

## An E-learning Course on E-Commerce

Designed, developed and delivered as a distance learning course for EU remote communities

Thanasis Hadzilacos  
Open University Cyprus  
Lefkosia, Cyprus  
and Computer Technology Institute, Patras, Greece  
Email: [thh@ouc.ac.cy](mailto:thh@ouc.ac.cy)

Panayiotis Kyriakou  
Open University Cyprus  
Lefkosia, Cyprus  
Email: [panayiotis.kyriakou@ouc.ac.cy](mailto:panayiotis.kyriakou@ouc.ac.cy)

Konstantinos Paraskevas  
Email: [paraskevasd@gmail.com](mailto:paraskevasd@gmail.com)

Angelika I. Kokkinaki  
University of Nicosia,  
Nicosia, Cyprus  
Email: [kokkinaki.a@unic.ac.cy](mailto:kokkinaki.a@unic.ac.cy)

Grigoris Liassis  
Open University Cyprus  
Lefkosia, Cyprus  
Email: [liasis.g@gmail.com](mailto:liasis.g@gmail.com)

**Abstract** — This paper presents aspects of the design, development and implementation of an e-learning course on e-commerce. This course was delivered as distance learning to adults living in remote areas of EU. The course was developed as part of the REVIT project, which proved sustainable methods for offering courses by employing available ICT infrastructure in local schools, after hours, a synchronous e-learning platform for the weekly lectures and a variety of asynchronous tools for communication and support of the learners.

**Keywords** - e-learning; distance learning; e-commerce; REVIT project.

### I. INTRODUCTION

Designing, developing and implementing e-learning courses is a complex endeavor involving pedagogical, technological and economic aspects. In REVIT, a project that run from 2008 until 2010 in Finland, Poland, Bulgaria, Greece and Cyprus and was financed by the LifeLong Learning Program (LLP) of the EU Commission, such issues were tackled for e-learning courses designed specifically for the needs of small remote communities. Considerations included the unavailability of local qualified teachers, the very small number of people who are interested in and capable to follow a particular course in such communities, the availability of Internet infrastructure and tools, and the need for the methodology developed to be scalable.

This paper presents aspects of the design, development and implementation of an e-learning course on e-commerce, which was developed within REVIT. It was initially developed for citizens living in remote areas in Greece and

Cyprus. As part of the localization process of the REVIT project, partners may localize the contents of the course to their own special requirements. Beyond its contributions within the REVIT project, however, this paper should also be of help to others who might wish to use the methodology and the e-course design.

In line with these, this paper aims at 1) outlining the methodology for identifying users educational needs related to e-commerce, 2) presenting a specific framework of the design of REVIT e-course on e-commerce, 3) allowing partners and others who will be localizing REVIT courses to understand the design parameters and thus perform their tasks more efficiently, and 4) facilitating the evaluation of the design and development of the REVIT e-course on e-commerce.

For this course, the development team consisted of an expert on e-learning pedagogy and technologies, an e-business domain expert and two engineers with specializations on multimedia and e-learning technologies. The development team was responsible for the design of the course and the corresponding learning material. Three of the team members had previous experience in the field of e-learning. One of them has also launched an actual e-commerce web site and has applied in practice some of the concepts discussed in the course! The domain expert was exposed to conventional academic environment and the whole process was a learning experience that was inspirational to enrich her coursework material as well as seminars given to the business community. The development team was complimented by the tutor who had background in e-business. It is worth noting that the tutor

was serving in the military, while delivering the course; this experience was both challenging and rewarding. The course has been offered once and the feedback received has been incorporated in a second version of the design and implementation.

The remaining of this paper is structured as follows. Section 2 provides a brief literature review on relevant pedagogical approaches as well as the methodology used for identifying the educational needs of the target audience. Section 3 provides a description of the design of a REVIT e-course along with examples. Section 4 provides the preliminary evaluation of the course based on its first implementation. Section 5 concludes this paper.

## II. PEDAGOGICAL PERSPECTIVE AND NEEDS ANALYSIS

REVIT e-courses were designed according to active learning, learner-centered principles. A REVIT e-course is conceived as a set of learning activities; its curriculum is not a sequence of names (a table of contents, describing what the teacher lectures about) but a set of verbs (describing what the learner does). The sequencing of these learning activities ranges from the simplest, the sequential, to the most complex, a labeled directed graph. (e.g. «If you found Activity A too difficult, do Activity B; else go to Activity D»). A REVIT e-course includes the learning objects involved (such as video-lectures, exercises, simulations, and text), the learning objectives (and other Metadata: who prepared it, when, for what type of learners, prerequisites, IPRs, technical infrastructure needed), and the learning environment (e.g. Moodle, OpenSim, Elluminate, Café@Palaichori, + tutor; including the structure of, say, Moodle).

