SHELDON

**Smart Learning Motivation Intervention Model
for Students with Emotional, Behavioral and Learning
Difficulties**

Gamified Training Tool MANUAL

https://www.sheldon-project.eu/courses/

Intellectual Output 4

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Table of Content

1 Overview

This handbook document aims at enabling the trainers utilising the deliverables of the SHELDON project, to fit them together into the envisaged intervention framework. Details are provided, as well as, advices on how to use them.

The aim of GGT is to present the intervention model educational content in the gamified online environment – to respond enebling students with EBLD to learn at personal pace using verbal and visual interactions. The Digital educational tool will be accessible online, as well reducing any printing and content updates costs. Gamified environment will be multilingual and will have possibility to include extra languages after the project end.

The Sheldon project has as a main goal to create and define a **model of intervention** based on **narrative and cognitive-behavior psychology** which could be useful to increase and enhance motivation in **EBLD** (emotional, behavioural and learning difficulties) students in order to prevent early school leaving. This model is founded on a deepening of the reasons and mechanisms underlying the behavior of students with EBLD to identify recurrent themes and needs and, at the same time, implement a redefinition of the "stories" that students, teachers and parents perpetuate about the pupil. What students with EBLD have in common is the need to be listened to and to be considered not as the problem but as individuals characterized by stories which are different from the one responsible for them being branded as "difficult". They need to be seen as persons capable of positive behaviours.
The basic concept is that the identity of the person is defined within a social context that proposes and reproduces a specific vision, influencing adherence to certain expectations and prejudices that are perpetrated over time. By highlighting different and positive aspects, the student has the opportunity to discover sides of himself that are different from the usual and a mechanism is built to reinforce the positive aspects of the student and his relationship with parents and teachers. Separating him/herself from the problem, the student has the possibility to construct a new self-awareness which is reinforced through an integrated work of teachers, students and parents. This could lead to a new environment which is based on cooperation, mutual respect, listening and comprehension. Creating a place where students feel to be important and appreciated by teachers, will enhance their motivation to align to the expectancies provided to them based on the trust teachers give them.

The Sheldon project involved students with EBLD of 12-19 years old coming from different relevant educational institutes located in different countries (Italy, Lithuania, Bulgaria and Germany). It also involved educators, psychologists, teachers and parents, as they were a fundamental part of the preliminary analysis and the consequent intervention.

2 Combining the SHELDON Intervention Model and on-line gamified learning tool – a Blended Learning Approach

In order to maximise learning and to provide a package that caters for the needs of a wide variety of users, SHELDON adopts a blended learning approach. This is a combination of traditional face-to-face methods with computer delivered materials in the form of an online e-learning platform. These two methods of supporting learning have different strengths and in combination provide a more motivating learning environment. The inclusion of on-line serious games provides additional modes of discovery and learning which learners (referred to as trainees in SHELDON) find motivating.

The **SHELDON Intervention Model** has several steps ranging from the most basic level to a more detailed approach with can be supported by **Gamified Learning Tool**. Delivering this through a combination of face to face teaching and an online e-learning platform allows the teacher/trainer to identify what is the most appropriate entry level for each learner so that they can balance level of autonomy. With the additional components provided such as learning objects, social network and the facility for creating new material, SHELDON allows the teacher/trainer to create a personalised learning pathway for each student. Flexibility is further enhanced by the facility to deliver materials via either desktop computers or mobile devices.

In addition, SHELDON delivers its outcomes in an accessible format so that it can be easily transferred into other accessible formats, and with content adjusted to the different target groups (ranging from basic and accessible course content for people with EBLD, to regular content but adjusted to the target group of people).

To enable teachers/trainers to get the best out of the SHELDON platform, its tools, services, training material and games and integrate it into current training practices while making use of the provided intervention model with their students, we have developed the SHELDON blended educational and pedagogical framework**.**

The trainees of SHELDON will vary considerably in needs so while there are general pieces of advice and good practice that will apply in learning environment where SHELDON will be used, we cannot always be prescriptive in how SHELDON should be used. For this reason, the framework provides dimensions that can generate directives and questions. A directive is like an instruction i.e. telling someone what they should do e.g. "training should be provided" on the basis of evidence that suggests this advice is good for a range of trainees and learning environment. This is in contrast to situations where actually the trainer has to make up their own mind because only, they know the situation in which they are using SHELDON intervention model and gamified

training tool. For these eventualities, SHELDON will prompt them with a question such as "what is the best balance for this student between assisted and autonomous therapy?".

