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DESIGN THINKING
FOR SUSTAINABILITY



O2. DT4S USER MANUAL

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**DESIGN THINKING
FOR SUSTAINABILITY**

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O1. DT4S Platform User Manual

v1.3f

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INTRODUCTION

The DT4S project aims to build problem solving skills, collaboration ability, and capacity to integrate knowledge among secondary students aged 12-16 for preparing them to actively engage in sustainable development and business practices in the future as young professionals.

The DT4S platform is designed to reproduce as faithfully as possible the Design Thinking process and methods and help the users to interact and exchange under the supervision of a teacher that will guide them. DT4S aims at reducing the significant overhead costs that come with preparing and using a Design Thinking methodology by putting as much as possible of the process online and offering a place to easily exchange and communicate in real time or asynchronously about the problem at hand, with no fear of anything ever being lost.

In Design Thinking, and hence in DT4S, students are organized in teams and the teacher plays the role of a facilitator/enabler in the process. From now on, teachers might be referred to as both teachers and content creators and students as students or team members. The term users can refer to both students and teachers, according to the context.

The DT4S platform has been used to give as much freedom as possible to the user and can be accessed by a web-browser (Chrome or any other browser based on it is recommended) either on **desktop or on mobile platform**. Mobile users have smaller screen and will be able to display slightly less information at a time, but DT4S is perfectly mobile compatible.



Figure 1: Design Thinking process

The most common way to describe the Design Thinking process is to divide into the five following steps:

- Empathize, where the team working on the problem tries to find as much as possible about the issue at hand from the people who encounter it
- Define, where an actual definition of the problem at hand is elaborated. The Define phase might give very varying results for the same issue tackled by different teams
- Ideate, where the team begins to come up with ideas for solving the issue. The ideas are extensively discussed and refined
- Prototype, where the team comes up with a prototype of the solution. It can be a real life prototype or a paper one.
- Test, where the team tests the prototype in the problematic environment and monitors its results

In the framework of DT4S, the problems the students are working on are called **activities** and are at the heart of the platform's design.



Figure 2: Activities in DT4S

Activities are segmented into **levels**, which might fit exactly the usual 5 steps definition of Design Thinking (Empathize, Define, Ideate, Prototype, Test) given above or can vary in size, from 1 to 15 elements. The teacher that creates the activity will define this exact number.

Activities are stored in a library of activities created by the user, accessible only by them. Content creators can decide to instead make their own activities **public**, meaning that they would be accessible to anyone who has a teacher account on the platform. Public activities which are seen as interesting by a user can be duplicated and placed into their own private library, ready to be used.

Activities are deployed to the students by inserting them into **courses**. Courses are functionally identical to classrooms, and activities are identical to teams of students. One course can contain as many activities as needed, which can be based on the same or on very different activities. When creating a course, teachers can slot in as many as their own private activities as they want into their course, each of them being destined to a team of students.

Analytics about the students' activity is available to the teachers for each of their course.

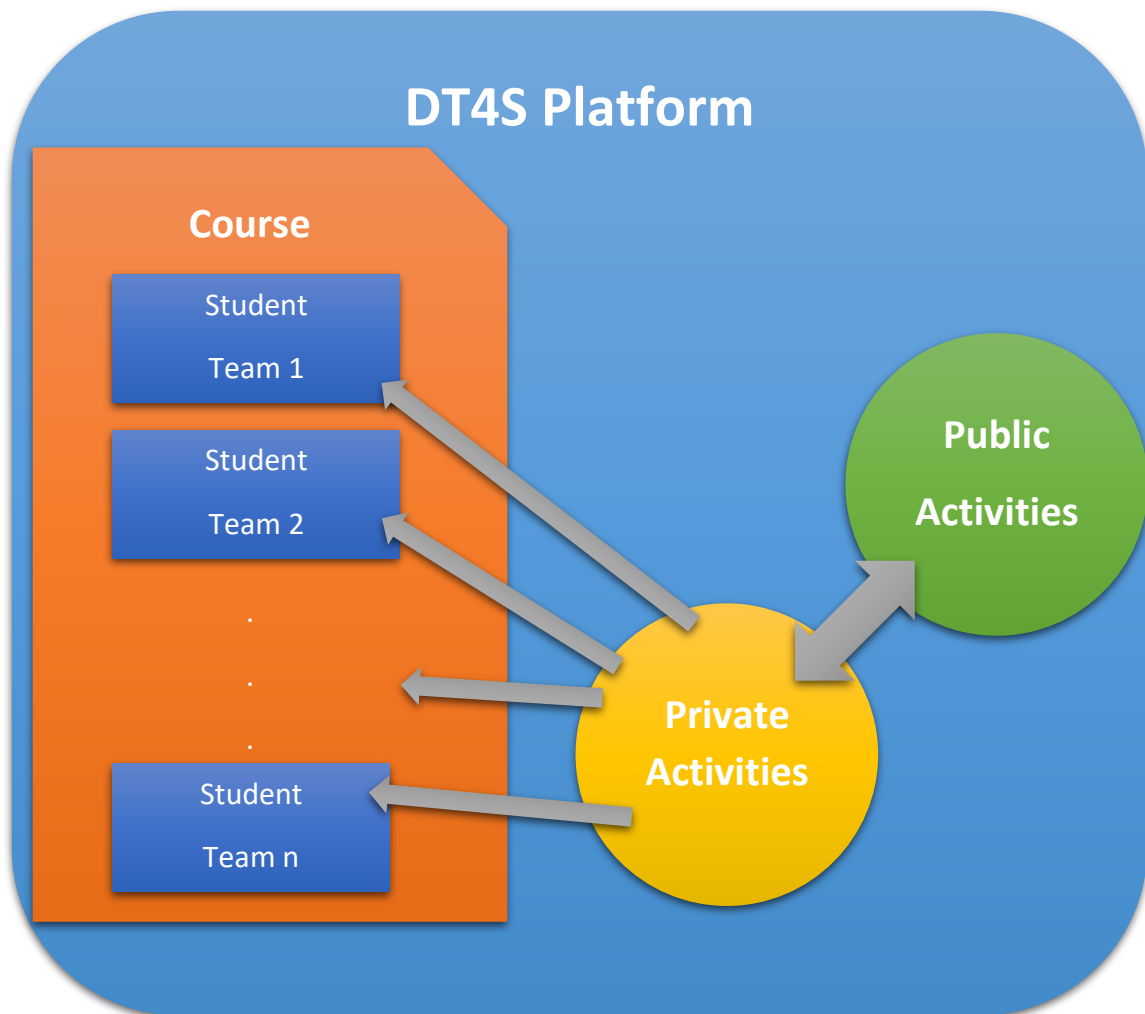


Figure 3: DT4S platform overview

In the framework of a class, students are working in a team on a certain given activity. The activity is shown as a wooden working board made of cork on which users can write a variety of notes for communicating, archiving ideas or any other purpose. Those notes can contain multimedia content such as enriched text, videos and photos. To communicate with the teacher, students can ask directly for their help or ask them to review the level they are currently working on. Students can also ask for the input of their peers by asking for a brainstorm, which allows others to see their work and exchange with them in a dedicated brainstorm zone. The students can also communicate with each other at any time through a chat system.

In order to facilitate management of classes, it is students themselves who subscribe into the classes by inserting a unique code their teachers have given them rather than having the teacher enroll them by hand.



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Word of caution

The Hera software is a work in constant progress. This means that the online version of the tool is updated frequently in order to add new features and correct bugs, up to several times a day. So until the software reaches its very final version, this manual is also a work in progress.

You might find for example that there are some discrepancies between some screenshots and the actual images included in the manual, or maybe some features in the software are not detailed in the manual. Don't worry, it just means that a new version of the manual is about to be published.

If you have any question, please feel free to send an email to the lead developer at this email address, he will answer you promptly: olivier.heidmann@gmail.com.



First steps on the platform

The DT4S platform is available at this URL: <https://dt4s.e-ce.uth.gr/>

When connecting for the first time, the user is greeted with the main menu.



Figure 4: Main Menu

The Accessibility Tools icon that you can see on the bottom right is presented in annex. On the top right of the screen, two buttons allow the user to either register a new account or log in with their credentials.

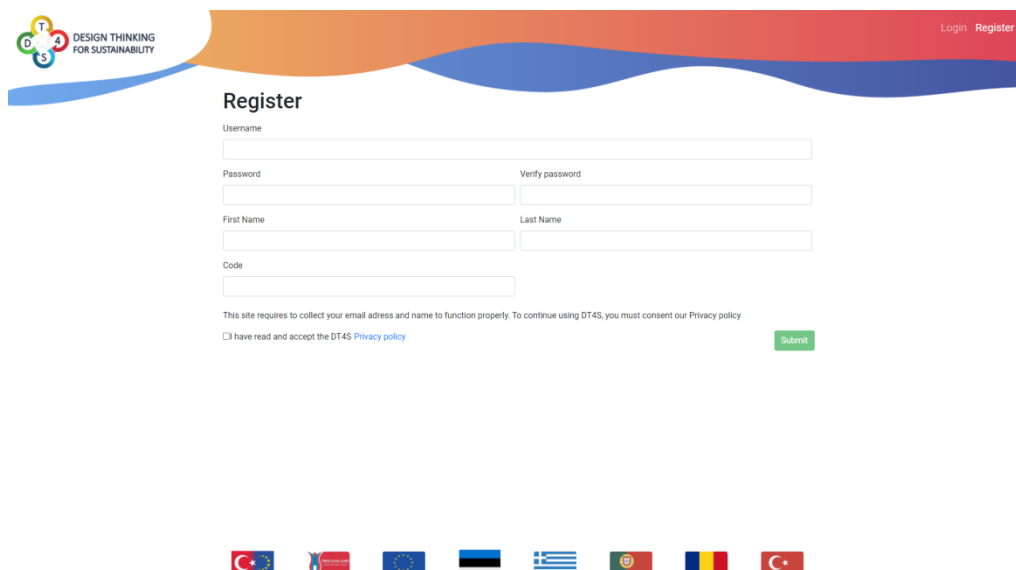
The screenshot shows the "Register" page of the DT4S platform. The page has a header with the DT4S logo and the text "DESIGN THINKING FOR SUSTAINABILITY". On the right side of the header, there are "Login" and "Register" buttons. Below the header, the main content area features the title "Register" and a form with the following fields: "Username", "Password", "Verify password", "First Name", "Last Name", and "Code". Below the form, there is a checkbox for "I have read and accept the DT4S Privacy policy" and a "Submit" button. The footer includes the European Union flag and the text "Co-funded by the Erasmus+ Programme of the European Union".

