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# Handbook & Short Term Curriculum

Co-funded by the  
Erasmus+ Programme  
of the European Union



<colette/>

# Development of the Handbook

The purpose of the <colette/>-handbook is to guide educators on how to use the <colette/>-system.

It gives an overview of the <colette/> web portal and app as well as the Digital Classroom. It also provides best practice examples for tasks and path design as well as inclusion of the <colette/> system in regular classes.

# Three formats of the handbook

## The handbook is designed in three formats

1. as a manual that can be printed
2. as a quick start manual, a two-pager
3. as a manual that is integrated in the portal

## The different formats are geared towards different needs of the educators:

1. The printable version is a quick explanation and makes it possible to give the handbook to students or teachers so they can use it as a quick-reference
2. The quick start manual can be easily used as a how to get started for educators as well as students
3. The hints integrated in the portal guide educators while creating paths or tasks and give access to reworked transcripts and screenshots of the videos of the teacher trainings. Having the transcripts of the videos available makes the content more accessible.

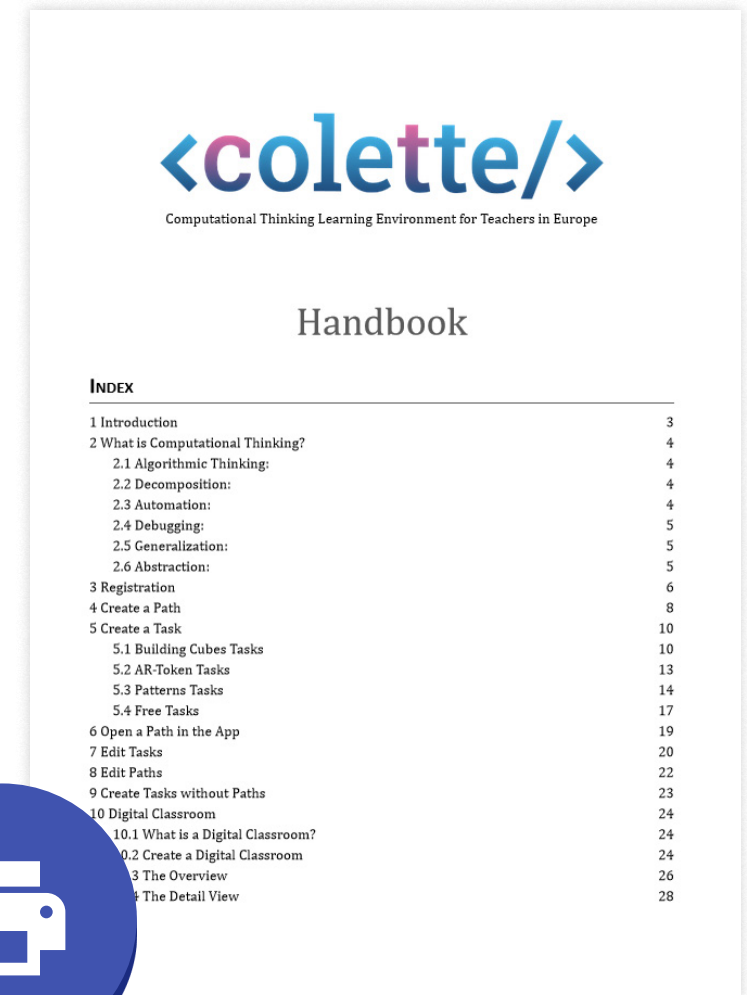
# Printable Manual

With pictures and text educators are guided through the core concepts of <colette/>. They can quick-reference e.g. how to create tasks or paths.

