

Example 2 - Living in Athens

DESIGN THINKING ACTIVITY PLAN TEMPLATE

YEAR 2

1. BASIC INFORMATION

PROJECT TITLE:

Living in Athens

AUTHOR(S):

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ISSUE:

Cultivating citizenship and environmental sustainability for urban neighbourhoods.

FINAL STUDENT PRODUCTION:

Students create a map-based game about their neighbourhood in which the player chooses among different places and activities to do, trying to balance her/his personal and social needs.

TECHNOLOGIES TO BE USED:

Select the Exten.(D.T.)² technologies that will be used by students during the DT Project

☐ MaLT2
 ☒ ChoiCo
 ☐ SorBET
 ☐ VRobotics
 ☐ NQuire

2. FOCUS, SET UP & REQUIREMENTS OF THE ACTIVITY

2.1 LEARNING OUTCOMES

You can find the Learning objectives Verbs [here](#)

Domain Related	
Mathematics	Use mathematical values to represent negative or positive consequences of players' choices Use randomness to represent consequences which cannot be defined with certainty
Programming	Program game rules using conditional commands
Design Thinking & innovation with Emerging Technologies Related	
Prototyping	Create different prototypes of their games
Empathy	create questionnaires in order to gather information about the issue at hand by external users Interpret questionnaires answers to design criteria for the game they create.
Reflecting & Feedback	Relate the feedback from their peers to iterations they did to the prototype
21st century Skills Related	
Communication	Explain their ideas to others.
	Discuss different solutions to the issue at hand.
Presentation	Present their final game by demonstration

2.2 PARTICIPANTS & CONTEXT

STUDENTS

Age	10-11 Years old
Prior knowledge	basic knowledge of programming concepts with block programming
Nationality, gender, cultural background	1 pupil is from Albania and 21 from Greece, 15 boys & 7 girls
Language	Greek
Special needs and abilities	-

TIME

ACTIVITY DURATION: 9 hours divided into 5 times

IMPLEMENTATION DURATION: 5 weeks

SCHEDULE: 1-2 hours/week

SPACE

ACTIVITY TYPE: ☒ In-person ☐ At distance ☐ Mixed

PHYSICAL SPACE: computer laboratory, classroom

VIRTUAL SPACE: -

2.3 SOCIAL ORCHESTRATION

PEOPLE INVOLVED

NO OF STUDENTS:

NO OF GROUPS :

NO OF TUTORS:

NO OF ASSISTANTS:

STUDENT GROUPING & INTERACTIONS

Grouping Criteria	mixed in terms of technology familiarity, student preferences
Organisation	3 students per group using 1 computer per group
Roles in the group	role exchange in the group
Tutor(s) role(s)	facilitate; guide; observe

2.4 TEACHING RESOURCES

Digital resources	The ChoiCo game "Living in Athens"
Physical resources	-

3. IMPLEMENTATION - DESIGN THINKING ACTIVITY FLOW

This section describes how the teaching and learning process is expected to evolve through the 5 phases of the Design Thinking Methodology: 1. Empathise & Understand, 2. Define & Ideate, 3. Rapid prototyping & Iteration, 4. Sharing & Feedback, 5. Respond & Deliver. The described activities should support the objectives stated and make use of the technologies, supporting material, and teaching and learning processes mentioned earlier in the activity plan.



PHASE 0: Challenge

As cities grow, urban living provides various options related to all fields of human life, often becoming overwhelming, making it difficult for citizens to balance their life choices in healthy ways. Shopping, cultural life, education are only some of the domains of life that can be affected by the rhythms of modern life. Thus, reflecting on daily choices and their consequences can support adoption of good habits through which people stay connected with the community by enjoying the various options of the cities.

PHASE 1: Empathise & Understand

DURATION: 2 hours

DESCRIPTION OF THE ACTIVITIES:

In the beginning of this session the teacher introduces students to the challenge they are going to work on. Students then play the game “Living in Athens”, a game where the player lives in an urban area of Athens and chooses among places to visit and activities to do in the city, trying not to waste all her/his money or be bored. After students have understood the ChoiCo game rationale and the ChoiCo functionalities, the teacher leads a discussion regarding various aspects of the life in their neighbourhood, introducing the concepts of urban life, environmental sustainability, and citizenship. Students are then tasked to develop a questionnaire in NQuire aiming to gather information about the problems their community faces and ways in which the daily life of the people can be improved. Students are splitted in groups of 3-4 members and each group creates a mission in NQuire which they then distribute to as many people as they live in their neighbourhood.

