LEARNING BOX OF UNPLUGGED ACTIVITIES

The shared housing system failure

It is a collaborative problem-solving activity set in a shared living environment where coordination around cleaning, repairs, and bill management is inefficient and often inconsistent. Participants must analyze the current situation, identify breakdowns in communication and organization, and work together to redesign a more effective system for managing shared responsibilities.

Through this activity, they will apply computational thinking skills such as decomposition, pattern recognition, abstraction, and systematic planning to create a fair, structured, and adaptable coordination model for shared living.

Target Group

- ☐ Low-skilled adults with low digital competences
- ☑ Low-skilled adults with limited formal education or qualifications
- ☑ Low-skilled adults with low participation in lifelong learning / training opportunities

Learning Objectives

- Analyze a complex shared system with multiple overlapping responsibilities and coordination failures
- Apply decomposition to break down shared living management into key components such as tasks, responsibilities, and resources
- Identify patterns in recurring issues such as inefficiencies, delays, or imbalances in task distribution
- Apply abstraction to focus on critical factors such as fairness, workload balance, and system efficiency
- Design a structured and adaptable system for coordinating shared responsibilities effectively

Co-funded by the European Union

CC BY NC SA

This project has been co-financed with support from the European Commission's ERASMUS+ programme. This publication reflects only the views of its authors, and neither the European Commission nor SEPIE can be held responsible for any use that may be made of the information contained herein.

Theme

Shared systems for managing collective responsibilities in everyday life

Duration

60 mins - 90 mins

Level

Advanced

Computational Thinking Steps Used

- ☑ Decomposition
- ☑ Pattern recognition
- ☐ Abstraction
- ☑ Algorithmic thinking

Methodological Approach

- ☐ Gamification
- ☐ Challenge-Based Learning
- ☐ Collaborative learning
- ☑ Experiential learning

Competence Areas

a) Innovation Competences

- ☐ Creativity
- ☑ Critical thinking
- ☑ Problem solving
- ☑ Communication
- ☑ Collaboration

b) Information Literacy Competences

- ☑ Ability to access, understand and critically analyse information
- ☐ Interpretation of digital and visual content
- ☐ Awareness of media influence and biases

c) Life and Career Competences

- ☑ Flexibility and adaptability
- ☑ Initiative and autonomy
- ☑ Sociability and intercultural competence
- ☐ Productivity
- ☑ Leadership and responsibility

Learning Outcomes

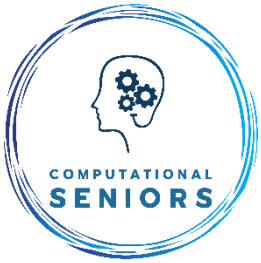
- Organize and restructure a shared system to improve coordination and efficiency
- Identify patterns in recurring coordination problems such as imbalance, delays, or miscommunication
- Apply decomposition and abstraction to simplify complex shared responsibility systems
- Make justified decisions to improve fairness, workload distribution, and system performance
- Design and implement a structured and adaptable system for managing shared responsibilities

Notes

- Keep the system realistic but simplified. The scenario should feel familiar (shared living coordination) but avoid unnecessary complexity. Focus only on the core dynamics: tasks, responsibilities, and coordination breakdowns.
- Emphasize the system, not the story. The goal is not role-playing or narrative immersion, but

understanding and improving a structured system. The housing context is just a vehicle for computational thinking.

- Ensure visible coordination failures at the start. Participants should clearly observe issues such as imbalance, duplication of tasks, missed responsibilities, or lack of prioritization. These are essential for triggering decomposition and analysis.
- Design for iterative improvement. The activity should allow participants to redesign the system more than once. Learning comes from refining and adapting their solution.



Co-funded by
the European Union

The sharing housing system failure

Step 1: Analyze the current system

Participants examine a shared living system where coordination is failing. They identify problems such as missed tasks, duplicated work, and imbalance in responsibilities.

Computational thinking focus: Pattern recognition, identifying recurring difficulties or successful strategies

Step 2: Break Down and Reframe the System

Participants decompose the system into its key components (tasks, responsibilities, constraints, and resources) and filter relevant from irrelevant information.

Computational thinking focus: Decomposition, breaking a complex learning goal into manageable tasks and time blocks.

Step 3: Design and Test an Improved System

Participants design a new structured system for managing shared responsibilities. They define rules for task distribution, tracking, and adaptation, and test how their system responds to changes or disruptions.

Computational thinking focus: Algorithmic thinking, developing a structured and adaptable process for learning under changing conditions

ACTIVITY CARDS

The shared housing system failure

Card Categories

Profile

Household tasks

Problems

Priority Levels

Essential
Extremely necessary to take into consideration

High
Importance

Medium
Helpful to take into consideration

This project has been co-financed with support from the European Commission's ERASMUS+ programme. This publication reflects only the views of its authors, and neither the European Commission nor SEPIE can be held responsible for any use that may be made of the information contained herein.

Print and cut the cards on the following slides to use in the activity.

Co-funded by the European Union

ALEX

Works: Full-time

Usually at home: Evenings

Strengths: Organised, Pays bills on time

Challenge: Has little free time during the week

JAMIE

Works: Part-time

Usually at home: Afternoons

Strengths: Happy to help with cleaning

Challenge: Often forgets deadlines

SAM

Works: Freelance

Usually at home: Flexible schedule

Strengths: Can handle unexpected tasks

Challenge: Workload changes every week

TAYLOR

Studies full-time

Usually at home: Weekends

Strengths: Good at organising shared activities

Challenge: Limited budget

CLEAN THE KITCHEN

Frequency: Every 2 days

Priority: High

CLEAN THE BATHROOM

Frequency: Weekly

Priority: High

TAKE OUT THE RUBBISH

Frequency: Twice a week

Priority: Medium

VACUUM SHARED AREAS

Frequency: Weekly

Priority: Medium

BUY HOUSEHOLD SUPPLIES

Frequency: When needed

Priority: Medium

PAY UTILITY BILLS

Frequency: Monthly

Priority: High

REPORT REPAIRS

Frequency: When needed

Priority: High

WATER THE PLANTS

Frequency: Weekly

Priority: Low

KITCHEN ROTATION

Nobody knows whose turn it is to clean the kitchen.

LATE BILL

The electricity bill was paid three days late.

RUBBISH

The rubbish has not been taken out for a week.

UNFAIR SITUATION

One person has cleaned the bathroom

four weeks in a row.