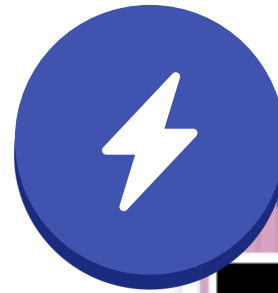
- In short texts with pictures we show the educators quickly but thoroughly how to use the portal, the app and the Digital Classroom
- The Task Families, scenarios and assignment types are being laid out
- For a better inclusion of <colette/> in the classroom, the tool digital classroom is being explained in detail so that the educator knows how this tool can help them

This manual can be found as a pdf-download on the

 [<colette/> Portal](#) &  [<colette/> Website](#)



# Quick-Start Manual

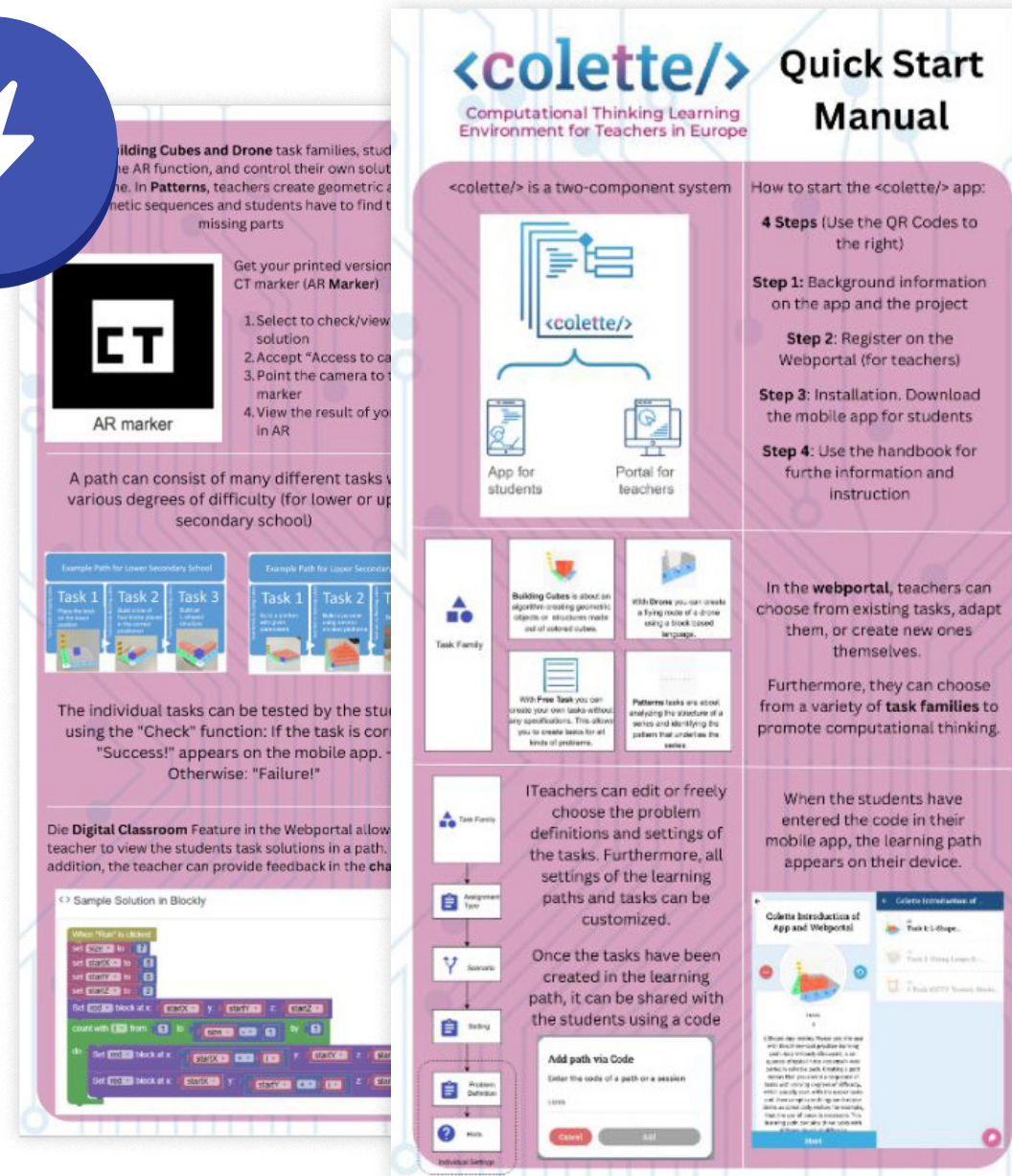


The two-pager can be printed and given to students but also educators as a reference to how to get started with <colette/>.

