5S – The Scrapyard

Learning Goal

The goal of this learning activity is to make the students experience first-hand the efficiency and interest of the 5S concepts by experiencing the process in the framework of a scrapyard.

Learning Objectives and Outcome

After playing this scenario, learners will be able to:

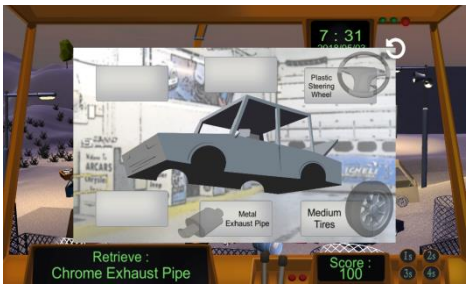
- Know about the challenges of applying the 5S concept.
- Understand how to adapt 5S to different environments.
- Recognize the specificities and advantages of each of the individual S in the 5S methodology.

How to Use LEAP

In this game, the players are placed in a scrapyard work environment for a day and are supposed to complete a certain number of tasks, based on finding certain objects in a limited amount of time provided. Given how the working environment is set up, those tasks are quite difficult to achieve as they might prove time consuming. Therefore, the players can try to improve their work environment by themselves or by the application of the 5S methodology.

Because the span of the software spans over several different types of applications of the 5S methodology, we consider that the last S (sustain) is demonstrated by putting the player in many different environments and making them apply 5S repeatedly. For that reason, the first 4 of the 5S are directly implementable in-game by the players.

The total workday for the players lasts 8 minutes, from 7 o'clock in the morning up to 7 in the evening. Finding an object asked for will bring points to the player and applying one of the 5S methods will demand an investment in terms of game timer.

How to play	
Explain how to start the game (clicking on the door which gives access to the scrapyard screen). In this scenario, the player is operating a crane in a messy scrapyard and has to find every objected requested by the text on the lower left corner of the screen. Explain to the student the actions supported by the 5S process: a. Remove all useless objects from the scrapyard (1S) b. Color-code all the spare parts available (2S) c. Clean up the entire scrapyard, cleaning the dust and making everything much more visible (3S) d. Get rid of all the cars which were lying around and put the all the spare parts on containers (one container per type of spare part, corresponds to 4S)	
Explain the game mechanics and the game purpose. The idea of the game is that the players are given the mission of retrieving a series of spare part among car wrecks. They are sitting in a crane and operate the arm of the crane. Selecting the wreck of a car with the crane arm makes a screen appear showing exactly what spare parts are in the wreck. Interactive elements: - **Clock**: shows current time (game starts at 7	

am and will stop at 7 pm corresponding to 8 minutes of playing time in real life) - **Panel**: allows the player to implement 1/4 actions of the 5S methodology - **Indicator**: shows current score of the player and each email accurately sent nets 100 points - **Loudspeakers**: triggers the option menu Other elements: set of napkins on the table, post-its, space on the laptop screen (empty space or file).	
Expose and explain to the student the 5S methodology and its presence in the game. Once the in-game clock shows that it is past 9 am, the players have to begin to retrieve the demanded spare parts They can either try to do this by themselves using the crane arm and checking one by one the different car wrecks-described tools, or they can try to use the 5S methodology. Clicking on any of the 1S/2S/3S/4S buttons displayed in the background building will trigger the use of the corresponding methodology. Explain the different types of the 5S methodology: 1S — Remove all useless objects from the scrapyard 2S — Color-code all the spare parts available 3S — Clean up the entire scrapyard, cleaning the dust and making everything much more visible 4S — Get rid of all the cars which were lying around and put the all the spare parts on containers (one container per type of spare part) Once a spare part has been retrieved successfully, a new one is requested.	 

In the end, check the results of all the students. Have the students with the higher score explain their method to the other students.	

Class Collaboration

1. Does 5S make it easier to organise a scrapyard instead of implementing brute force method?
2. Is it effective for the player to use their own methods of sorting out the spare parts? Why?
3. What are the advantages of using the 5S process in organising a scrapyard?

Assessment

Have the students play the game and assess the 5S process. Make them use the Story Mode at first and try to be as quick as possible. Then, let them follow the 5S steps. Let students explain the flexibility of this process, the need of applying 5S methodology, and the connection between the customer's satisfaction and the 5S implementation.

Auxiliary materials

The AGILE Manifesto: http://agilemanifesto.org/

SCRUM Guides: http://www.scrumguides.org/

LEAP Portal: http://leapproject.eu/