Figure 5: Creating a new account

When creating a new account, the user is prompted to enter their Username (mandatory), a password (mandatory), their First and Last name (optional but strongly recommended) and a special code if they have one. This code allows them to get access to a teacher/content creator type of account. To obtain this code, please contact the author of the manual at olivier.heidmann@gmail.com or the project's partner present in your country.

No email address will be required nor stored on our servers. We try to make the users' footprint as small as possible in compliance with the general GDPR directives. When a new account is created, the user also has to agree having read the privacy policy of the platform.

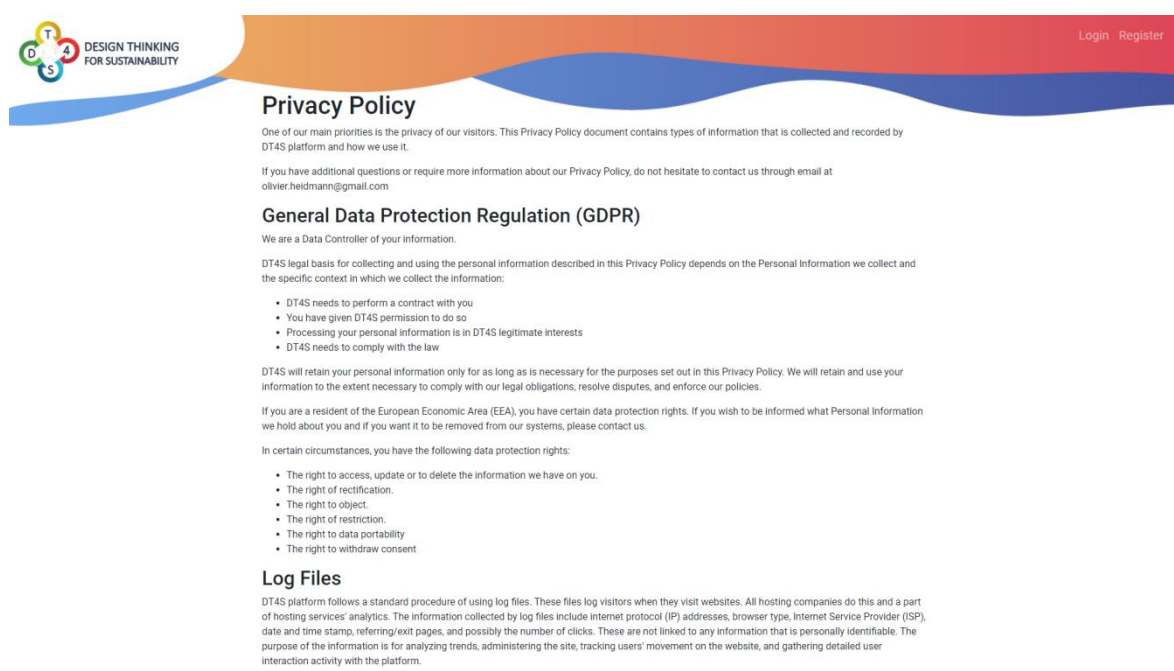
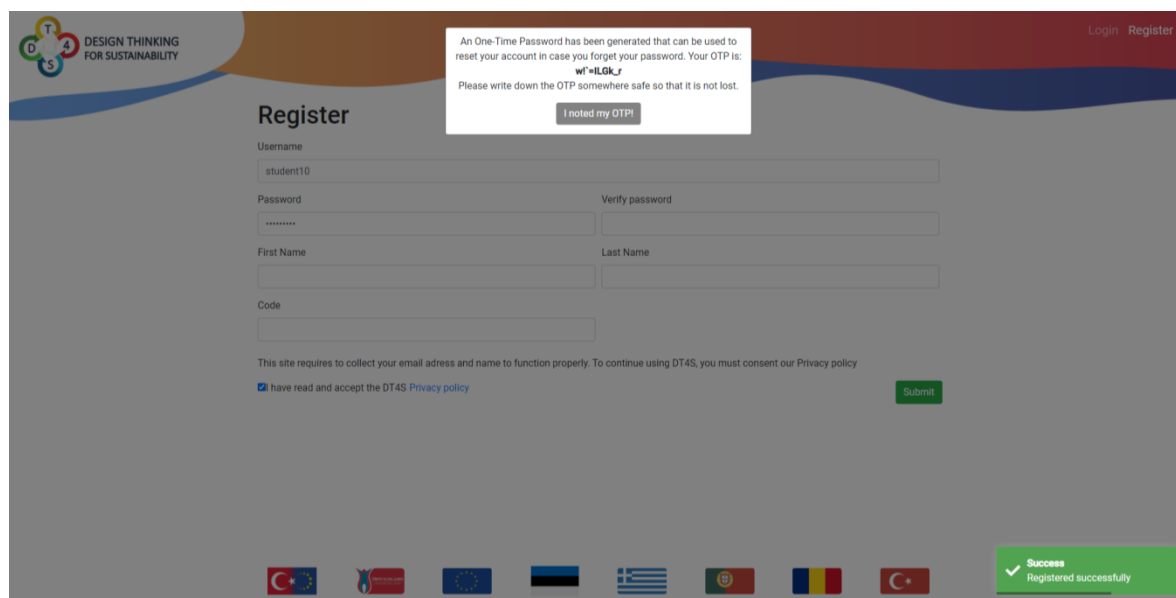


Figure 6: DT4S privacy policy

After having created a new account or when the user already has credentials, they go to the Login screen.

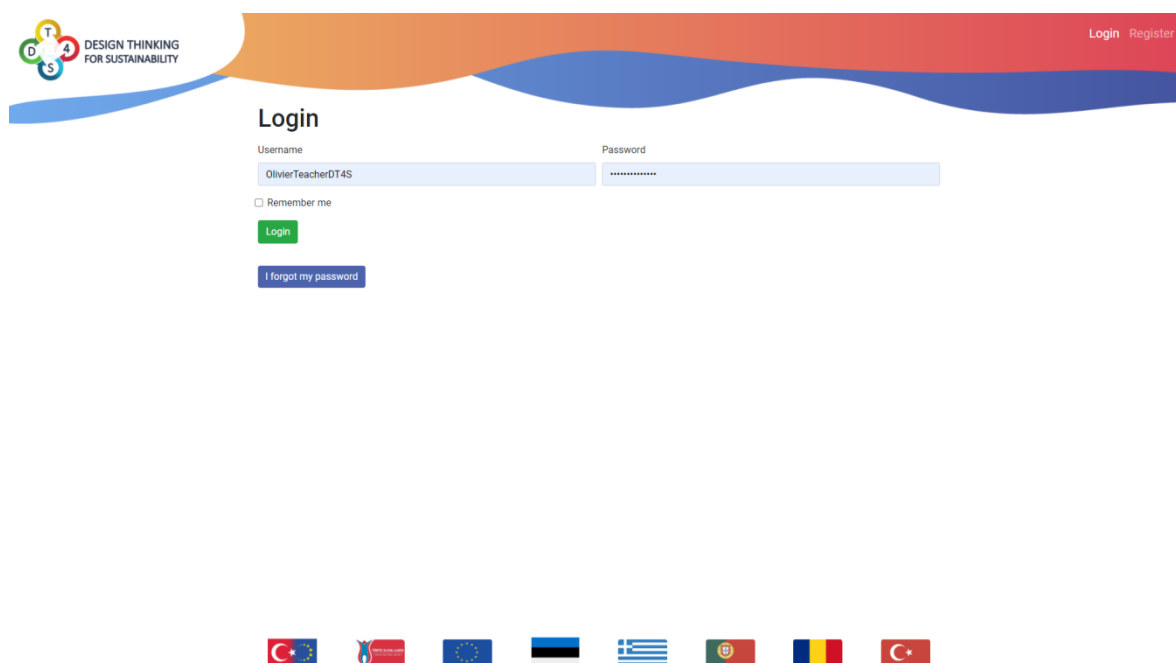
When a user has just created their new account, they will receive once their OTP (One Time Password). Because we are not storing any email on the platform, we need a way for the users to reset their passwords if they lose or forget them. The OTP offers an easy solution for that issue. **It is very important to write down the OTP**, as this code will be required for a change of password.



The screenshot shows the 'Register' page of the DT4S platform. At the top left is the 'DESIGN THINKING FOR SUSTAINABILITY' logo. At the top right are 'Login' and 'Register' links. A central notification box states: 'An One-Time Password has been generated that can be used to reset your account in case you forget your password. Your OTP is: w!*#ILGk_7. Please write down the OTP somewhere safe so that it is not lost.' Below this is a button 'I noted my OTP!'. The registration form includes fields for 'Username' (filled with 'student10'), 'Password', 'Verify password', 'First Name', 'Last Name', and 'Code'. A checkbox 'I have read and accept the DT4S Privacy policy' is checked. A green 'Submit' button is at the bottom right. At the bottom, there is a row of flags and a green 'Success Registered successfully' message.

Figure 7: Successful registration

When logging in the platform, the [Login](#) button directly checks the credentials of the user, while the [I forgot my password](#) button allows the user to enter a new password for their account.



The screenshot shows the 'Login' page of the DT4S platform. At the top left is the 'DESIGN THINKING FOR SUSTAINABILITY' logo. At the top right are 'Login' and 'Register' links. The login form includes fields for 'Username' (filled with 'OlivierTeacherDT4S') and 'Password'. There is a 'Remember me' checkbox and a green 'Login' button. Below the login button is a blue button 'I forgot my password'. At the bottom, there is a row of flags.

Figure 8: Logging in DT4S





If the user wants to change their password, they will need first to insert their OTP.

Figure 9: The process to change the account's password

Once the user is logged in the platform the top menu bar changes to show much more options.

Figure 10: Logged in the platform

Let's detail all the new available functionalities:

-  allows to go to the screen that lists all classes. See above for the concept of classes and below for more details about that screen.
-  allows to go to the screen that lists all the private activities of the user. See above for the concept of private activities and below for more details about that screen. ONLY AVAILABLE FOR TEACHER ACCOUNTS.
-  allows to go to the screen that lists all the private activities of the user. See above for the concept of public activities and below for more details about that screen. ONLY AVAILABLE FOR TEACHER ACCOUNTS.
-  allows to display all the recent notifications from the system (new courses, events in the course, etc...)

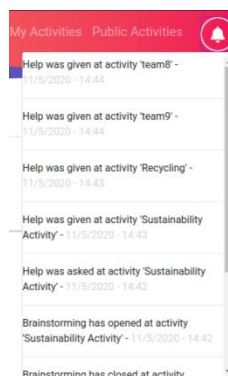





Figure 11: examples of system notifications

-  allows to access the user profile screen. See below for more details about that screen. The two letters in the icon (the user logo) come directly from the first letter of the First and Last name of the user, hence it's a good practice to always fill those fields at registration. The color of the user logo is computed dynamically according to the letters of the name initials.
-  allows the users to log out.
-  allows the users to change the language of the platform. All the languages from the DT4S consortium are available (see Figure 11).



