

## A Virtual Center for Entrepreneurship

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### Introduction

The vision of the Virtual Centre for Enterprise [1, 2] is for a place learners at any stage of their life can go to develop their competence in the knowledge, skills and to develop better behavioural practices that will be of use to them in the planning, establishment and subsequent running of their own business.

The virtual centre will connect learners of any age to a network of educators within academic institutions, business formation advisory bodies and business mentors across Europe in a way that enables skills and competence. A unique feature of the virtual centre is that learners will be able to choose to be mentored in their learning in a language other than their native language – in this way they will not only develop their entrepreneurial skills but also, simultaneously, their linguistic skill.

Learners will take small 'bite-sized' modules that will each be assessed and, upon satisfactory completion, credits will be awarded.

In this paper, the technical design of the VCE and the on line available services are presented at first, than an experimental use case is analyzed and discussed. The objective of this paper is to present the current state of the activities within the ELLEIEC project related to the study and design of the VCE and to present preliminary experimental results.

### Description

The proposed Centre would be a virtual centre with a web portal as the visible entry point. The Centre will provide training in enterprise the field of Electrical and Information Engineering. The facilities of the Centre will be open to students at all levels of their education and to individuals of all ages who wish to engage with enterprise.

It will therefore provide a Lifelong Learning resource for enterprise.

The Centre will provide a pan-European resource for enterprise teaching and learning primarily contextualized to the Electrical and Information Engineering discipline areas.

Included in its provision will be:

- Teaching resources that faculty members can use freely for their own teaching purposes;
- A learning system that individuals can register onto and which will develop their skills and abilities in enterprise in elemental 'chunks', the learning system will provide a record of their achievement for them to reference and use to guide their continuing learning;
- A reference repository of relevant research publications in the field of enterprise in Electrical and Information Engineering and in pedagogy and assessment;
- A learning system whereby learners can develop their language skills in a chosen foreign language as part of their enterprise learning.

All partners in the Thematic Network would be the initial members of the Centre and all would agree to contribute to the available resources of the Centre.

In addition, those willing will offer their services as a mentor/tutor to individuals who sign up to take study with the Centre.

The individual learning, in addition to selecting the elemental chunks of enterprise learning would also have the opportunity to select a language in which they would communicate with their mentor/tutor.

To promote language development this would be the encouraged route for learners.

A tutor would be selected from the bank of Network member tutors in the preferred language and all support to the learner would then be in that language.

The tutor will be provided guidelines on the support they offer which will include instructions on correction of the written and/or spoken language in all communications relating to the elemental learning chunk.

### Key actors in the centre

The key actors in the VCE are:

- Learner – any individual who engages with the Centre with the intention of undertaking learning;
- Mentor – any individual approved to mentor students in one or more modules available through the Centre;
- Mentor moderator – any individual approved to view the credentials of a prospective mentor and approve the individual to be a mentor;
- visitor – any individual who wishes to access the Centre and who has not previously visited and registered. All visitors will be directed to a login page where they are required to enter personal details so we have a record of all who have looked at our site. All new persons to the site will initially enter via the visitor route;
- Registered visitor – any individual who has completed the Centre registration process but who has not registered to take a learning module as a learner or who is not a mentor, moderator or administrator. A visitor can see the general form of the Centre’s website but cannot access any learning resources or register for a module. To become a learner, they must apply to become a learner;
- resource moderator – any individual approved to view submitted learning modules and approves them as usable within the Centre;
- administrator - each actor logs into the system using the same login screen. Successful login shows the use a screen appropriate to their actor type.

### New learning resource proposal and approval process

Each new learning resource requires a number of pieces of information. These pieces of information are shown on the Module Specification template shown in Fig. 1. This should be available as a web form with a submit button. It also needs to be submitted and approved. Any learning resource can also be archived when no longer available for learners to register for. A new learning resource can be proposed by any person registered within the Centre.







Particular attention should be given to copyright principles. Copyright and ownership of content submitted to the VCE shall remain with the Author at all times. Content submitted to the Centre shall be considered by any person accessing this content from within the Centre as being the property of the Author and shall respect this ownership. This statement should not affect the statutory rights of any author in respect of content they have produced and used within the VCE. As a general rule, by submitting content to the VCE the author agrees that any


person authorized to access the VCE, through its registration and login, has the rights to access the content for the purposes of personal learning and development only. For copyright identification purposes all content within the VCE shall carry the name of the author at the bottom of every page, illustration or document as appropriate. The use of the copyright symbol and date is optional as the fundamental copyright principle of the VCE is that the author automatically retains all rights over content they submit.


The author may edit content they have written that is currently being used within the VCE at any time by giving notification of the need for an edit to the VCE


The introduction of changes will be made taking into account the impact the change has on learners currently enrolled in modules that are affected by the change. Should the VCE administrator or management team consider that changes are needed to a module, the author will be given first rights to make the changes. In the event the author declines the invitation to make changes, the VCE Administrator reserves the right to request other suitably qualified persons to make changes to the content. In such circumstances the nature and detail of the change will be communicated with the original author for their comments, which may be taken into account in the change process but may be ignored if the comments are nor deemed to be in the best interests of the VCE.