- A lot of links reference the reader to the important pages where they can find the app, the portal, the manual and more
- With many screenshots and graphic overviews the <colette/>-system is presented in a short but yet concise way

This manual can be downloaded on the

 [<colette/> Website](#)



# Portal integrated manual

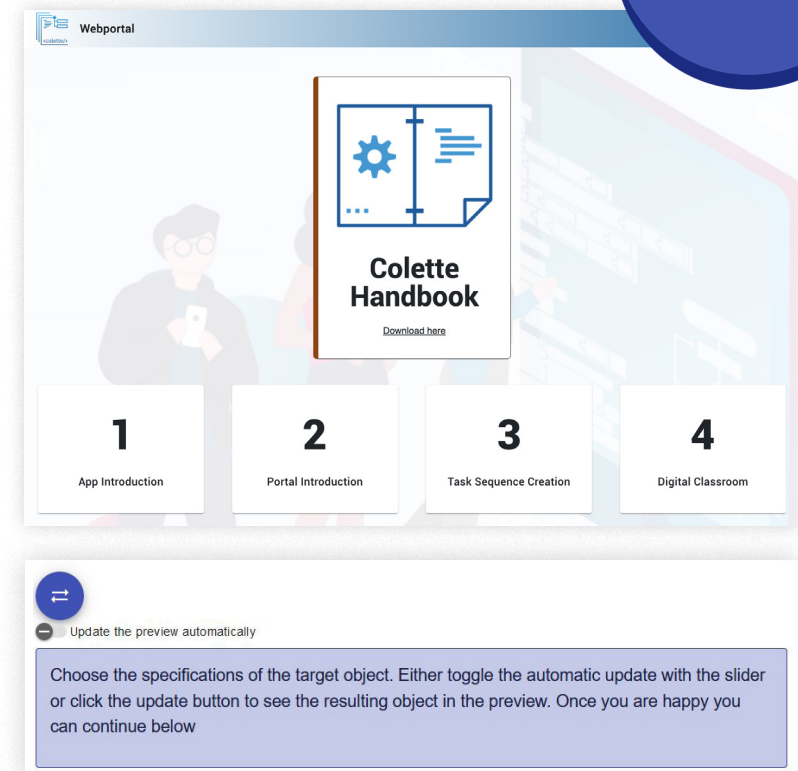


This manual included in the portal is stemming from the video lectures produced for the Short Term Curriculum, showing pictures of the slides and the transcripts of the voice-overs. This is meant to quickly be able to reference a certain aspect of the videos without watching the videos and makes it possible to understand the text even for the people who are not fluent in one of the project languages or English.

The portal integrated manual covers the same topics as the videos:

- <colette/> from the students' perspective
- <colette/> from the educators' perspective
- Creating tasks and paths
- Using the digital classroom

**Additionally, the integrated hints guide educators step-by-step through the portal and creation of tasks and paths.**



<https://portal.colette-project.eu/#/handbook>

# Short Term Curriculum

# Needs & Means

## Needs

- Raise awareness and educate teachers about Computational Thinking:
  - What it is, why we need to teach it
  - How we can teach it: the students' perspective, the teacher's perspective
- Foster Computational Thinking in everyday class

## How?

- Developing teacher training material for national and international professional development
- Holding small scale and large scale teacher trainings about
  - Theoretical aspects of Computational Thinking and its didactics
  - Technical aspects of the <colette/> app
- Delivering editable training material that can be appropriated