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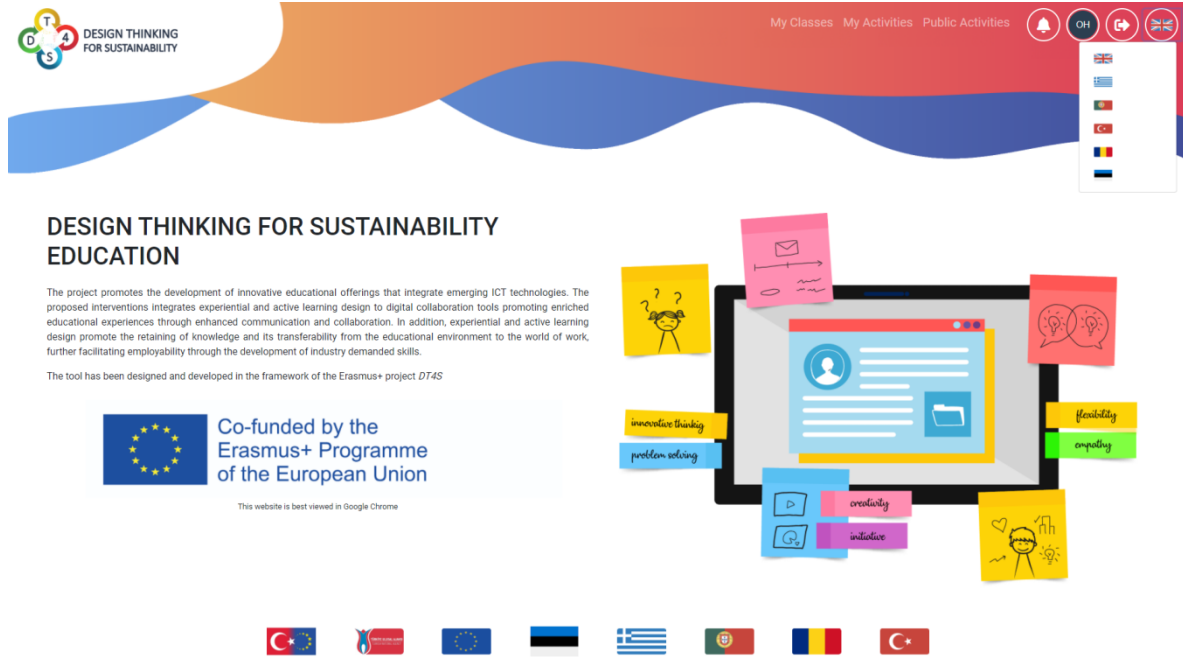


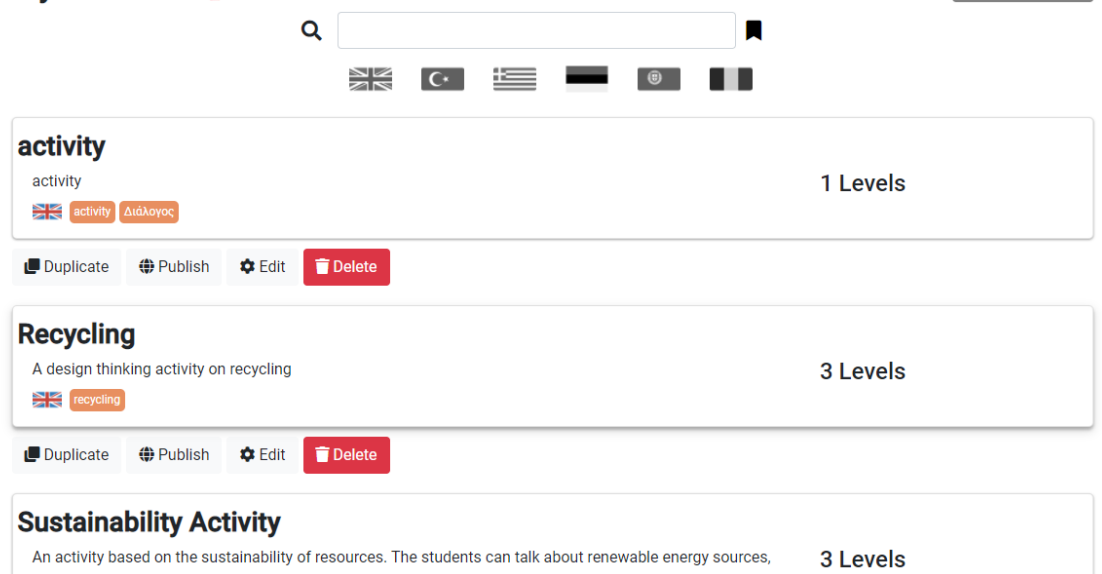
Figure 12: Changing the platform's language



Activities

The Activities and Public Activities screen both show all the activities of diverse categories available to the user. The only difference between the two screens is the level of access of the said activities, where the ones in My Activities are only visible by the owner and the ones in Public Activities are visible by everyone.

My Activities



activity

activity

1 Levels

Duplicate Publish Edit Delete

Recycling

A design thinking activity on recycling

3 Levels

Duplicate Publish Edit Delete

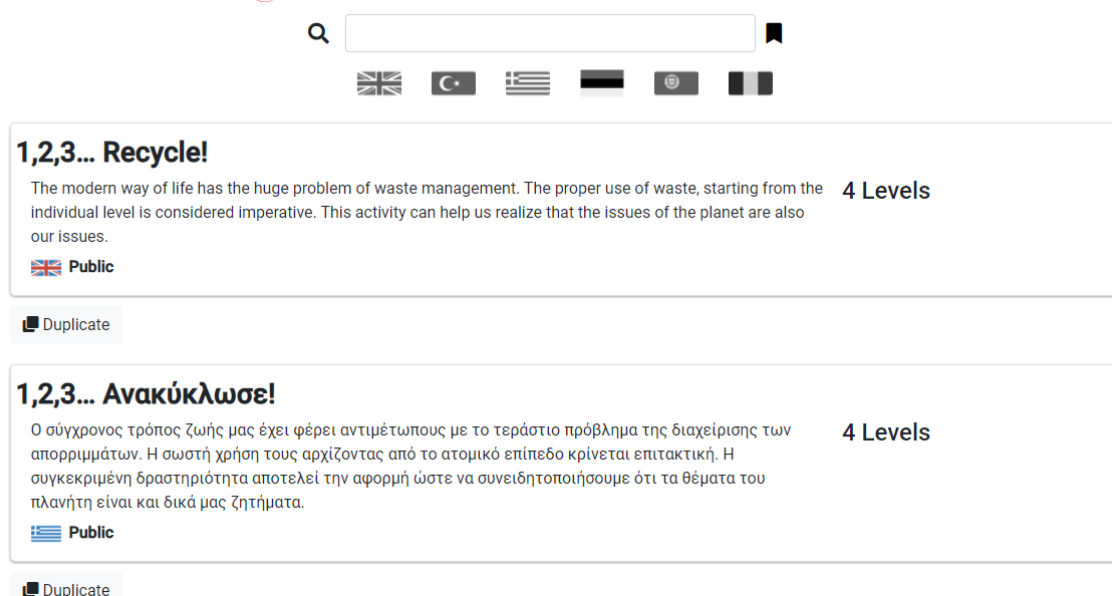
Sustainability Activity

An activity based on the sustainability of resources. The students can talk about renewable energy sources,

3 Levels

Figure 13: The private activities

Public Activities



1,2,3... Recycle!

The modern way of life has the huge problem of waste management. The proper use of waste, starting from the individual level is considered imperative. This activity can help us realize that the issues of the planet are also our issues.

4 Levels

Public

Duplicate

1,2,3... Ανακύκλωση!

Ο σύγχρονος τρόπος ζωής μας έχει φέρει αντιμέτωπους με το τεράστιο πρόβλημα της διαχείρισης των απορριμμάτων. Η σωστή χρήση τους αρχίζοντας από το ατομικό επίπεδο κρίνεται επιτακτική. Η συγκεκριμένη δραστηριότητα αποτελεί την αφορμή ώστε να συνειδητοποιήσουμε ότι τα θέματα του πλανήτη είναι και δικά μας ζητήματα.

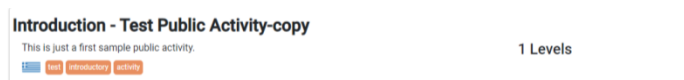
4 Levels

Public





Duplicate

Figure 14: The public activities

The activities are presented as boxes piled up on the screen. Each box corresponds to one activity. The name of the activity and a short description are visible at a glance. The user can also see on the right how many levels the activity contains, the language in which it was written and a set of meta-tags pertaining to the content of the activity.



Four function buttons are available below the activity box:

-  Duplicate creates a duplicate of the present activity inside the My Activities window, i.e. clones the current activity, with the clone being in the private activities list
-  Edit allows the user to edit and modify the activity. THIS IS ONLY AVAILABLE IN THE PRIVATE ACTIVITY WINDOW OR IN PUBLIC ACTIVITIES IF THE USER IS THE CREATOR OF THE ACTIVITY
-  Delete allows the user to delete the activity. THIS IS ONLY AVAILABLE IN THE PRIVATE ACTIVITY WINDOW OR IN PUBLIC ACTIVITIES IF THE USER IS THE CREATOR OF THE ACTIVITY
-  Publish allows the user to create a duplicate of the activity and make it public. The public duplicate is disconnected from the private original and any changes made in one will not reflect on the other.


A search box is available on top of the screen in order to easily sort the displayed activities.



Figure 15: The search box

Entering a name in the box will display only the activities containing the said name.

Clicking on a flag will display only the activities written in the flag's language. Several flags can be selected at the same time.

Clicking on the  button will display the research by tag, where the user can select any of the existing meta-tag to display only the activity containing those.

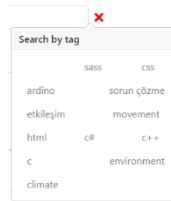


Figure 16: Search by tags

The three types of searches can be combined and used at the same time.