3 How to access the SHELDON Training Tool via the internet or on your smartphone

3.1 Minimum requirements

In order to access the SHELDON Gamified Training Tool with a desktop or laptop computer, we recommend following minimum requirements:

- in terms of hardware, a Pentium 5 CPU running at least at 2GHz with 1GB of ram at least should suffice;

- the portal will run on any machine having a Web Browser installed.

In order to access the SHELDON GTT with a mobile device (Smartphone or Tablet), we recommend following requirements for running SHELDON applications:

- **Software**: SHELDON App will work

  o on all phones that are running Android version 2.3.x (Gingerbread) or higher, while on tablets Android 3.x (Honeycomb) or higher. In order to take advantage though of the whole new accessibility API we would suggest Android 4.0.x (Ice Cream Sandwich) or higher.

  o with WordPress 5.0 installations or higher

- **Hardware**: The minimum hardware requirements comprise 800 Mhz - 1GHZ CPU, 512MB or RAM, displays from 3.5" and higher.

3.2 Desktop environment

3.2.1 Registering

The registration of the SHELDON GTT is essential for every user that wants to have access to the SHELDON GTT content. This can be performed through the main page of the Sheldon project website :
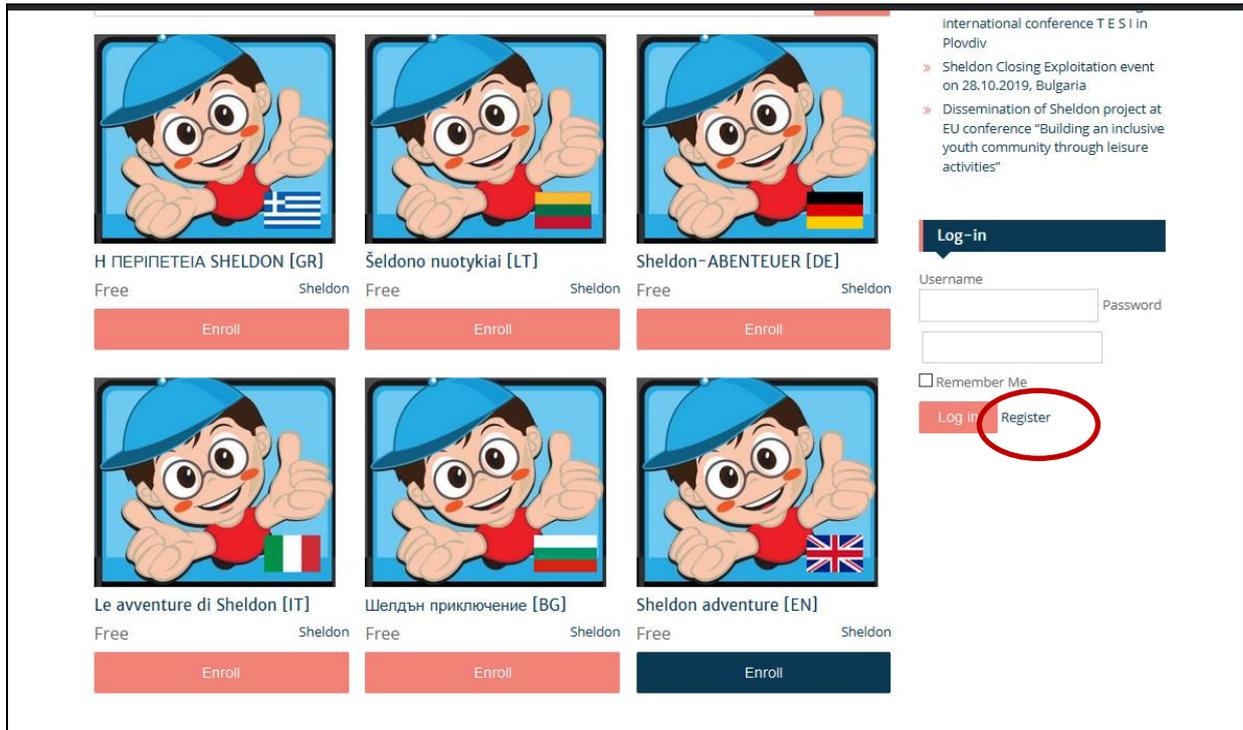
Figure 1: The registration and login panel of SHELDON Training Tool

