, this was conveyed in the game mechanics of the SNAP game, a board game with cards for inputs and outputs of smart objects for children.

IOTGO

slide by M. Rizvi

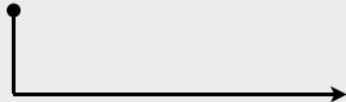


A recent evolution, IOTgo, is mainly for older children, e.g., from **high schools**. Smart objects are interconnected and connected to smart services and dialogues around them are embedded in the game mechanics.

Mehdi **Rizvi**

SRizvi@unibz.it

syedmehdi.rizvi@polimi.it



Eftychia **Roumelioti**

eftychia.roumelioti@stud-inf.unibz.it

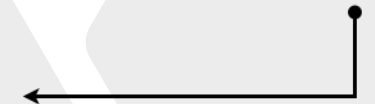


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Alessandra **Melonio**

alessandra.melonio@unibz.it



and colleagues

Andrea Bonani
Antonella de Angeli
Maristella Matera
María Menéndez



Rosella **Gennari**

gennari@inf.unibz.it

This is, clearly, not the work of a single person, but of a heterogeneous team of researchers, from the Free University of Bozen-Bolzano and *Politecnico di Milano*. Thank you for your attention. Rosella Gennari