Clicking on **Add New Activity** allows to create a new activity

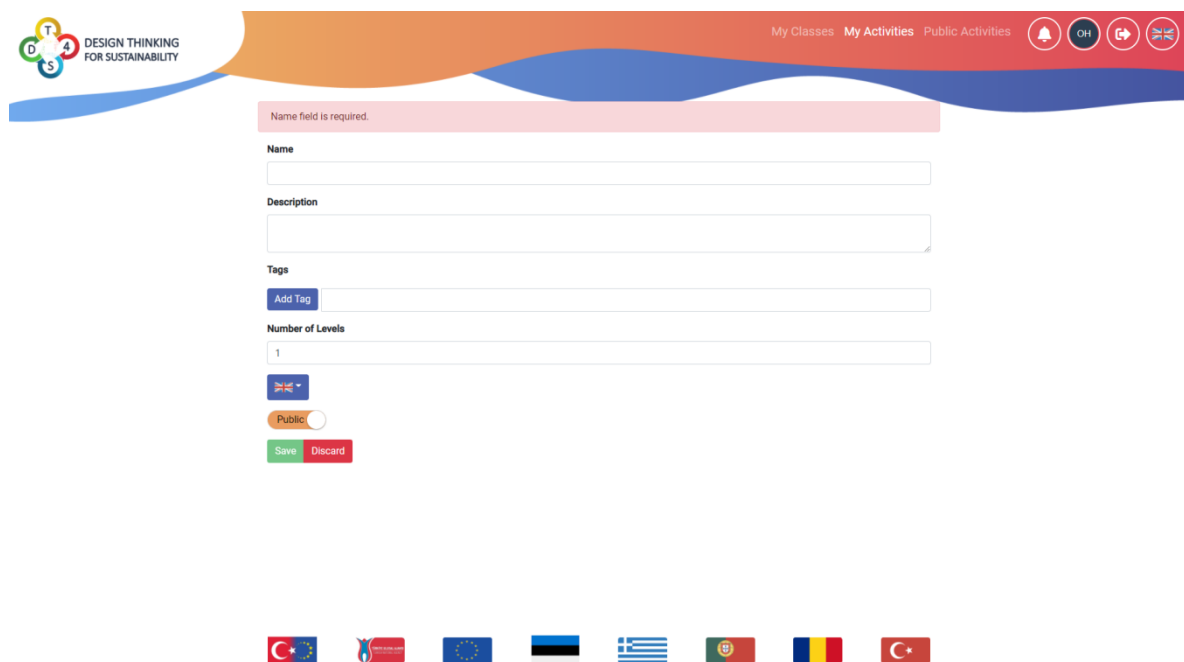



Figure 17: Adding a new activity

When creating an activity, the teacher has to provide the following:

- A name
- A description
- Meta-tags by using the **Add Tag** button. This is optional
- A language by selecting the one they desire from the  drop down box
- A level of visibility by toggling the **Public** button on or off

Once they are satisfied with the data entered, the content creators can either save their new activity or discard it by using the **Save** **Discard** buttons.

Editing activities

By clicking on the  button, the content creator can edit their activities.

The screen shown displays all the information (name description, meta-tags, language) entered in the activity creation screen plus the content of the activity itself, level by level.

The  button, omnipresent in the platform, allows the user to go back one screen.

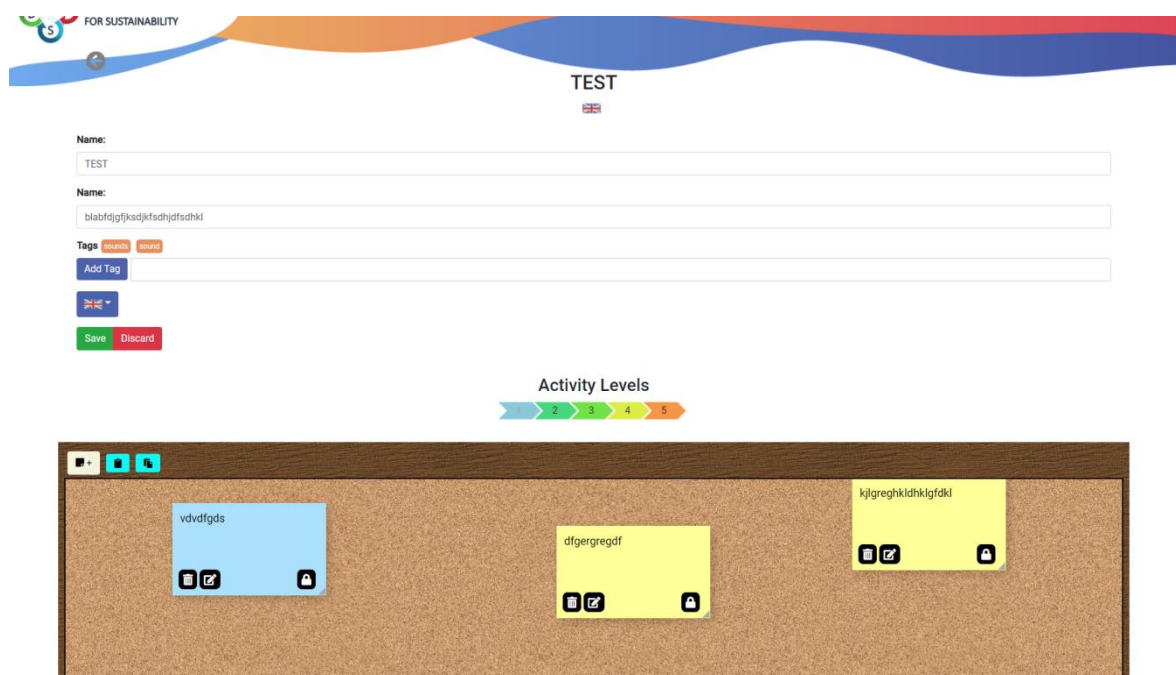



Figure 18: Editing an activity

Activity Levels


Activity levels are visible in the colored arrow . Each arrow indicates a level, and clicking on it displays the level.


Each level is presented as a digital cork board on which digital post it notes can be inserted. Those notes can be plain text, enriched text, images or video. See the annex for more explanations about the post it system. Content creators can describe to the students the current level by putting a host of explanatory notes on the board, containing information about the matter at hand and questions to facilitate the work of the teams.


Any note added by a teacher during a level creation is automatically locked and hence cannot be deleted or modified by students.



Figure 19: A level

Clicking on  creates a new note on the board.

Clicking on  creates a copy of the current level in the system clipboard.

Clicking on  pastes the level stored in the system clipboard on the displayed level.

Let's imagine the following situation as a practical example of copy/pasting levels. If I want to copy the third level from Activity B to the fourth level of Activity A, I need to edit activity A, go to the fourth level, click on the copy button, go back to the My Activity screen, edit Activity B, go to the third level and then click on the paste button.

If an activity box is clicked in the My Activities window, then the activity is shown in view mode, meaning no modification is possible, as shown in figure 20. Notice the difference with figure 18, the buttons for adding notes and copy/pasting the levels have disappeared.

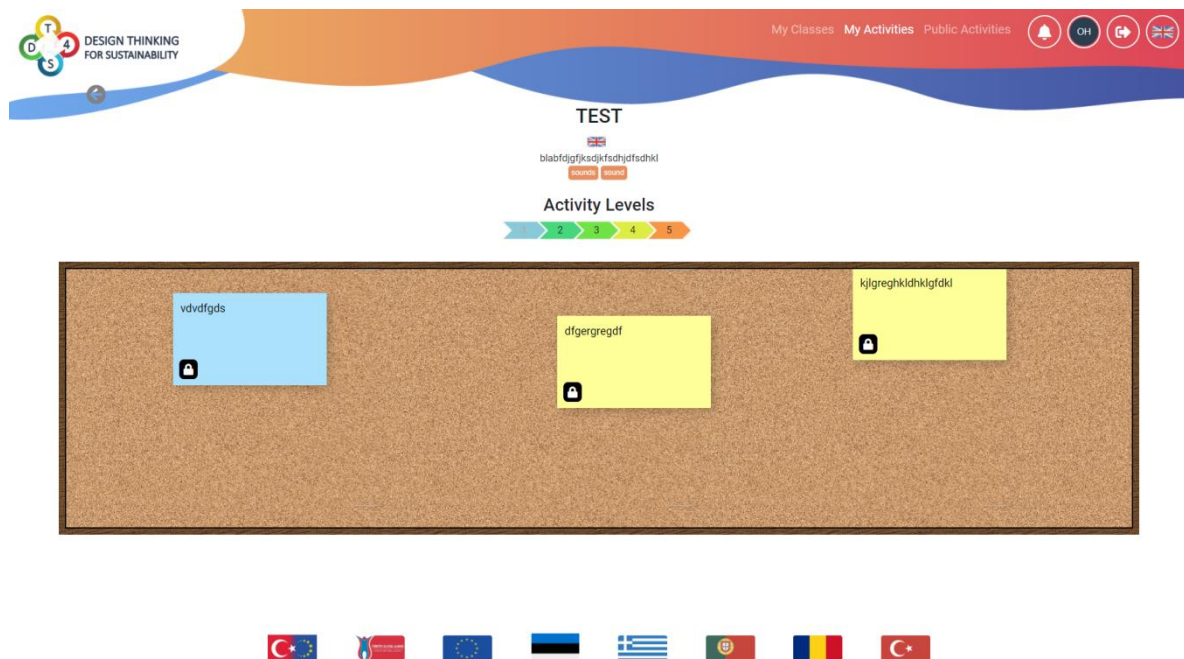
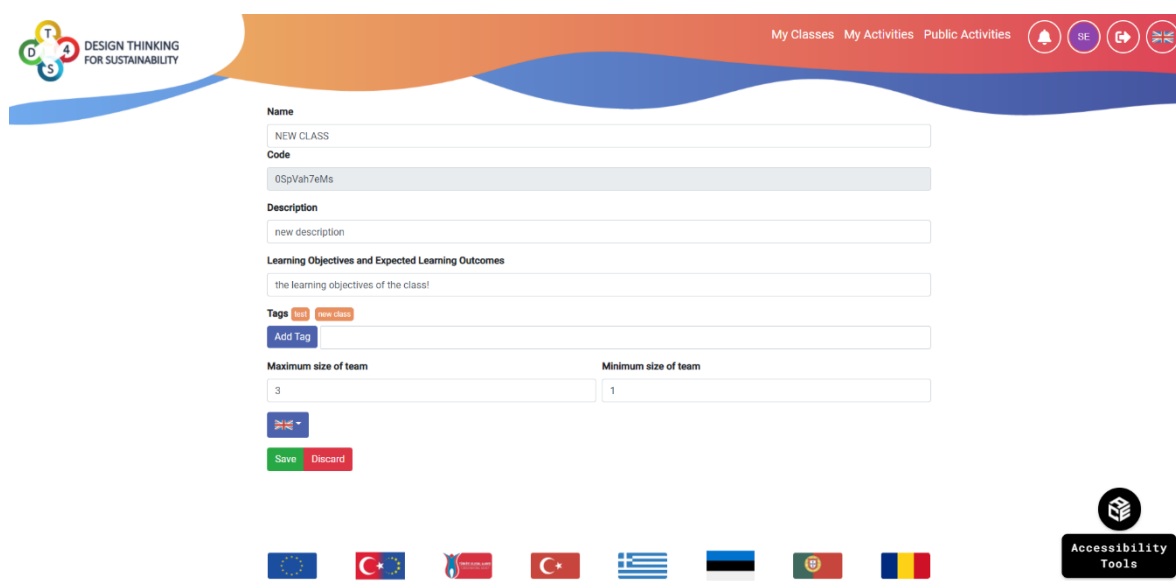