If the "Create an account" option is selected, then the user is redirected to the following page, where he/she is prompted to enter all required data. More specifically, username, password, email address and the name of the user are required for registering into SHELDON training platform.
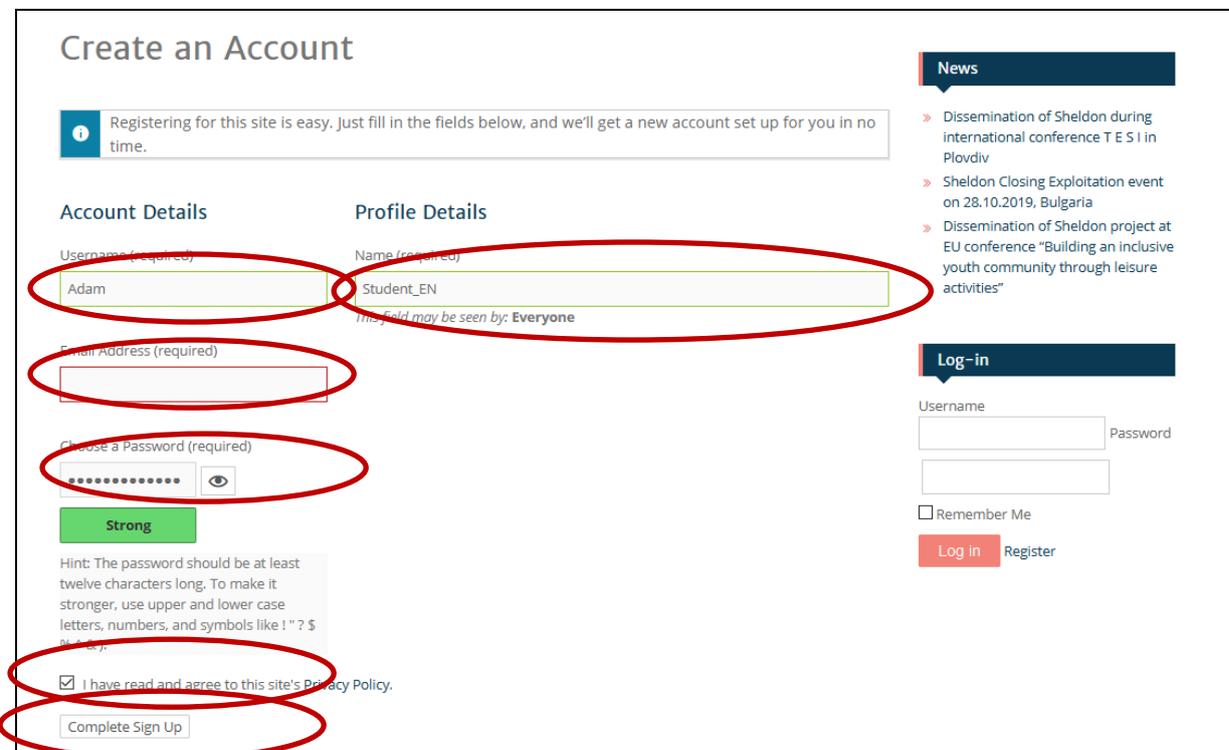

