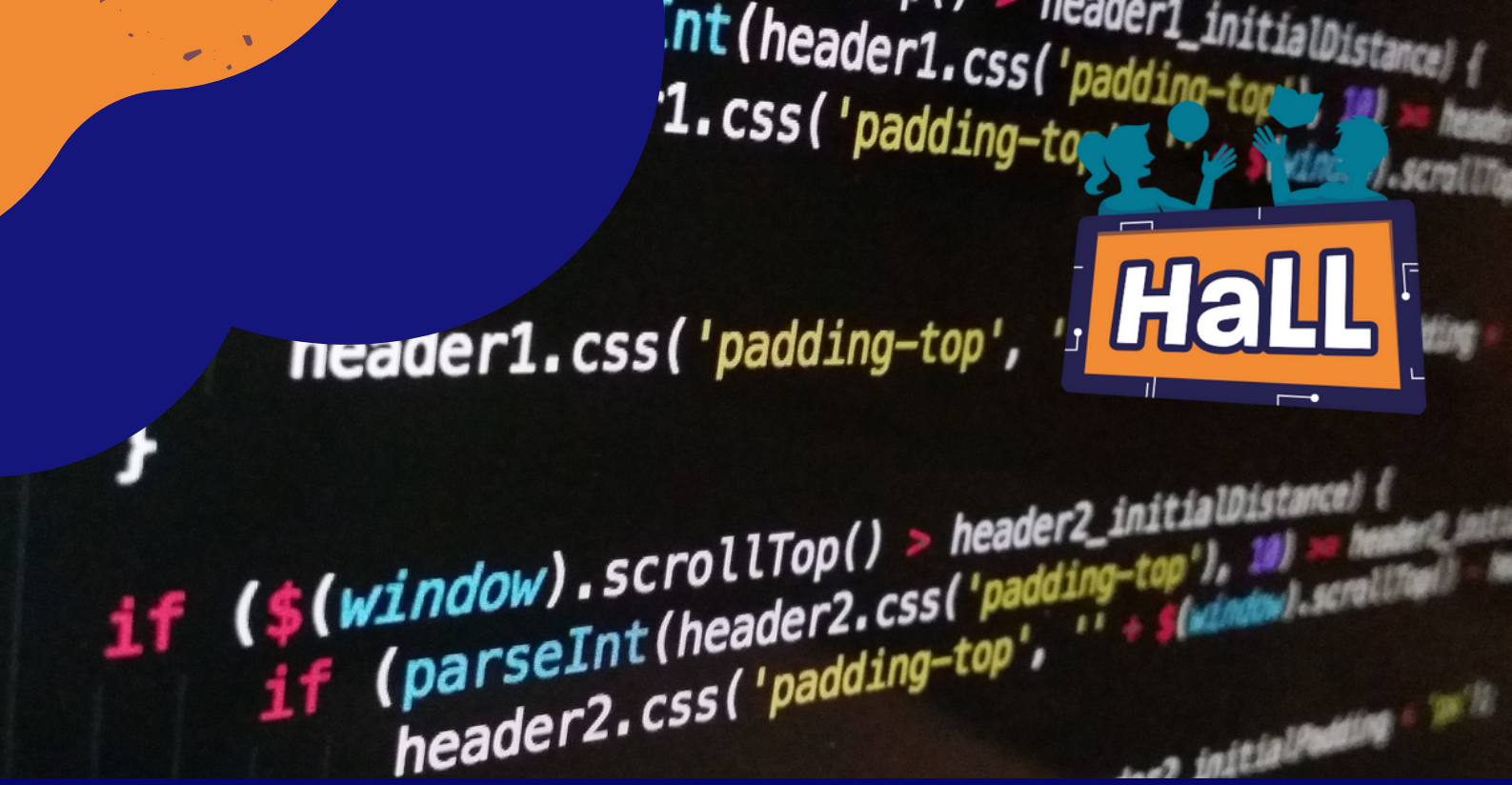
Healthy & Learning Lifestyle

CodeFit: Combining Coding and Physical Activity

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

Healthy and Learning Lifestyle is funded under the Erasmus+ programme, Key Action 2: Strategic Partnerships Call 2020 with agreement number: 2020-1-NL01-KA201-064672