# Content & Results

## Content designed and conducted

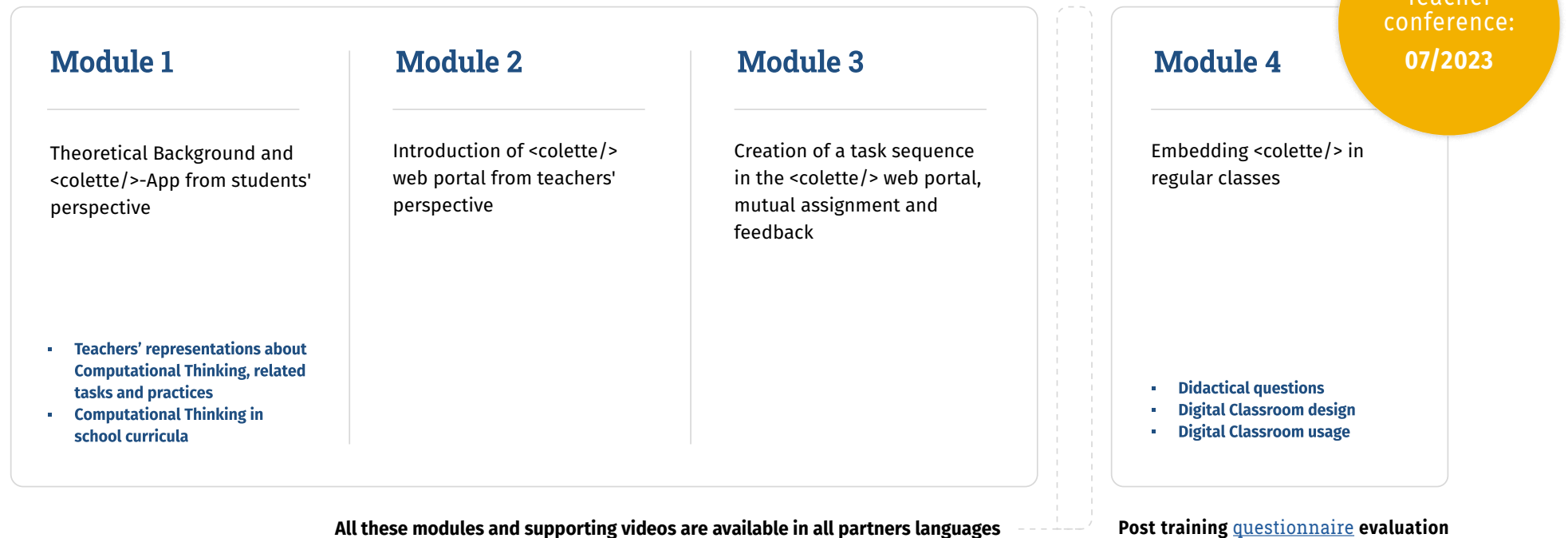
- **Focus on two main aspects:**
  - a. The theoretical background of Computational Thinking:
    - What is Computational Thinking?
    - Which tasks can foster Computational Thinking?
  - b. How the learning environment <colette/> can be used to teach Computational Thinking
- Different modules addressing theoretical background, presenting <colette/> from the students' and teachers' perspective, the creation and assignment of task sequences, using the digital classroom
- Basis for the structure of the multiplier events and the final teachers conference

## Results

- Design-based research participative modules from iterative, small-scale beta-testings conducted by the partners
- Translation, videos, interactive pedagogical material available on [colette-project.eu](https://colette-project.eu)
- Conduction of a large scale face-to-face teacher training in July 2023 in Linz