Figure 2: User fills in all required registration data

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Once submitted, the user has to activate the registration by following the instructions that have been sent to his/her email.
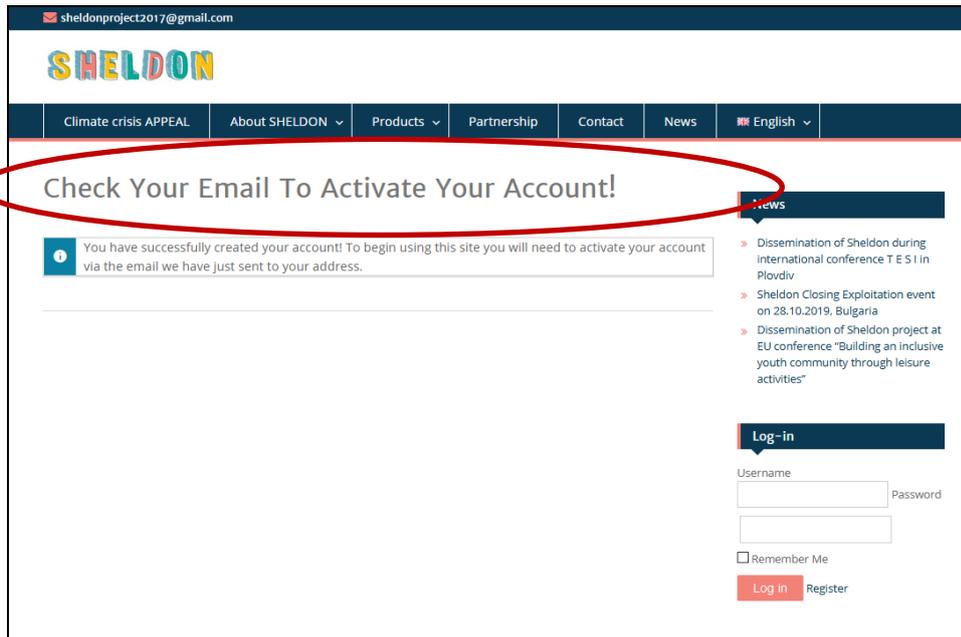
Please open the email box indicated in the registration box:
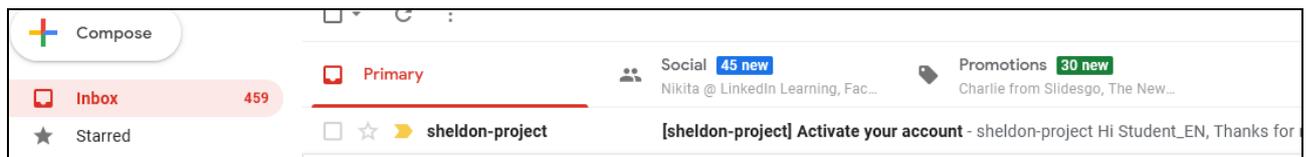
And confirm your registration by cklicking on the provided link:
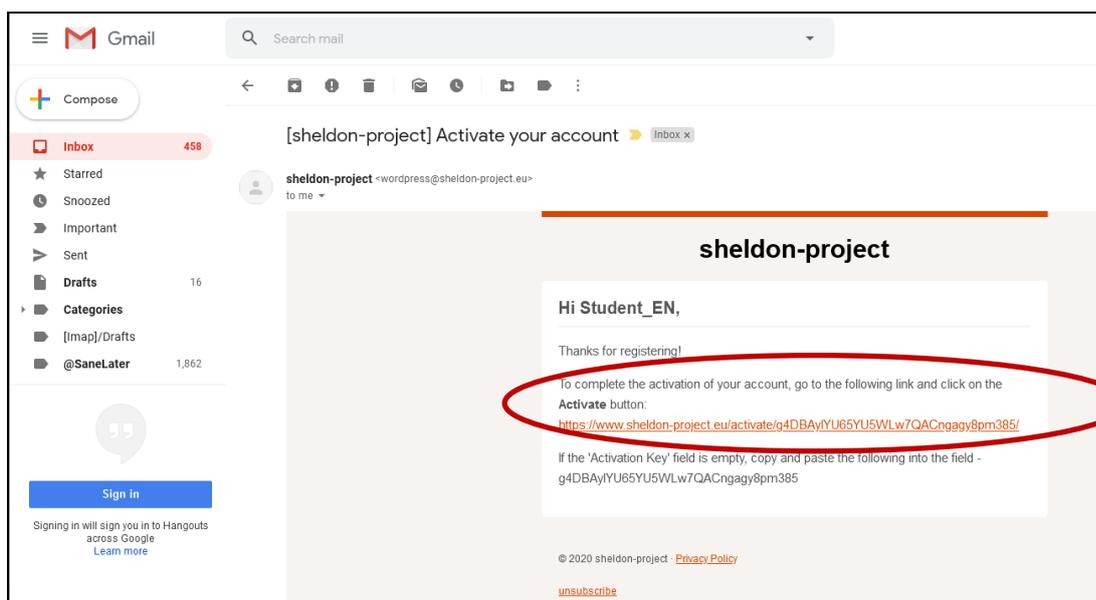
Then activate your account:

After activation, you will see anote on the screen and can log-in using your credentials and the button "Log in".

The go to the Products >> SHELDON Gamifies Space and click on button "Enroll" – chosing apppropriate languaage version:
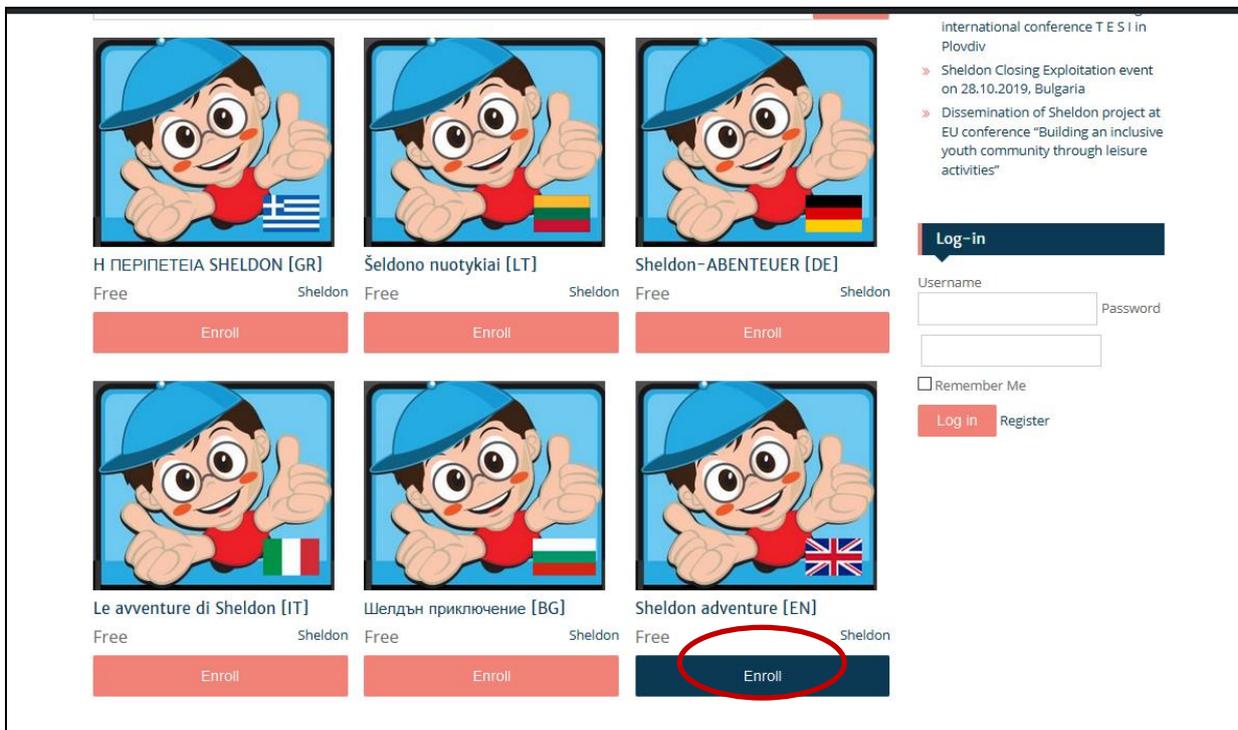
3.2.2 Browsing through the SHELDON Training Tool