CodeFit:
Combining Coding and Physical Activity

SHORT DESCRIPTION	This assignment combines coding and physical education to encourage pupils to create interactive fitness games using coding principles. Pupils will use coding platforms and the Lü Playground to develop games that promote physical activity and healthy lifestyles. They will apply coding concepts, problem-solving skills, and physical activity knowledge to design and implement their games.
PUPIL TARGET	**Secondary school pupils aged 14-16.**
REQUIERED KNOWLEDGE, SKILLS AND COMPETENCES	Basic understanding of coding concepts (such as variables, loops, and conditionals), familiarity with coding platforms, basic knowledge of physical activity and its benefits, problem-solving and logical thinking skills.

GROUP SIZE AND WAY OF EXECUTION	Small groups (3-4 pupils). The assignment is executed through collaborative coding sessions, physical activity design, testing, and presentation.
TIMEFRAME	**2-3 weeks.**

FULL DESCRIPTION OF THE ASSIGNMENT

a) Introduction
Provide an overview of the assignment and its objectives. Explain the importance of combining coding and physical activity to promote healthy lifestyles and engage in active learning.

b) Coding Principles
Pupils review coding concepts and platforms suitable for game development. They explore coding platforms that allow the integration of physical activity sensors, such as the Lü Playground system, and learn how to create interactive games using code.

c) Game Design and Development
Pupils work in groups to brainstorm and design their own interactive fitness games. They identify game objectives, create game mechanics using coding principles, and incorporate physical activities that align with health and fitness goals.

d) Testing and Iteration
Pupils test their game prototypes using the Lü Playground system. They collect feedback, identify areas for improvement, and iterate on their game design and coding implementation to enhance the user experience and maximize physical activity engagement.

e) Presentation and Showcase
Each group presents their completed interactive fitness game to the class. They explain the coding concepts applied, the game mechanics, and the physical activities incorporated. They also share their insights on the connections between coding, physical activity, and healthy lifestyles.

MATERIALS NEEDED

Lü Playground system, coding platforms (such as Scratch or Python), access to coding resources and tutorials, writing materials for game design documentation.

LEARNING GOALS

-Apply coding concepts and principles in a real-world context.

- Design and develop interactive fitness games that promote physical activity.

- Enhance problem-solving and logical thinking skills through game development.