EXPECTED USE OF EXTEN.(D.T.)² TECHNOLOGY:

☐ MaIT2 ☐ ChoiCo ☐ SorBET ☐ VRobotics ☒ NQuire ☐ No technology

STUDENTS' CONSTRUCTIONS: Online questionnaire

STUDENTS' EXPECTED INTERACTIONS:

Between the members of the group	Discussion on what questions need to be included in the questionnaire.
Between the groups	Discussions on the main problems of their neighbourhood among all students, led by the teacher.

PHASE 2: Define & Ideate

DURATION: *e.g. 2 hours*

DESCRIPTION OF THE ACTIVITIES:

In the "Define & Ideate" phase, students analyse the results of their surveys and define the main elements of the game based on the information gathered in phase 1. These are the target audience (f.e. adolescents, elderly), the main gaming idea, Choices and Fields of their game. They use the ChoiCo game in the Design mode in order to experiment and communicate their ideas.

EXPECTED USE OF EXTEN.(D.T.)² TECHNOLOGY:

☐ MaLT2 ☒ ChoiCo ☐ SorBET ☐ VRobotics ☐ NQuire ☐ No technology

STUDENT CONSTRUCTIONS:

STUDENTS' EXPECTED INTERACTIONS:

Between the members of the group	Discussions on the main game idea, possible choices and fields. Students communicate their ideas by making minor modifications in the existing game "Living in Athens".
Between the groups	Groups do not interact in this phase

PHASE 3: Rapid prototyping & Iteration

DURATION: *3 hours*

DESCRIPTION OF THE ACTIVITIES:

In this session students are involved in rapid prototyping as they create multiple prototypes of their games and improve them through Cycles of iteration.

EXPECTED USE OF EXTEN.(D.T.)² TECHNOLOGY:

☐ MaLT2 ☒ ChoiCo ☐ SorBET ☐ VRobotics ☐ NQuire ☐ No technology

STUDENT CONSTRUCTIONS: e.g. MaLT2 3D models

STUDENTS' EXPECTED INTERACTIONS:

Between the members of the group	Discussions on iterations of their prototypes
Between the groups	Groups do not interact in this phase

PHASE 4: Sharing & Feedback

DURATION: 1 hour

DESCRIPTION OF THE ACTIVITIES:

In this phase students test their prototypes with users outside their group. Each group creates a link for their prototype via the Exten.(D.T.)² platform and creates an NQuire mission to share it to the public. In the mission they create for sharing their game and receive feedback, they add 3-4 questions aiming to collect users' views on their prototype. After having distributed their missions, they then log with their individual NQuire passwords in order to contribute to other groups' missions, giving feedback to their peers.

EXPECTED USE OF EXTEN.(D.T.)² TECHNOLOGY:

☐ MaLT2 ☒ ChoiCo ☐ SorBET ☐ VRobotics ☒ NQuire ☐ No technology

STUDENT CONSTRUCTIONS:

STUDENTS' EXPECTED INTERACTIONS:

Between the members of the group	Discussion, negotiation of what questions need to be included in the questionnaire in order for the team to receive useful feedback.
Between the groups	Groups provide and receive feedback

PHASE 5: Respond & Deliver

DURATION: 1 hour

DESCRIPTION OF THE ACTIVITIES:

In this last session, all groups analyse the comments received in their missions and make the final changes to their games according to them. Finally, they prepare a presentation and present to the whole class the final game.

EXPECTED USE OF EXTEN.(D.T.)² TECHNOLOGY:

☐ MaLT2 ☒ ChoiCo ☐ SorBET ☐ VRobotics ☐ NQuire ☐ No technology

STUDENT CONSTRUCTIONS:

STUDENTS' EXPECTED INTERACTIONS:

Between the members of the group	Discussion, Negotiation of what questions need to be included in the questionnaire
Between the groups	Different groups do not interact during this phase

4. STUDENT ASSESSMENT AND FEEDBACK

TOOLS

post-activity tests, students' artefacts, interviews

APPROACH

Learning Outcome	Assessment Activity
Use mathematical values to represent negative or positive consequences of players' choices	students' artefacts
Use randomness to represent consequences which cannot be defined with certainty	students' artefacts
Program game rules using conditional commands	students' artefacts
Create different prototypes of their games	students' artefacts
Create questionnaires in order to gather information about the issue at hand by external users	students' missions
Interpret questionnaires answers to design criteria for the game they create.	students' artefacts
Relate the feedback from their peers to iterations they did to the prototype	students' artefacts and post activity test
Explain their ideas to others.	post activity test
Discuss different solutions to the issue at hand.	post activity test
Present their final game by demonstration	students' artefacts