Figure 20: Viewing an activity





The screenshot shows the 'Create a new class' form in the DT4S platform. The form is titled 'NEW CLASS' and includes the following fields and buttons:

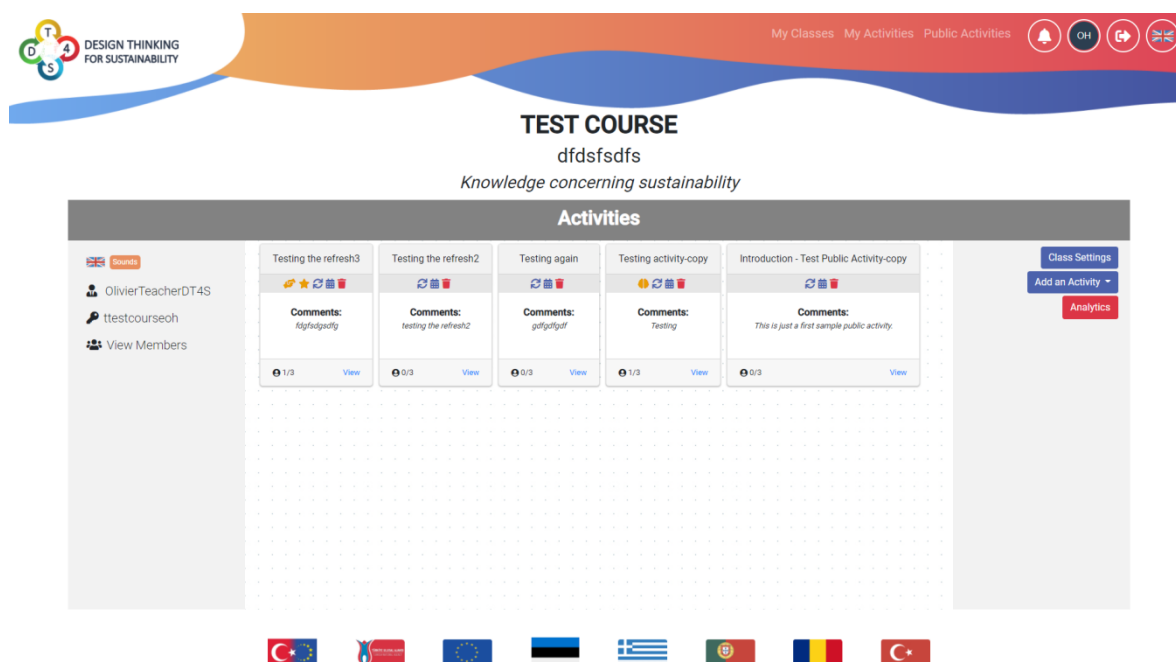
- Name:** A text input field.
- Code:** A text input field showing a generated code: '0SpVah7eMs'.
- Description:** A text input field with the placeholder 'new description'.
- Learning Objectives and Expected Learning Outcomes:** A text input field with the placeholder 'the learning objectives of the class!'.
- Tags:** A section with a 'Add Tag' button and a list of existing tags.
- Maximum size of team:** A text input field with the value '3'.
- Minimum size of team:** A text input field with the value '1'.
- Language:** A dropdown menu showing the flag of the United Kingdom.
- Buttons:** 'Save' (green) and 'Discard' (red).

The top navigation bar includes 'My Classes', 'My Activities', and 'Public Activities'. The bottom of the page features a row of flags and an 'Accessibility Tools' button.

Figure 22: Creating a new class

When creating a new class, the content creator is asked to provide a name, a description and the expected learning objectives and outcomes. The unique code of the class is automatically generated by the platform. Tags can be added and the language defined. The sizes of the students' teams need to be defined, with a minimum and a maximum value. The class is created when clicking on Save.

The content of the class is accessed by clicking on the class box in the Class screen.



The screenshot shows the 'TEST COURSE' content page in the DT4S platform. The page is titled 'TEST COURSE' and 'dfdsfsdfs'. Below the title, it says 'Knowledge concerning sustainability'. The main content area is titled 'Activities' and displays a list of activities:

- Testing the refresh3:** Comments: dfdsfsdfs. View button.
- Testing the refresh2:** Comments: testing the refresh2. View button.
- Testing again:** Comments: gdfgdfgdf. View button.
- Testing activity-copy:** Comments: Testing. View button.
- Introduction - Test Public Activity-copy:** Comments: This is just a first sample public activity. View button.

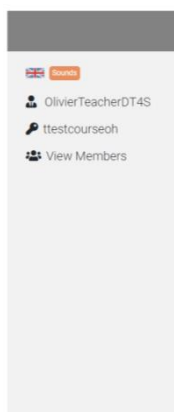
On the left side, there is a sidebar with the user's name 'OlivierTeacherDT4S', a profile icon, and a 'View Members' button. On the right side, there are buttons for 'Class Settings', 'Add an Activity', and 'Analytics'.

Figure 23: A class content

The header of the screen shows the name of the class, a short description and the expected learning outcomes.

TEST COURSE
dfdsfsdfs
Knowledge concerning sustainability

Figure 24: Class header

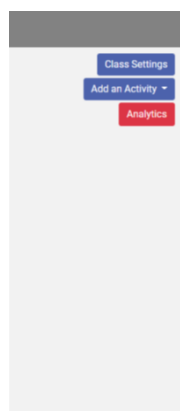
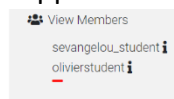


The box on the left displays the language of the course and the associated meta-tags.

The name of the course creator is indicated underneath, alongside with its unique code.

A list of members, i.e. all the students having registered to the course, can be displayed by clicking on the View Members button underneath.

Each member of the list of enrolled students has a small **I** button besides their name. Clicking on the **I** makes a red **—** sign appear. Clicking on this red **—** sign will kick the student from the course.



The box on the right displays a series of actions available to the teacher.

Class Settings displays the setting used to create the class (fig. 26).

Add an Activity adds one or activity. A team of students to the course will be assigned to solve the selected First the teacher needs to select which activity the team will solve and then they will need to select starting and ending dates for each of the levels of the activity.

Analytics displays all the analytics related to the course

Analytics display 4 different discrete measure points:

- The number of notes created
- The number of notes edited
- The number of times teacher help was asked for
- The number of times a review was asked for

On top of the screen all the courses created are displayed and the teacher or content creator can see the analytics for all their courses by simply switching between courses.



Figure 25: An analytics screen

When the teacher wants to insert an activity in a course, they are displayed a list (with a language flag near the name) of all the private activities they currently have available. Clicking on one of them will insert the activity in the course.

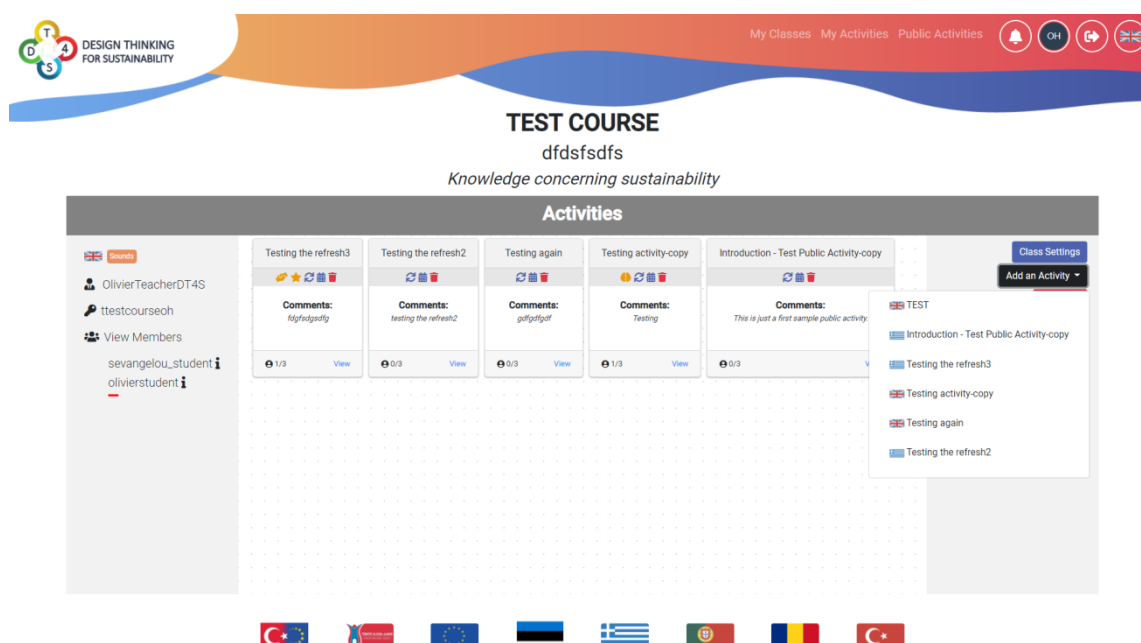
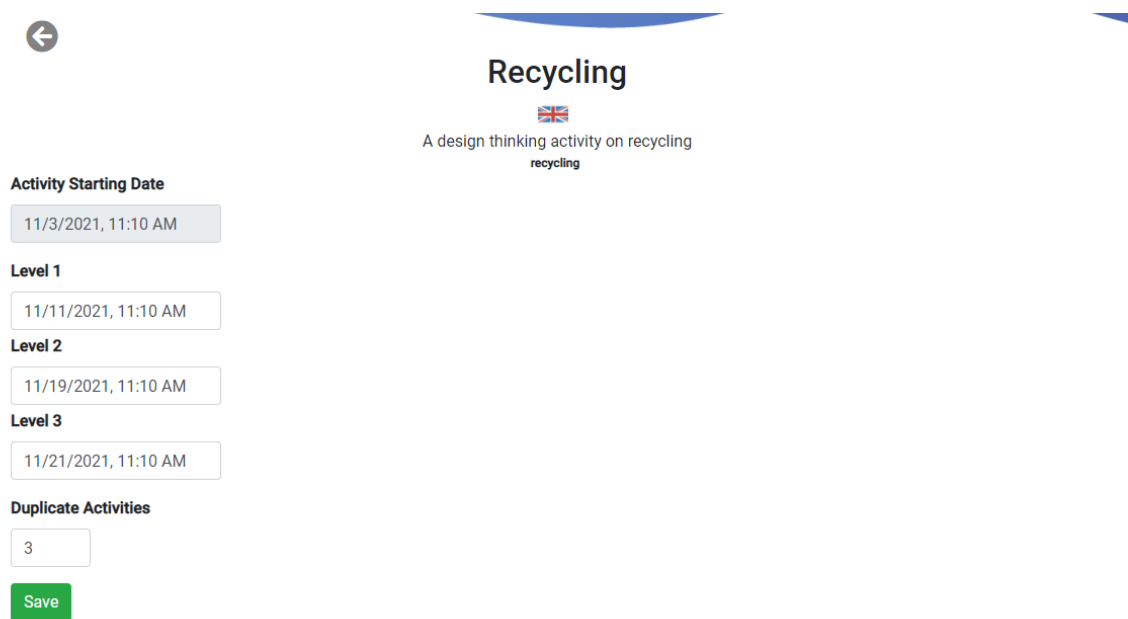


Figure 26: Inserting an activity in a course (1)

Once the activity has been inserted, a certain number of parameters concerning the schedule of the activity need to be filled. A starting date has to be chosen, and for each level of the activity a separate and independent ending date can be selected. This way the teacher has total freedom on how to implement the activity in their course, ranging from all the levels being open and staying open up until the end of the activity or a more controlled approach with independent ending dates for each of the levels. The content creator can also elect to directly create several activities instead of only one, in order to facilitate the creation of a class where many teams are working on the same activity.