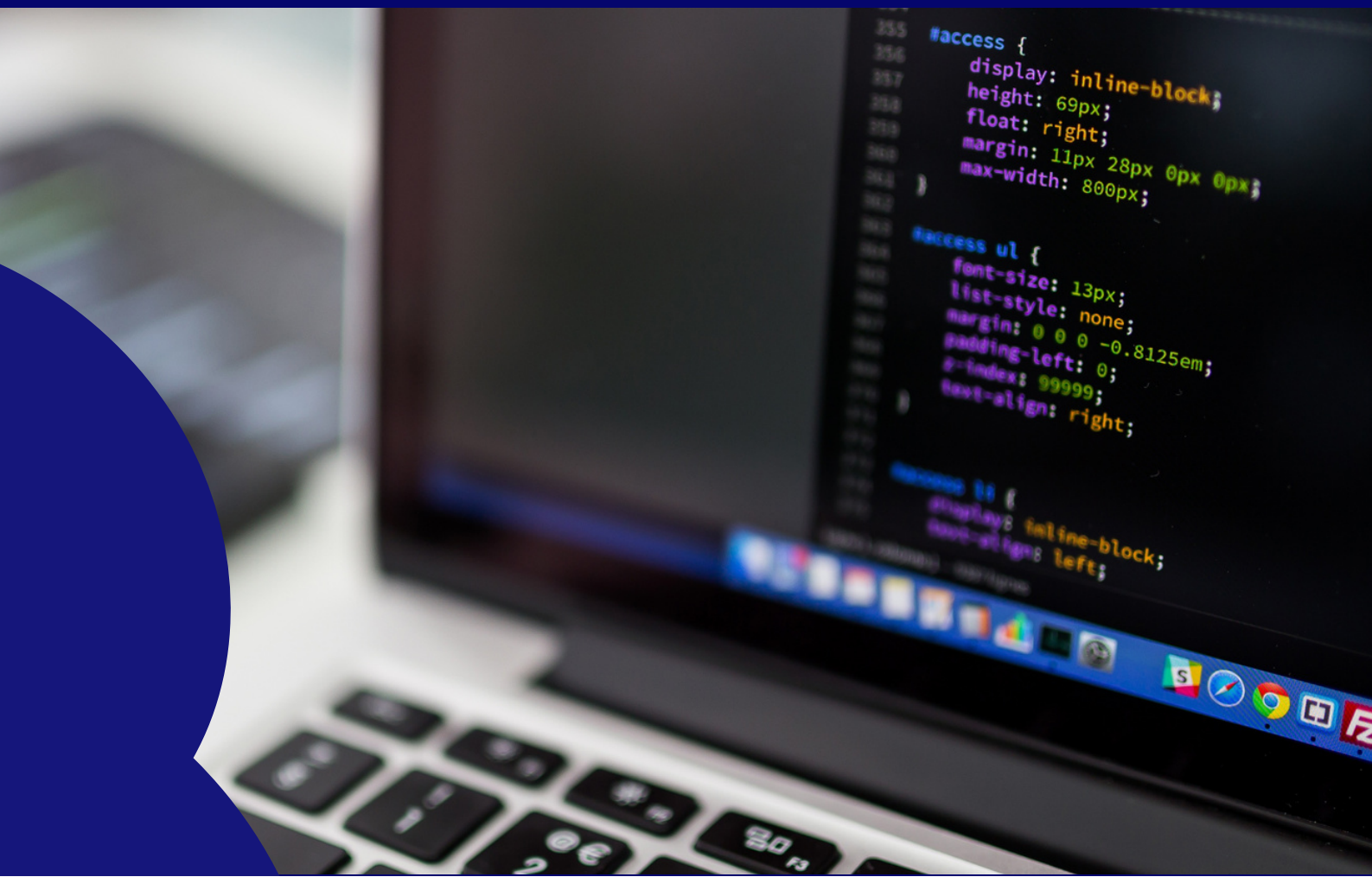
- Improve collaboration and teamwork abilities.

SCHOOL SUBJECTS COVERED

ICT, Physical Education.

HASHTAGS

#CodeFit #InteractiveFitness
#CodingAndPhysicalActivity



FOLLOW-UP ASSIGMENT

Global Game Jam: Active Game Showcase

DESCRIPTION OF THE ONLINE ASSIGNMENT

In this online collaborative session, secondary school pupils from different countries come together to share and showcase their interactive fitness games developed in the "CodeFit" assignment. Building on their coding and physical activity knowledge, participants will present their games, engage in friendly competition, and provide feedback to their peers.

ORGANISATION AND WAY OF EXECUTION

Participants will be divided into small groups comprising individuals from different countries. Using online collaboration tools, they will share their game designs, video demonstrations, and gameplay instructions. Each group will present their game to the whole group, and participants will have the opportunity to try out and provide feedback on each other's games.

LEARNING GOALS

- Foster cross-cultural understanding and collaboration in game development.

- Showcase and celebrate interactive fitness games that combine coding and physical activity.

- Enhance presentation and communication skills.

- Provide constructive feedback and insights on game design and implementation.

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