The author may withdraw content from the VCE at any time by giving notification of the need for withdrawal to the VCE Administrator. Authors are respectfully reminded that learners may well be part way through undertaking a module containing content they wish to withdraw and actual withdrawal will only be put into practice when all learners undertaking the module within which the content lies complete that module. No new learners will be eligible to register for the module from the time the notification of withdrawal is accepted within the VCE.

	<b>Module title</b> <i>Descriptive but short module title</i>
	<b>Module Description</b> <i>Description that students and mentors can use to understand the content of the module, a summary of the types of learning resources and the form of the assessment</i>
	<b>Module Keywords</b> <i>Keywords describing the module content</i>
	<b>ECTS Credit value</b> <i>The European Credit Transfer System (ECTS) credit value indicates the notional student workload for the module, where 1 credit corresponds to a notional workload of 25 - 30 hours (including contact hours, private study and assessment).</i>
	<b>Module proposer</b> <i>Name of module designer/proposer</i>
	<b>Proposer’s Institution</b> <i>Academic Institution of the proposer</i>
	<b>Proposer’s Institution, Country</b> <i>Country of Academic Institution</i>


 **Pre-requisite modules (if any)**  
List any modules from the Centre a learner should have taken before undertaking this module (if any)?


 **Module aims**  
Broad statements of the nature and purpose of the module (Bullet point list)


 **Module learning outcomes**  
What a student should know, understand, or be able to do at the end of the module (Bullet point list)


 **Module activity structure**  
Indicate the division of the notional workload of the module (on the basis that 1 credit equals a learner workload of 25 – 30 hours, into lectures (these could be pre-recorded streamed lectures or synchronous teaching events), on-line discussions, directed reading, private study, formative and summative assessment activities, etc.

Activity	Total hours
Lectures	
On-line discussions	
Directed reading	
Private Study	
Formative assessment	
Summative assessment	
Others (please specify):	

 **Module learning resources**  
List of all the learning resources including assessment activities that make up the module.


 **Module teaching and learning plan**  
Indicate the division of the notional workload of the module (on the basis that 1 credit equals a learner workload of 25 - 30 hours, into lectures (these could be pre-recorded streamed lectures or synchronous teaching events), online discussions, directed reading, private study, formative and summative assessment activities, etc.

 **Communications strategy**  
Please describe the interaction between the learner and the mentor if this is not described in detail in the Module teaching and learning plan above.

 **Formative Assessments**  
What formative assessments are provided with this module? Examples include quizzes, multiple choice questions, etc.


Assessment task	Feedback to Learner
	What form of feedback will be

	given to the learner.

 **Summative Assessments**  
What summative assessments are provided with this module? Examples include quizzes, multiple choice questions, questions, etc.

Assessment task	Contribution to the module mark (100% total)

 **Module status**  
Submitted / Live / Archived

 **Date Module submitted**  
Submitted / Live / Archived

 **Date Module approved**  
Submitted / Live / Archived


 **Date Module archived**  
Submitted / Live / Archived

Fig. 1. Module Specification

## Graphical user interface

The Graphical User Interface (GUI) is one of the standard available Moodle interface [3].

As show in Fig. 2 the home page is very neat with a Welcome page summarizing the objectives of the VCE and current state of the project.

In order to reach this page users must be registered to the ELLEIEC project through the project website [1].

Fig. 3 shows an overall concept diagram for the Centre system functionality. Functionality is focussed on the student journey and a small number of supporting Processes.

The Learner database is attached to and part of the Record Keeping System. Access to the Centre is through a login page.

The Centre is currently in the developmental stage at this address through the ELLEIEC Website [4] after a first registration.

## ELLEIEC Virtual Centre for Enterprise

**Main Menu**

-  Site news  
Forum for discussion of issues relating to the design and development of the VCE
-  VCE Development Forum

**Course categories**

-  VCE Development
-  Accounting and Finance
-  Establishing New Enterprises
-  Cross Cultural Communications
-  Miscellaneous
- [All courses ...](#)

### Welcome to the ELLEIEC Virtual Centre for Enterprise

The objective of the Centre is to provide learners with the opportunity to learn and develop the skills in aspects of enterprise. The Centre is funded by an EU project grant called Enhancing of Life Long Learning for the Electrical and Information Engineering Community\*, ELLEIEC.

Learning is offered in 1 European Credit Unit 'chunks' and in languages other than the learners native language, in this way language skill can be developed simultaneously with the technical skills associated with enterprise. The development team wishes to encourage you to register with the Centre and explore its potential.

The Centre is currently in the developmental stage so access is restricted to members of the ELLEIEC Project Consortium. It is anticipated that the Centre will open for any learner to study on towards the end of the project in 2011. If you would like to know more about the Centre please email [Tony Ward](#) at the University of York, England.