The content of SHELDON Training Tool will appear in the following form:

Figure 3: The main page of SHELDON Training Tool

Users can navigate through the available scenarios of the course that are:
- Thoughts, Feelings and what you Do
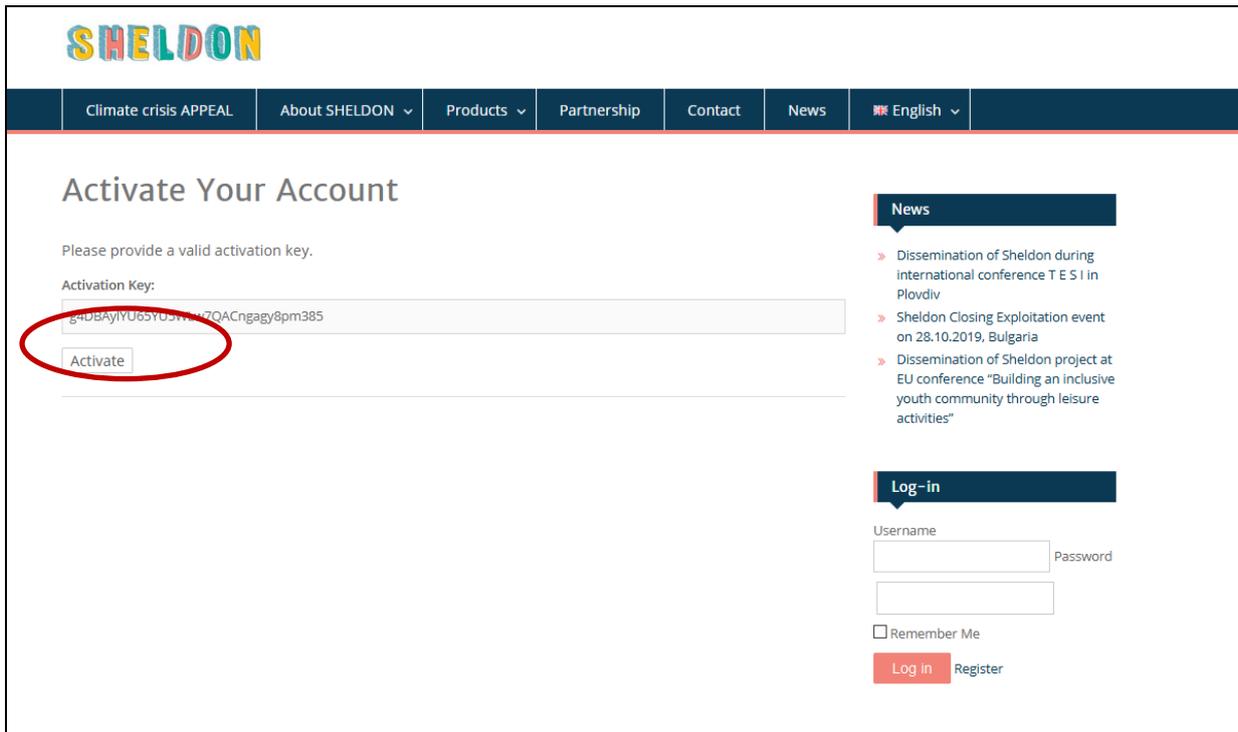- Automatic thoughts
- Thinking errors
- Balanced thinking
- Core beliefs
- Controlling your thoughts
- How you feel.

The page contains the activity of the registered users in the platform.

Browsing through posts of SHELDON platform can be performed by the build in mechanism of WordPress.

3.2.3   Playing serious games

Serious Games are computer and mobile games that are intended to not only entertain users, but also to have additional benefits such as education and training.

SHELDON intends to use serious games as part of the blended educational and pedagogic framework in order to enable delivery of parts of the course content in both relevant and engaging ways.

