SilverCoders

DIGITAL LITERACY IMPROVEMENT THROUGH EFFECTIVE LEARNING EXPERCIENCES FOR ADULTS

LEARNING SHEET #7
DIGITAL COLOR

LEARNING SHEETS DESCRIBE ACTIVITIES THAT HELP INSTRUCTORS INTEGRATE THE SILVERCODERS CHALLENGES AND TOOLS INTO THEIR TRAINING PRACTICES.

CODING TRAINING PROGRAMME
FOR +55 ADULTS

SILVER CODERS

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STRUCTURE OF THE ACTIVITY

GENERAL DESCRIPTION, CONTEXT AND GOAL

The main goal of the activity is for the learners to understand how computers process and display color. They will start by learning some aspects about the physics of color and then how computers process it. They will use this knowledge to create a game where color plays a relevant role.

LEARNING OBJECTIVES

In the end of this activity, the learner will be able to…

1. Understand what color is, in physical terms
2. Understand how computers process and display color
1. Use colors in games

INSTRUCTIONS

STEP 1 - PREPARATION

The trainer should read the learning sheet beforehand and follow all the instructions to make sure he/she fully understands the required steps. This will also allow the trainer to make sure that all resources are available and to look for additional resources if the original ones are not available.

RESOURCES

- https://en.wikipedia.org/wiki/Color
- https://www.britannica.com/science/color
- https://www.youtube.com/watch?v=x7tpOkfNIHE

STEP 2 - PRESENTATION

The trainer presents the problem to the class and shows the required resources. Learners are challenged to read the web pages. The trainer should discuss this with learners taking care not to convert the exercise in a theoretical presentation about Physics and should keep it light. Therefore it is suggested to focus on videos like the one indicated.

STEP 3 – DIGITAL COLOR

When learners grasp the most important aspects of color, they should move to the resources about digital color, that is how computers process and display color.

RESOURCES

- https://www.youtube.com/watch?v=15aqFQQVBWU

- https://www.colormatters.com/computer-color-matters

STEP 4 – CODE THE GAME

The trainer should then ask the learners to create a very simple game. In the game we fire balls with different colors that will bounce off the limits of the screen back into the play area. When two balls of the same color collide they are eliminated, if they have different colors their color will change according to a rule created by the learner. The goal is to destroy the maximum number of balls in a certain time. Learners can use the CANNON challenge as a starting point.

STEP 5 – DISCUSSION

Each group of learners displays the results. The class should discuss as a single team the results and the underlying physics.

STEP 6 - ASSESSMENT

THE TRAINER CAN ASSESS LEARNERS ON THE BASIS OF THE ACHIEVED RESULTS IN STEP 4 AND ON THE INVOLVEMENT IN STEP 5.