# Leading to these Short Term Curriculum modules

## Pre-training questionnaire conceptions collection



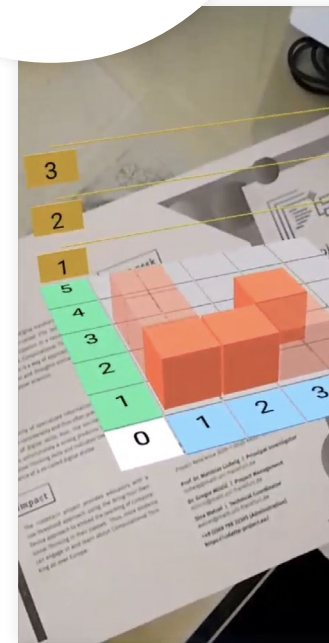
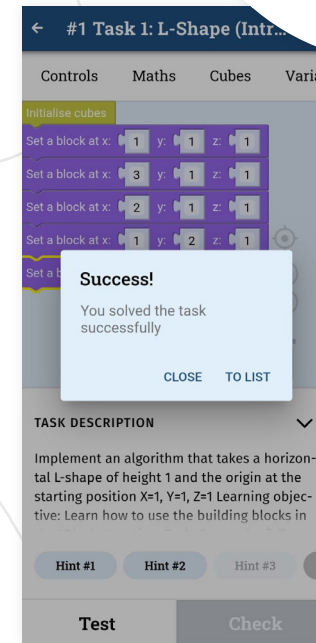
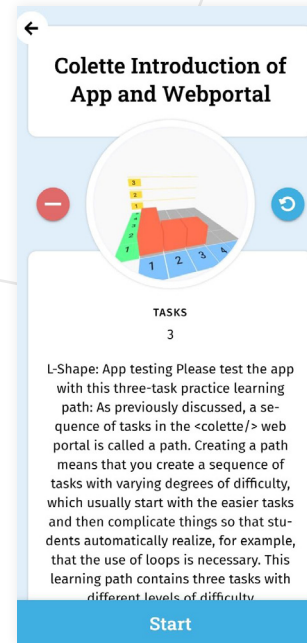
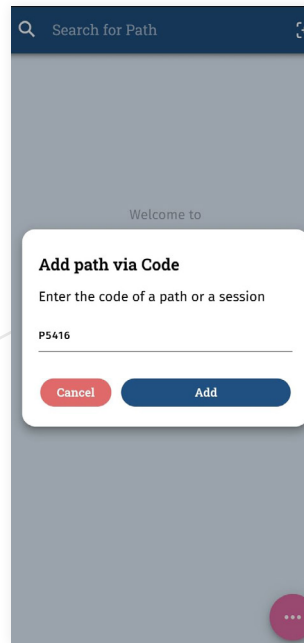
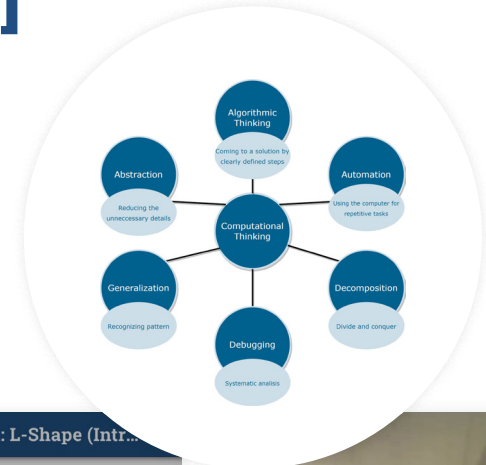
# Student's perspective [App]