Recycling

A design thinking activity on recycling
recycling

Activity Starting Date

11/3/2021, 11:10 AM

Level 1

11/11/2021, 11:10 AM

Level 2

11/19/2021, 11:10 AM

Level 3

11/21/2021, 11:10 AM

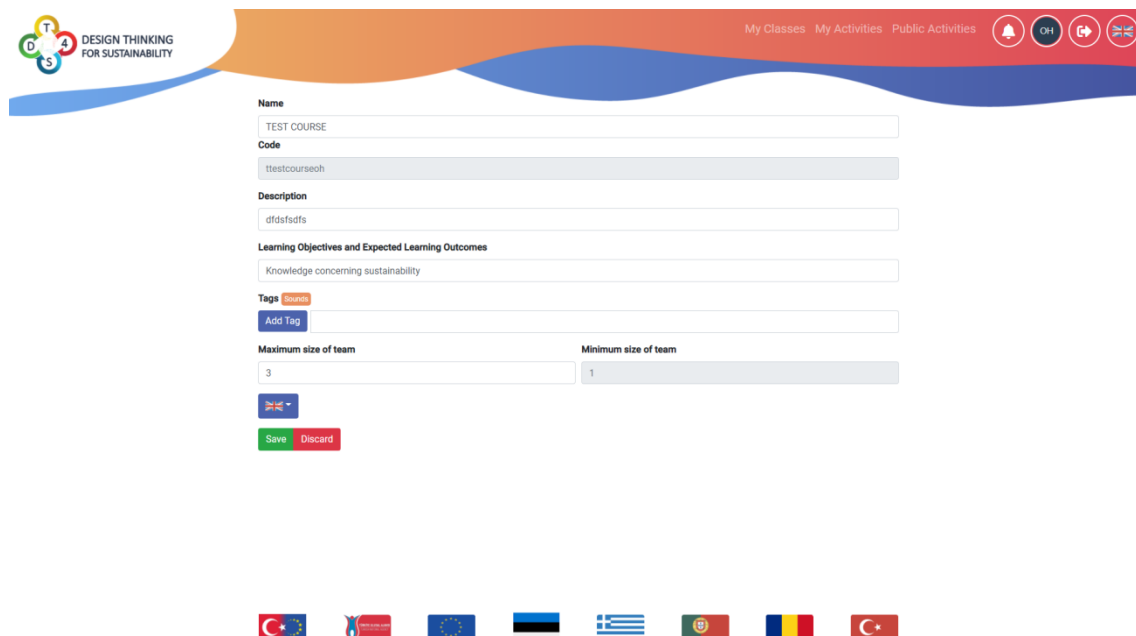
Duplicate Activities

3

Save

Figure 27: Inserting an activity in a course (2)

Clicking on the class setting button displays a whole array of parameters that the teacher or trainer can set to their liking. The only piece of information which is not freely modifiable is the code of the course, as it is decided automatically by the system.



DESIGN THINKING FOR SUSTAINABILITY

My Classes My Activities Public Activities

Name
TEST COURSE

Code
ttestcourseoh

Description
dfdsfdfs

Learning Objectives and Expected Learning Outcomes
Knowledge concerning sustainability

Tags
Add Tag

Maximum size of team
3

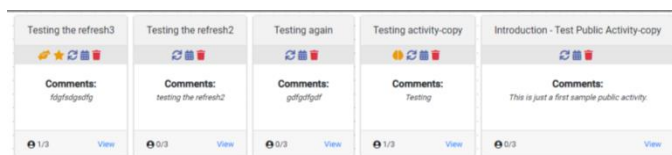
Minimum size of team
1

Save Discard

T.C. İstanbul Valiliği

Figure 28: Displaying class settings

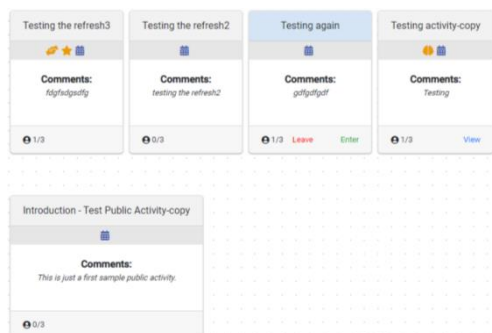
At the center of the course screen, all the team boxes are displayed.



Testing the refresh3	Testing the refresh2	Testing again	Testing activity-copy	Introduction - Test Public Activity-copy
Comments: fdfgdfgdfg	Comments: testing the refresh2	Comments: gdfgdfgdf	Comments: Testing	Comments: This is just a first sample public activity
1/3 View	0/3 View	0/3 View	1/3 View	0/3 View

Figure 29: Teams in a course

Each of the team box contains the name of the activity assigned to the team, an icon bar, comments about the activity or the team, the number of member of the teams and a button for the teacher to access the activity's content and check the team's work on it.



Testing the refresh3	Testing the refresh2	Testing again	Testing activity-copy
Comments: fdfgdfgdfg	Comments: testing the refresh2	Comments: gdfgdfgdf	Comments: Testing
1/3 View	0/3 View	1/3 Leave Enter	1/3 View

Introduction - Test Public Activity-copy



Comments: This is just a first sample public activity

0/3

Figure 30: student view of the same teams

From a student point of view, the team boxes contain a Join button if no team has been joined yet or a Leave/Enter button on the box of the student's team. If a brainstorming is ongoing, the student can also have access to the content of the activity of the team that created the brainstorm.

The buttons in the team's icon bar are the following:

- The update  button allows the teacher to update the activity of the team to its latest version. Let's say for example that a teacher creates an activity on a Wednesday and then inserts it directly into a course. On Thursday the teacher makes some changes to the activity to improve it. If the activity inside the course is not updated, it will still be the same activity as the one created on Wednesday. But if the teacher uses the update button, then the students will be able to work with the activity modified on Thursday. A confirmation screen will pop up when the teachers has asked for an update. No student notes will be destroyed during the update, only the teachers notes will be affected.
- The calendar  button displays the current dates assigned to the team

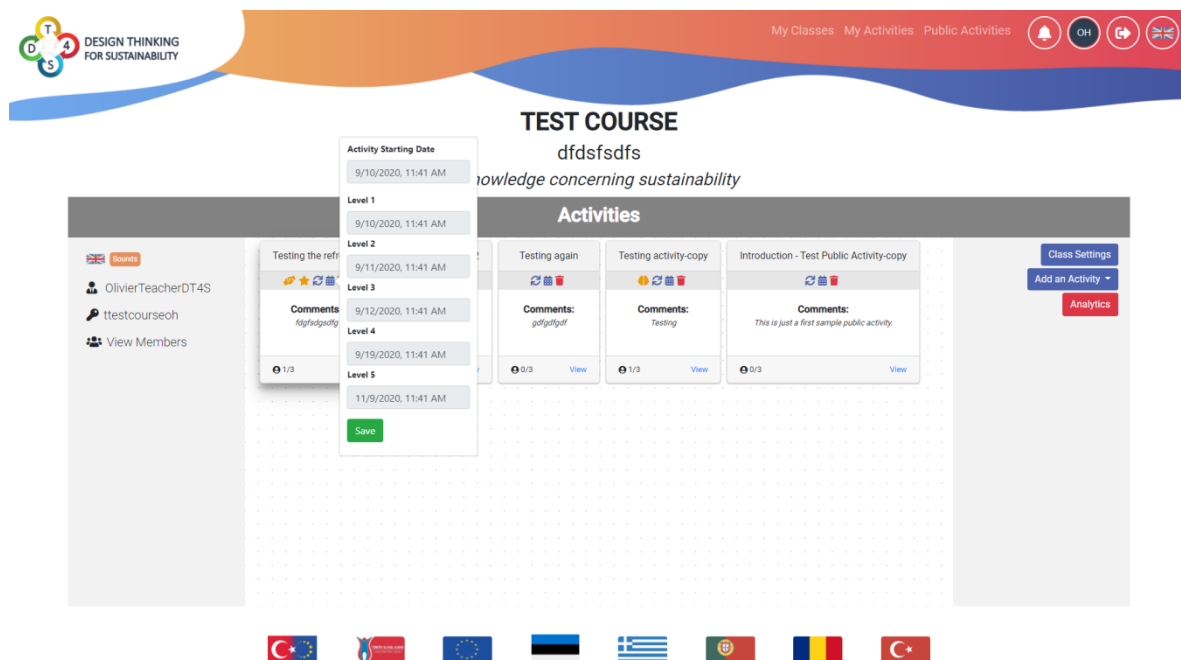






Figure 31: Team's calendar

- The trashcan  button allows the teacher to destroy the current team
- The  icon indicates that this team has asked for a brainstorm
- The  icon indicates that this team has asked for a level review

- The  icon indicates that this team has asked for teacher's help

Clicking on a team box access button (View or Enter) allows the user to see the current progression of the team in the activity.