Blamires (1999) argued that technology provides access to life experiences and educational opportunities. It facilitates engagement with knowledge and people. Blamires states, "Speech, pictures, words, and animation can be combined in interactive ways to structure concepts to suit the level of understanding of learners and their interests". Technology can create alternative ways of imparting information which may help students with EBLD, and particularly a poor grasp of language, assimilate more complex concepts. The varied use of visual stimuli makes the use of technology also particularly suitable for those with little or no hearing.

An important development in educational software has recognised the value of learning through playing computer or video games: the advent of serious games and games based learning. When computer games emerged, the majority of the research on them focused on the negative aspects (Elgi & Meyers 1984). Pivec (2007) states that while it is widely recognised that games have an important role in early learning, as education becomes more formal, games tend to be seen as just an "unserious activity".

In addition to these cognitive rehabilitation advantages, one of the primary advantages of games in learning is their ability to engage the learner voluntarily in sufficient repetitions of the activities to ensure learning takes place (Pivec, 2007). This is what Garris et al (2002) termed persistent reengagement, where the player returns to the task unprompted. Proof of the motivating power of computer game playing can be found in a report by Standen et al (2006a), a study to design a new navigational interface for people with intellectual disabilities. The users in this study needed to use the device regularly over a period of eighteen months in order to complete a baseline evaluation and to test each version of the prototype. This was easily achieved by allowing them to play computer games specifically designed for the study.

Different types of games lend themselves to learning particular types of skills. Quiz based games for example are good for delivery of fact based information allowing the reinforcement of learning by feedback and repetition. Role playing games, on the other hand, may be better for increasing awareness of the repercussions of actions taken by the user, by allowing them to explore scenarios in a virtual world and witness the results of their actions.

The fact that the games themselves are being played using the ICT, will serve to reinforce parts of the SHELDON curriculum content regarding input and output technologies, and using the computer. Being able to use a computer or smart phone is necessary for independent use of the

game elements of SHELDON, and so by a process of demonstration and repetition of the use of the games, it is expected that users will gain vital hands on experience with ICT.

3.2.4 Trainees

- **Things Current**: When a trainee or instructor trainer logs into the platform, s/he will see the "My Start Page, which contains a list of all current information, providing quick access to ongoing activity in their courses.
- **My Courses** : Trainers and trainees can manage the learning environment courses they teach and/or are enrolled in. When trainees register they are automatically logged into "My Courses".
- **Trainee Profile** : Trainees can add personal information about themselves for others to see, and include a profile picture, which is also displayed with forum posts. The photo gallery can be used to create a profile album, where a collection of profile pictures can be stored.
- **Preference Settings**: Trainees can control the learning environment features and the theme the environment is presented in. Trainees can control visual display settings, content adaptation settings, navigation controls and learning tools settings. The Preference Wizard is available from anywhere in the learning environment, to make quick adjustments to preference settings.

3.2.5 Trainers

- **Course Manage Page**: All learning environment tools can be accessed quickly under the Manage tab.
- **Work Groups Manager**: Trainers can manually create, or automatically generate work groups for a variety of purposes. Groups might be used to provide a private area where Trainees can work, to create an assignment submission area, to assign a test to specific Trainees, or for a variety of other possibilities.
- **Content Editor**: Trainers can create content in HTML or plain text. This content can be imported from a local editor, or edited directly online. Release dates can be set to control when content is viewable to trainees. Content pages can be rearranged within a course. Related pages can be linked to content as references or relevant information. Use the File Manager while creating content to upload and link in resource files. Click on the **Insert** button next to a file in the file manager to embed a link or an image in a page while authoring content. Add Latex formatted mathematical notation and multimedia objects

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to content pages. Content authors can include scripts and style sheets to control the functionality and appearance of content. Tests can be associated with content for quick access to a test after completing a learning unit. Tests can also be setup as prerequisites, so Trainees must pass a test before accessing new content.