The ELLEIEC Project is an EU funded Thematic Network Project managed by the [European Association for Education in Electrical and Information Engineering](#). Further information about the ELLEIEC Project can be found at our [project website](#).

Fig. 2. Home Page of the Virtual Centre for Enterprise

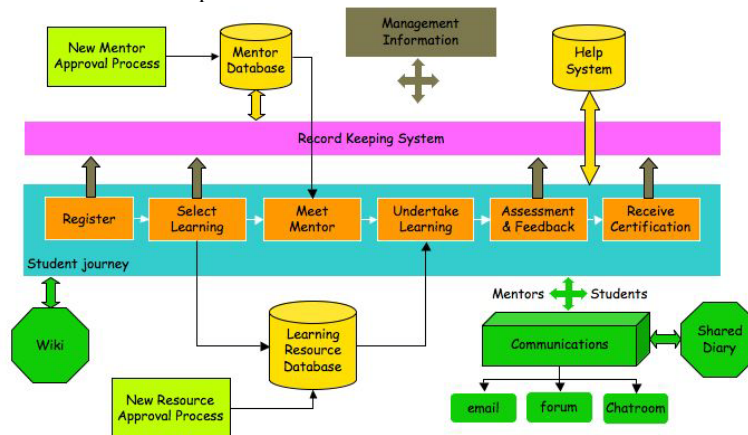


Fig. 3. VCE – Centre System Diagram

## Conclusions

In this paper the technical design of the VCE and the online available services have been presented. The objective of this paper is to present the current state of the activities within the ELLEIEC project related to the study and design of the VCE and to present preliminary experimental results. It has been also described how the student journey will be implemented in the Virtual Entrepreneurship Centre during the launch of the first experiment between the University of York, UK and the University of Valence, FR. Through these actions the EAEEIE association (which will ensure the sustainability of the result) will provide a gateway to European Learning offer. The entrepreneurship centre could contribute to the attractiveness of European and non-European students and applicants in the lifelong Learning programme to favour the excellence of European Research and Education Area.

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## References

1. ELLEIEC: Enhancing Lifelong Learning for the Electrical and Information Engineering Community. Online: <http://www.elleiec.eu>.
2. Gao J., Ward A. E. The Preliminary Investigation into the Self-Efficacy of students taking an Accounting and Finance course in Undergraduate Engineering Degree Programmes // Electronics and Electrical Engineering. – Kaunas: Technologija, 2010. – No. 6(102). – P. 7–10.
3. Martinec E. L. Education of the engineering manager // Engineering Management International – Elsevier Science Publishers, 1984. – No. 2(2) – P.123-127.
4. Yahoui H., Burkley C., Frémont H., Hoffmann M., Martins M. J., Perra C., Thiriet J. M., Ward T. ELLEIEC Enhancing Lifelong Learning for the Electrical and Information Engineering Community // EAEEIE 2009. – Valencia, Spain, 2009.
5. Martins M. J., Thiriet J. M. New Trends of Electrical and Information Engineering Higher Education in Europe // Overview of the Bologna Process Implementation in Europe in Electrical and Information Engineering. EIE–Surveyor final report, 2008.
6. Allen I. A., Seaman J. Online Nation: Five Years of Growth in Online Learning // Babson Survey Research Group Report, 2007.
7. Targamadžė A., Petrauskienė R., Rubliauskas D. Influence of Technologies on Quality of Distance Learning // Electronics and Electrical Engineering. – Kaunas: Technologija, 2010. – No. 6(102). – P. 131–134.
8. Rokk I., Kulmar M., Ots A., Lossmann E. Experiences of Teaching Complicated Undergraduate Course for Large Number of Students in the Tallinn University of Technology // Electronics and Electrical Engineering. – Kaunas: Technologija, 2010. – No. 6(102). – P. 119–122.

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An ERASMUS thematic network named ELLEIEC (Enhancing Lifelong Learning in Electrical and Information Engineering) has been funded by the European Commission for a three-year period from October 2008 until September 2011. The consortium is composed by 60 partners from all around Europe. The project deals with several issues related to Lifelong Learning. One of the objectives of the project is the study and design of a system for the development of enterprise skills and competencies through a web oriented application. The name of the proposed system is Virtual Center for Entrepreneurship (VCE). This paper will present the design of the experimental VCE in the framework of the ELLEIEC Thematic Network. The objective is to focus on the current state of the activities related to the study and design of the VCE and to present preliminary results. III. 3, bibl. 8 (in English; abstracts in English and Lithuanian).

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Europos Komisija trejiems metams (nuo 2008 m. spalio iki 2011 m. rugsėjo) įsteigė ERASMUS teminį tinklą ELLEIEC. Konsorciumą sudaro partneriai iš 60 valstybių visoje Europoje. Viena iš veiklos sričių yra sudaryti sistemą, apimančią praktines žinias ir kompetencijas. Aprašoma siūloma ELLEIEC teminio tinklo sistema VCE. II. 3, bibl. 8 (anglų kalba; santraukos anglų ir lietuvių k.).