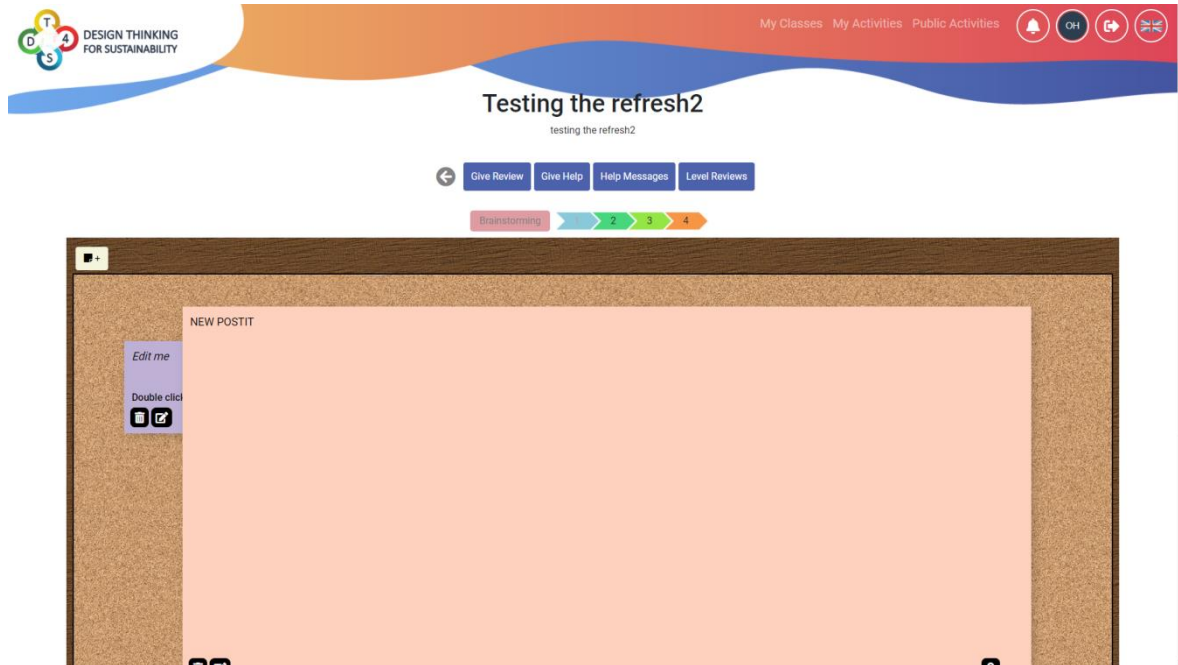


Figure 32: Content of the team box

The team's chat box is available at the bottom of the screen.

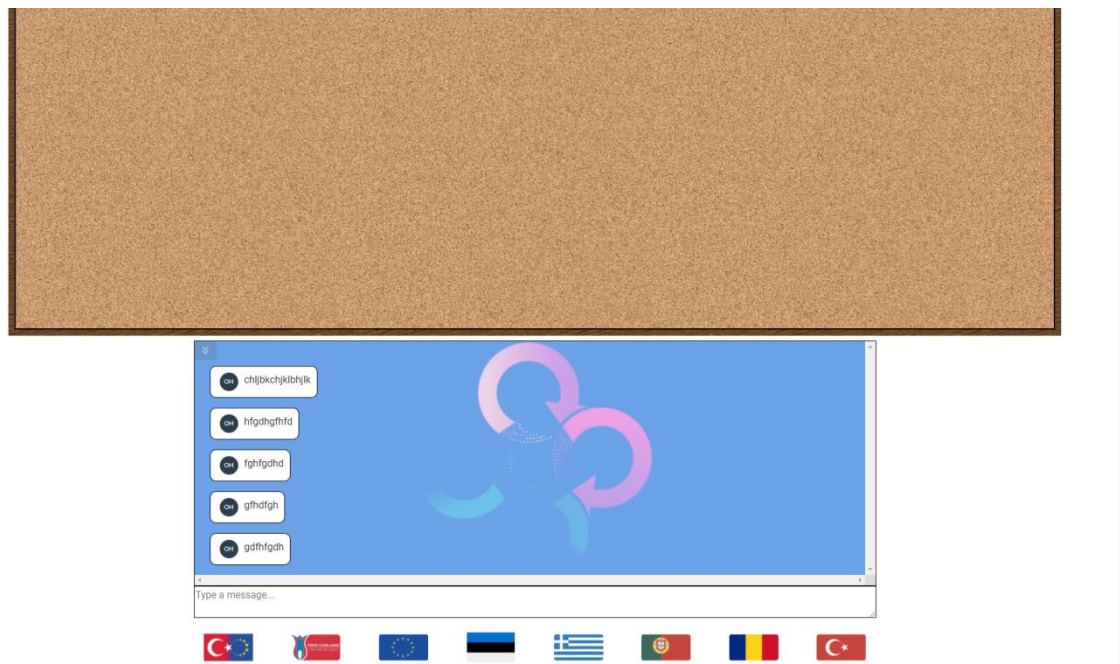


Figure 33: Team chat

All the messages contain the initial of their owner in the user logo for easy identification.

When all the students of a team are present in the team's box, they can see each other's activity live by checking where each other mouse is and what they are doing. The other team members' mouse cursors positions are shown through their user logo.

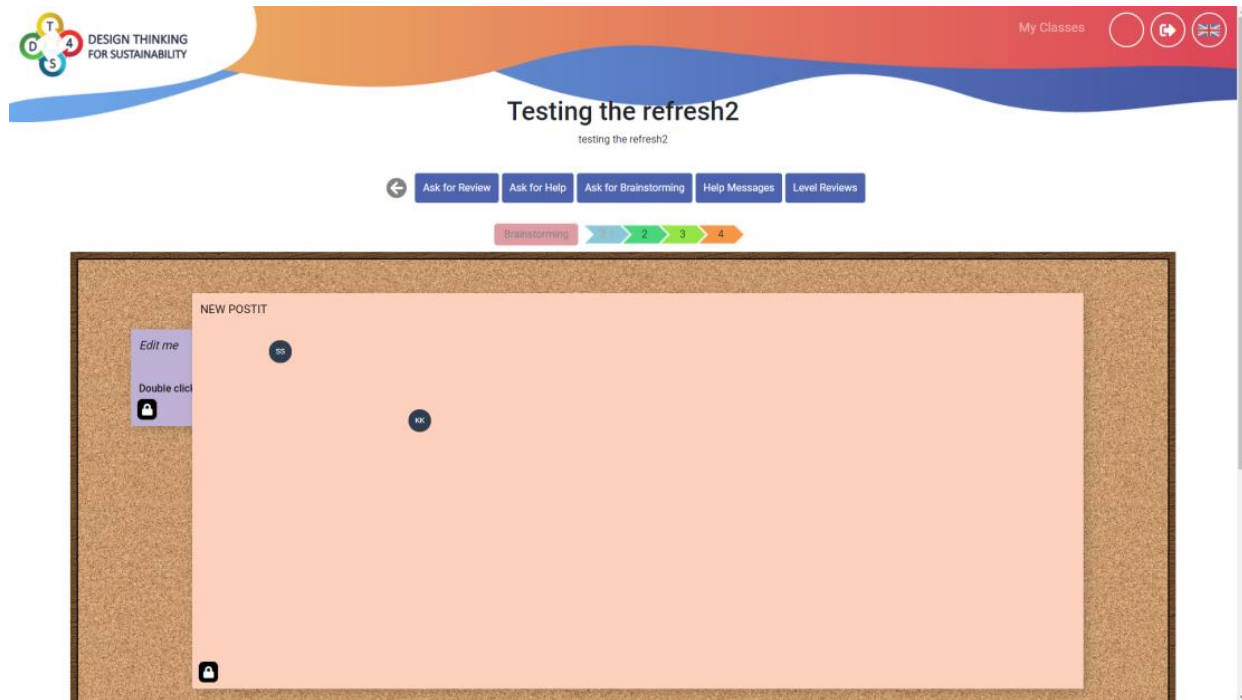




Figure 34: The user sees the logo of 2 other team mates

For a student, the following buttons are available:

- Clicking on **Ask for Review** will ask the teacher to review the current level. The question mark  on the first level here indicates that a review has been asked but not performed yet. The checkmark on level 2 here  indicates that this level has been successfully reviewed.
- Clicking on **Ask for Help** will ask the teacher for help. The demand can be contextualized with a message.

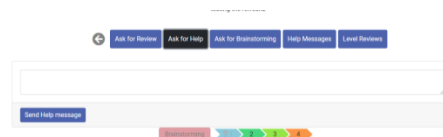




Figure 35: Asking for help

- Clicking on **Ask for Brainstorming** will unlock a new level, Brainstorming, which is otherwise locked. At the right of the levels' arrow, a greyed out **Brainstorming** button indicates an unavailable level, and a bright **Brainstorming** button indicates an available one.
- Clicking on **Help Messages** displays the messages sent by the teacher in response to a help request or shows this pop up window.
- Clicking on **Level Reviews** displays the level reviews sent by the teacher in response to a level review request or shows this pop up window.

For a teacher, the following buttons are available:

- Clicking on **Give Review** allows the teacher to leave a review of the level. The review can be written in the message box and the level can be toggle as passed or failed.

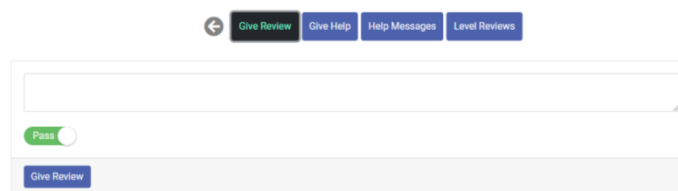


Figure 36: Leaving a review

- Clicking on **Give Help** allows the teacher to send a help message. The text can be written in the message box.

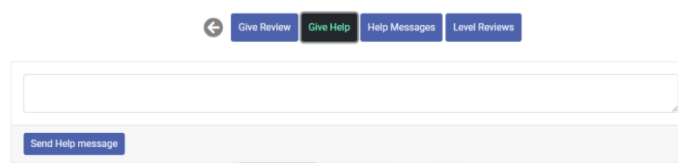
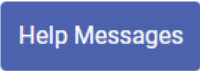
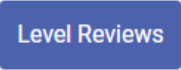


Figure 37: Leaving a help message

- As it is the case for the student view,  displays the help messages sent.
- As it is the case for the student view,  displays the level review posted.

User Profile

The user profile concentrates all the information about the user and its interaction with the platform.