- **Test Manager**: Trainers can create tests with multiple choice (M/C), multiple answer (M/A), true/false (T/F), Likert, ordering, matching, drag and drop, and a number of open ended question types. M/C, M/A, ordering, matching, and T/F questions are marked automatically. A test release window can be set to make a test available for a certain period, feedback can be customized, and test results can be archived. Self-marking tests can be created to provide Trainees with instant feedback. Create surveys and link them to the course home page. Select from a pool of questions to generate random question quizzes. Assign tests to groups of Trainees. Add questions to a Question Bank, then select questions from it to assemble a test or quiz. Create image based test items, and arrange items horizontally or vertically. Questions can be arranged in any order or presented in random order. A test property can be set to allow guests to take tests. Add Latex formatted mathematical notation and multimedia objects to test questions. Test questions can be presented all on a single page, or one at a time. Data from guest test takers can be collected.

- **Course Properties**: A default display language can be set for each course. Assign a course as public, protected, or private, or hide a course while it is being developed. Control Trainees' access to content packaging. Turn on an RSS feed for course announcements, and display them on other Web sites. Set the start date and finish dates for a course, during which it is available to Trainees. Create a custom splash page for each course. Upload a custom course icon as a visual representation of the course. The course directory name can be customized to extend Pretty URLs (described for Administrators) creating a unique URL for each course.

- **Enrolment Manager**: Trainers may import a comma separated list of Trainees to enrol in their courses, or export an enrolment list for staff keeping or to import into other systems. Create an enrolment list online to add new Trainees to a course. Automatically generate login names and passwords for Trainees and send them by email when a Trainee is enrolled in a course. Assign Trainees as Alumni so they can participate in discussions for future course sessions. Filter enrolled Trainees by login, first or last name, or email address.

3.2.6 Administrators (SHELDON staff)

- **Module Manager**: Administrators can install modules, enable and disable them, and define a default set of modules and menu blocks for new courses. Modules can be imported directly from a central module repository, and can be automatically uninstalled.

- **Security**: Administrators can enable CAPTCHA and email confirmation features to ensure the validity of those registering on the system.

- **Administrator's Home Page**: All administrator tools can be accessed quickly from a central Administrator Home Page.

- **Multiple Administrators**: Create multiple administrator accounts assigning specific privileges to each.

- **Master Student List**: Require newly created Trainee accounts to be authenticated against a custom imported student ID/PIN paired list.

- **General Statistics**: View system login statistics.

- **Secure Course Content**: Secure course content directory to prevent unauthorized access to course files.

- **Instructor Request**: Review requesting Trainers' personal information, and assign Trainer status so they may create courses. Administrators are informed by email when new requests are made.

- **User Manager**: Users on a system can be sorted, personal information can be viewed, and access privileges can be modified. Send announcements to all users on a SHELDON learning environment system, or to Trainees, or to Trainers. Search through the users; database using a variety of search strategies to find individual Trainees, or a group of Trainees. User accounts can be batch managed to rapidly add, modify, or delete accounts.

- **Enrolment Manager**: Administrators have all the same tools for managing course enrolments as Trainers do, with the ability to manage Trainees in any course. Create an enrolment list online to add new trainees to a course. Automatically generate login names and passwords for trainees and send them by email when a trainee is enrolled in a course. Assign trainers as Alumni so they can participate in discussions for future course sessions. Filter by login, first or last name, or email address.

- **Course Manager**: Much like the User Manager, courses on a system can be sorted, their properties modified, and their trainers managed. Create new courses and assign a Trainer. Use course backups to generate initial content for a new course. Create shared forums for select courses, or create a community forum for all courses. Easily jump between the administration section and courses without having to re-login each time. Administrators can create an enrolment

"trigger" link, that when followed, Trainees are enrolled in specified courses automatically when they register.

3.3 The SHELDON Course Content

The developers of the curriculum have also put together full content for the course which is available as a document download (see http://www.SHELDON-project.eu/download/). The document contains full content for each section of the course along with suitable self-test questions and exercises for students to try.

3.4 External learning resources

The SHELDON consortium has compiled an extensive list of externally available materials that may be useful to help teach different aspects of this course. These are available as the learning objects listed on the SHELDON platform. Finding suitable content from this repository to help with teaching is supported by a semantic search system allowing users to hone their searches by disability, content, accessibility, target age group, etc, to provide a targeted search.

References

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