- Install the app

<https://apps.apple.com/de/app/colette-project/id1611022520>

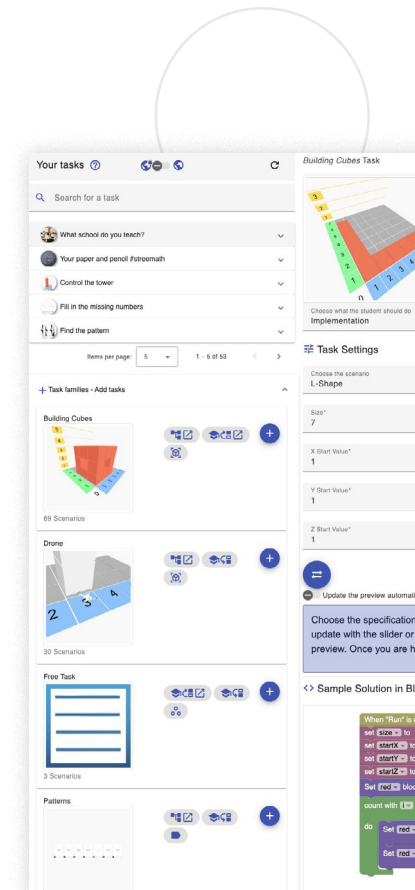
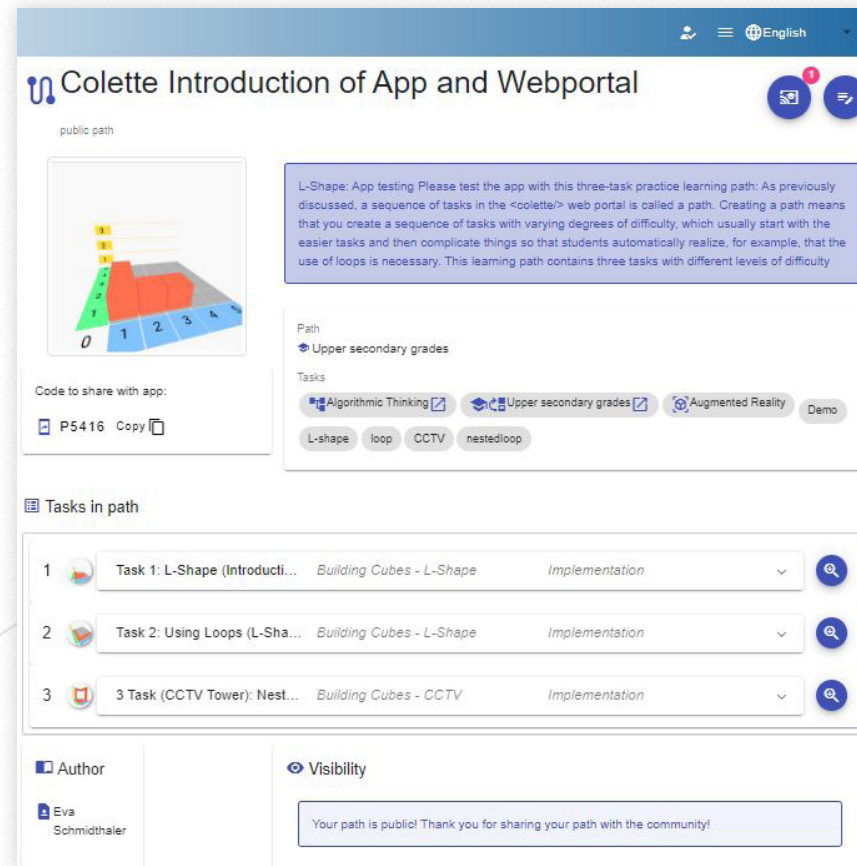
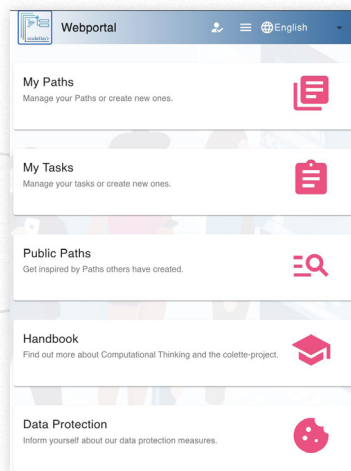
<https://play.google.com/store/apps/details?id=de.autentek.colette&gl=US>

- Introduction to <colette/>: the notions of Tasks, Path and Task Family
- Download and use a path on the app: the user interface
- Open a task, read hints, submit an answer, test code with Augmented Reality
- Recap and theoretical background on Computational Thinking