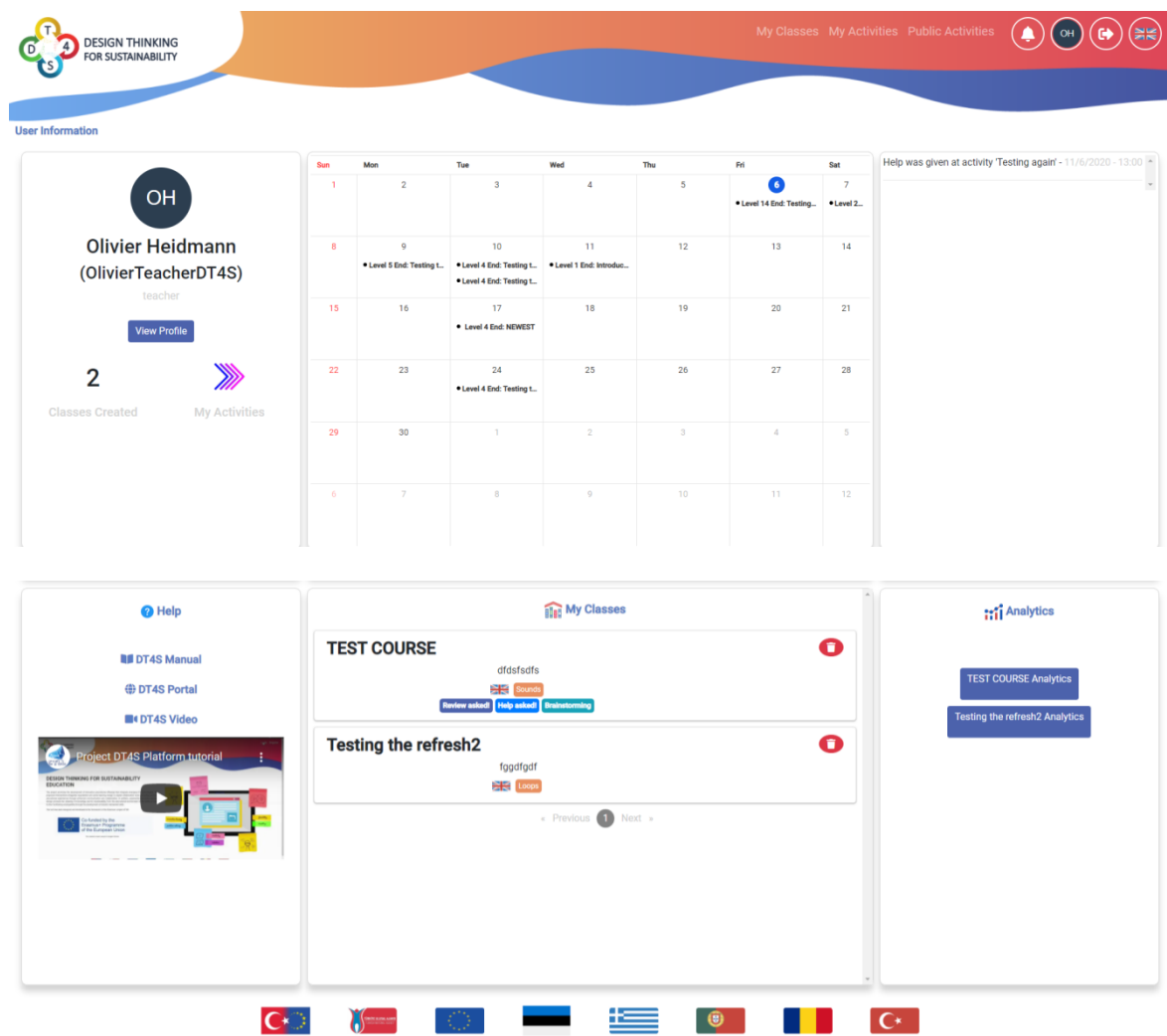


Figure 38: The user profile window

It contains a small profile box (top left), a calendar (top middle) with important events such as beginning and end of courses, a recap of all system notifications (top right), a help zone (bottom left), a list of courses (bottom middle) and the available analytics (bottom right).

The analytics panel will display analytics for each of the course the user has created.

The help panel contains link to the DT4S manual, to the DT4S portal and integrates a tutorial video that the user can watch immediately to better understand how to use the platform.

Clicking on the [View Profile](#) opens the profile window, where the users can modify their username, first name and last name. It also indicates the role of the user (teacher or student).

Figure 39: Profile screen

The password can also be changed here by clicking on [Change Password](#). The entire account can also be deleted by clicking on [Delete Account](#).

Figure 40: Changing password

ANNEX 1: Presentation of the Whiteboard messaging system

The following text will explain in details how the messaging system, especially the use of “post-it” style notes, is implemented in the DT4S platform. Many images will use the old format of post it, but it has been redesigned for DT4S and will now look more like the figure below.

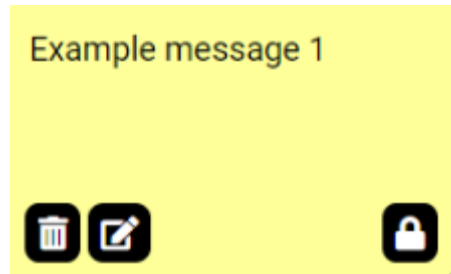


Figure 41: Re-designed post-it

By default the default post-it note is only text, with the message “Edit me Double Click me” displayed. “Edit me” is in italic and “Double click me” is in bold, showcasing from the get-go the formatting capacities of the post-it text engine.

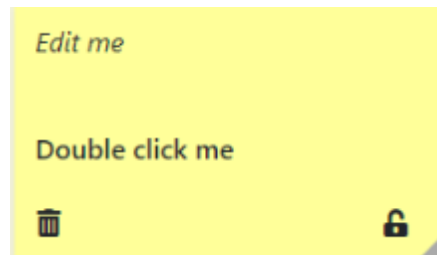



Figure 42: The default post-it

In order to avoid issues with users concurrently working on the same canvas, when a user adds a new note, the note won't appear directly on the canvas but it will open a pop-up instead. There, the post-it can be modified as it was directly on canvas and by clicking save it will show up to all the other users too.



Figure 43: Add new note pop-up

To change this text the user has to double click on the post-it (double tap on mobile) on the pen icon on the bottom left and to destroy the post-it the user has to click on the trashcan icon  on the bottom right. In order to confirm deletion, the button has to stay pressed for a certain amount of time before the note is deleted. Once the blue bar on top of the screen is full, the post-it is deleted. This mechanism has been introduced to avoid any possible accidental deletion.

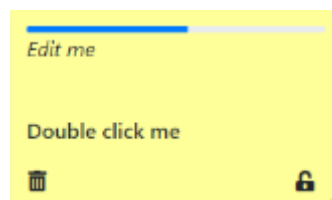


Figure 44: Post-it getting deleted




When clicking on the text editing button, new icons appear on the bottom of the text, one  for adding a photo and one  for adding a video. By clicking on the floppy disk icon  the user will change any modifications that been done. Clicking on the color disk at the bottom will change accordingly the post-it color.



Figure 45: Editing the text

All the changes done to a post-it are immediately shown to all the other members of the team if they are consulting the brainstorm canvas at the same time.

When the user wants to add a photo, they are prompted with a button asking them to select a file from their hard drive. The said file will be automatically and transparently be displayed on the screen, being uploaded to our servers for them to handle it.



Figure 46: Inserting a photo


The icon at the right of the camera icon is a text icon , in case the user wants to go back to a text only post.



Figure 47: a photo embedded in a post-it



If the user wants to insert a video, they are prompted with a message asking them to copy here the URL of the video. Youtube, Vimeo and Dailymotion are supported at the moment.




Figure 48: Inserting a video



Figure 49: A video embedded in a post-it

At the bottom right of the post-it we can see a padlock icon. It is open  when the post-it is editable or locked  when the post-it cannot be edited. Only teachers have the possibility of locking and unlocking post-its, students can only know if a post is locked or not without being able to act on it.

Grabbing the little triangle symbol at the bottom left of a post-it  allows to resize the post it to the desired size. This is especially useful if the post-it contains a huge photo or a long text, as otherwise the content will just overflow the post-it.

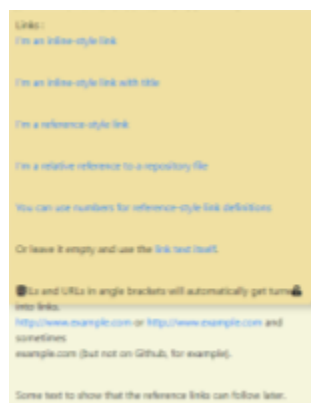


Figure 50: Example of content overflowing

To avoid such overflow, please re-dimension your post-it accordingly.

POST-ITS Enriched text rules

The complete reference for the enrich text rule is available at this URL: <https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet>.

Note: not all functionalities described on this web page have been implemented in the Dt4S platform.

Headers can be defined by using # symbols (the more # there are, the smaller the header's text) or alternatively by underlining the text with the = symbol.

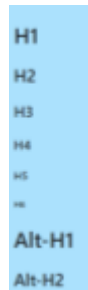


Figure 51: Post-it containing various headers

Emphasis (italic, bold, bold and italics or strike through) can be obtained by placing the text between * and _. If we write **italics** or _italics_ the post-it will display *italics*, ****strong**** or __strong__ are displayed as **strong**, and ****_italics strong_**** are displayed as ***italics strong***. Finally ~~~~strike~~~~ is displayed as ~~strike~~.



Figure 52: Post-it containing emphasis

The system also supports bullet point lists, numbered lists and hypertext links (see the linked URL above for more details).

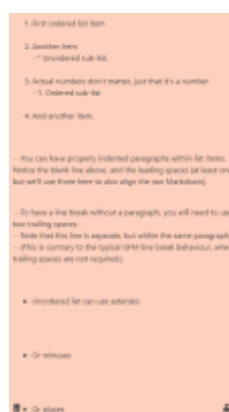


Figure 53: A post-it containing lists

ANNEX 2: Presentation of the Accessibility Tools

By clicking on the accessibility tool button, users can discover a range of functionalities targeted towards increasing the overall accessibility of the DT4S platform for disadvantaged individuals.





Figure 54: The Accessibility Tools button


Clicking on the button triggers the apparition of the accessible bar.





Figure 55: The Accessibility bar

 Text to speech. Clicking on the icon allows to use the text to speech functionalities. Highlighting or hovering above some text will prompt an artificial voice to read out loud the content of the text. Works better in English.

 Increase Font Size. Allows the user to increase the font size of all the text on the screen.

 Decrease Font Size. Allows the user to decrease the font size of all the text on the screen.

 Text Options. Opens a new window where the user can select the type of font, the text color, the line spacing and letter spacing of all the text displayed on screen.

 Magnifier. Opens a new window showing magnification options, such as zoom level, width and height magnification.



Screen Masking. Allows the user to mask the screen with a color filter.



Reading Ruler. Displays a reading ruler (a semi-transparent line that moves vertically on the screen) to help reading the platform text in an easier fashion.



Speech recognition. Activates the speech recognition functionalities.



Page translation. Allows to automatically translate the text of the page.



This toggle allows you turn on and off the text-to-speech functionality.



Reset all. Removes all the accessibility options activated so far.



Settings. Displays customization settings for the accessibility bar.



About. Displays information about the accessibility tool.



Close. Clicking on this button closes the tool.

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