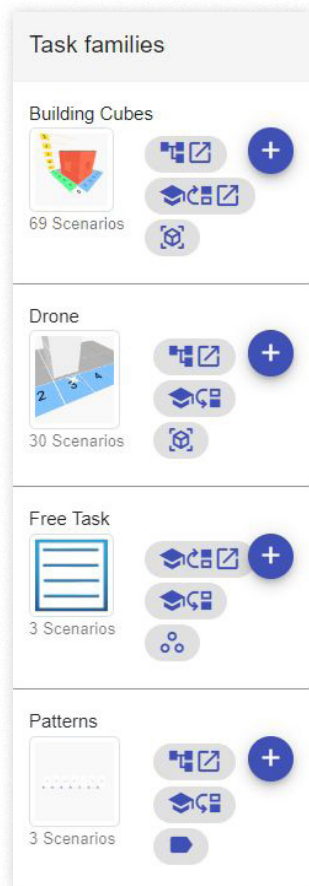


# Teacher's perspective [Portal]

- **The two components system: the portal & the app**
- **Register, login**
- **Explore an existing public path**
- **Create a path and add one or multiple tasks**
- **Get familiar with the interface**

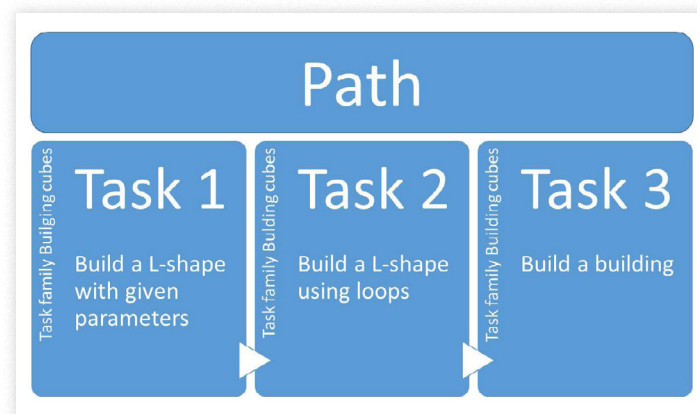


# Building and testing a task sequence



## Didactics behind task sequences, guided discovery learning In groups:

- Define a learning goal for the session, focus on which Computational Thinking aspects and notions to work upon
- Using the appropriate Task Family, design a graduated sequence of tasks achieving this goal, pay attention to hints and their wording
- Run a path from another group and give feedback
- Exchange comments, ideas, improvements



# <colette/> in the regular classroom with Digital Classroom

- Synchronous vs asynchronous learning, pedagogical scenarios
- Create a new Digital Classroom
- Inspect your classroom, understand events
- Use the chat, give feedback



Create a digital classroom

Title\*  
A new Digital classroom!

Description  
This is an example

Welcome message  
We will have a lot of fun!

Starts at\*  
22/05/2023, 09:22

Ends at\*  
25/05/2023, 11:22

Calendar view for May 2023 showing dates 22, 23, 24, 26, 27, 28.

Buttons: Cancel, Save

Chat

Task 1 is a bit too hard for me ...  
Aug 15, 2023, 10:09:51 AM

Try exploring the editor a bit to see what is possible!  
Aug 15, 2023, 10:10:46 AM

It worked, thanks!  
Aug 15, 2023, 10:12:19 AM

This is a very good solution using loops already, I'm impressed!  
[Feedback for solution of 'A simple Tower ... ?'](#)  
Aug 15, 2023, 10:12:44 AM

Type a Message

[s8740] Trying the cool things!

This is an example session to showcase the digital classroom sessions of colette. Remaining time: 00:47

A	alisa	Progr...	TASK enter
A	Anne-Marie	Progr...	Task leave
H	Harita	Progr...	Task leave
J	Julie	Progr...	Session left
T	Tim	Progr...	Session left

Chat

Task 1 is a bit too hard for me ...  
15.08.2023 10:09

Try exploring the editor a bit to see what is possible!  
15.08.2023 10:10

It worked, thanks!  
15.08.2023 10:12

This is a very good solution using loops already, I'm impressed!  
[Feedback for solution of 'A simple Tower ... ?'](#)  
15.08.2023 10:12

Message


# Teacher Training on demand

To have a bigger outreach with `<colette/>` we took videos of the Short Term Curriculum and made them available on YouTube and linked them on our web page as well:

<https://colette-project.eu/teacher-training-on-demand/>

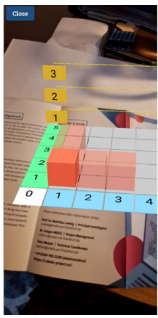
<https://www.youtube.com/@colette-project>


ing the code with AR

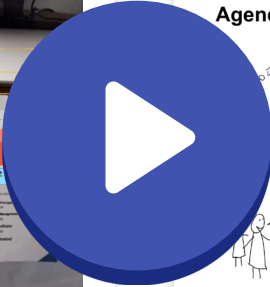


AR marker

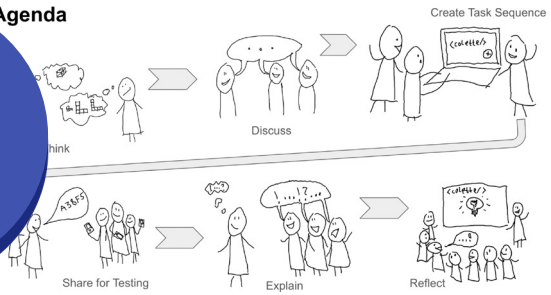
your printed AR marker  
ck "Test"  
capt access to the camera  
int the camera at the CT marker  
eck your solution in AR







Agenda



## 01 App Introduction

In this first module, after a little ice-breaker, we will present the App, how to install it on your smartphone or tablet, and we will sketch what Computational Thinking really is about.

**Icebreaking activity!**

Task 1: [bit.ly/3Fv1d1n](https://bit.ly/3Fv1d1n)

Task 2: [bit.ly/3Yf1vG7](https://bit.ly/3Yf1vG7)

Task 3: [bit.ly/3Rqgk7C](https://bit.ly/3Rqgk7C)



AR marker

Video explaining the app

Top ↑

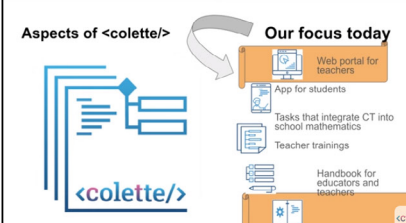
## 02 Portal Introduction

In this second module, go on the other side of the mirror, where things are done, learn how to create tasks and paths on the portal.

**Aspects of <colette/>**

**Our focus today**

- Web portal for teachers
- App for students
- Tasks that integrate CT into school mathematics
- Teacher trainings
- Handbook for educators and teachers



Video explaining the portal

Top ↑

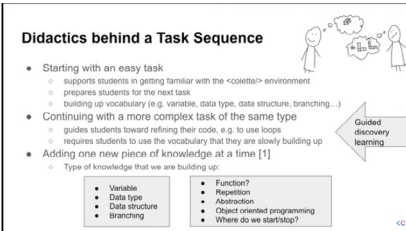
## 03 Task Sequence Creation

In this module, you will create a path, a sequence of tasks according to your pedagogical goals and test it among colleagues.

**Didactics behind a Task Sequence**

- Starting with an easy task
  - supports students in getting familiar with the <colette/> environment
  - prepares students for the next task
  - building up vocabulary (e.g. variable, data type, data structure, branching...)
- Continuing with a more complex task of the same type
  - guides students toward refining their code, e.g. to use loops
  - requires students to use the vocabulary that they are slowly building up
- Adding one new piece of knowledge at a time [1]
  - Type of knowledge that we are building up:
    - Variable
    - Data type
    - Data structure
    - branching
    - Function?
    - Repetition
    - Abstraction
    - Object oriented programming
    - Where do we start/stop?

Guided discovery learning



Video explaining the creation of task sequences

Top ↑

## 04 Classroom

In this module, you will learn how to use Colette in the classroom, especially through the Digital Classroom which is a synchronous way to work together on a path for a limited timespan, whether in the class, as a homework or during a longer project period.

**What is a Digital Classroom?**

What is a session?



# IO 5+6: Handbook & Short Term Curriculum

 [colette-project.eu](https://colette-project.eu) [portal.colette-project.eu](https://portal.colette-project.eu)

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