The design of a REVIT e-course requires the learner profile, the tutor profile, the learning objectives and their prerequisites including learning environment structure and technical infrastructure. A (high-level) description of the learning activities (including learner time/effort required) is given, as well as the sequencing of the learning activities (including time restrictions or recommended timing: e.g. “one lesson per week”). A (high level) description of the learning objects, including sizing (e.g. a 2’ video), sources, and recourses necessary for implementation; a prototypical ‘exam’ (which need not be a standard written exam, but something that a learner must be able to do if successful) is included in order to determine the level of depth of the course.

In line with the overall pedagogical paradigm and in order to identify the profile of the learners, the project team visited and met the prospective learners to get to know them personally and their socioeconomic context. In informal discussions during these visits, the topic of how Information and Communication Technologies and E-commerce, in

particular, can be used to promote local products and services emerged a number of times. To illustrate these with two indicative cases, we included those of Elena and Dimos.

Elena lives in Palaichori, a village in Troodos mountain in Cyprus. She works together with her husband in a family business, that is, a small retailer of electronics devices. Through her acquaintances, she became aware of agrotouristic initiatives promoted through the Cyprus Organization of Tourism and received funding to renovate their old family mansion into a bed and breakfast facility offering traditional Cypriot hospitality. Funding was also available for developing a webpage, which provides basic information about accommodation offered and the vicinity area; email is used for preliminary communication and provisional booking; transactions are not supported. With no formal studies in Business Administration, Hotel and Hospitality Management or other relevant field, Elena is in charge of most operations in the facility, which operates primarily during weekends in the winter time, while it enjoys high season during summer. She perceives e-commerce as a promise but with caution: something to help her run the facility more conveniently and effectively but also something that will take her in unfamiliar and possibly dangerous waters.

Dimos is in his late forties and lives in Ios, a small, remote, Greek island, “where three (hectic tourist) months feed the other (boring to death) nine”. From an early age, he demonstrated his creativity and his artistic inclinations. Under his family influence, however, he did not pursue studies related to his inclinations; rather, he enrolled in a Business School where he has attended several classes without graduating. Currently, he works as an employee in a Third Party Logistics Operator, by day. After hours, he works at a self improvised atelier at home making jewelry and other artifacts that are sold via jewelry shops and tourist souvenir shops in the island. His designs are popular among locals and tourists, alike. However, Dimos feels that his lack of specialized studies in design is an inhibiting factor not only for the development of this hobby into a full-blown business but also for his creativity. The e-commerce topics sounded promising as he could use it to create his own retail channel easily and relatively inexpensively.

With these (and other similar) cases, it was decided to design a course on e-commerce and include learning activities related to the complete business process for products and services. The course was to be based on tutorial discussions, learning activities, podcasts for acquiring additional exposure in the field and homework assignments as explained in the following section.

### III. DESIGN AND DEVELOPMENT OF THE E-COMMERCE COURSE

The learning methodology for this course includes an initial two-hour face-to-face meeting in the school of the village in the presence of the local coordinator of the REVIT project to outline the structure of the course and the use of specific tools. An overall description of the E-commerce course can be found in Appendix A. Information on the design and the development process is available at <http://revit.cti.gr>.

A fundamental principle followed in this project is the separation, with clearly defined interfaces, of the design, the implementation and the delivery of the course. The design requires the combined expertise of e-learning pedagogy and technology, and of deep subject knowledge, far beyond that which will be delivered in the course. The implementation, i.e. filling the educational activities designed with specific content, does not require the presence of an e-learning pedagogy or technology expert any more. Finally, the distance delivery of such a course does not need a university-level instructor. It is this separation of levels that guarantees scalability and transferability: Although the cost of developing and delivering one such course would be prohibitive for the small audience that a couple of remote communities can provide, to repeatedly deliver it is quite feasible. Furthermore, localizing such a course in another language and culture did not call for a redesign, nor for repetition of the initial research, but mainly for the translation and localization of the educational material and activities.

The methodological approach allows the learners to perform a number of e-learning activities.

- Learners participated in synchronous distance learning sessions that entail tutorial discussions on e-commerce concepts. Sessions are coordinated by a remote instructor. At implementation level, it is supported by Elluminate Live™ v.10.
- An asynchronous e-learning system (Moodle v.1.9.4, an open source LMS) and various Web 2.0 tools were used, including wikis, blogs, pre-recorded podcasts with e-commerce case studies and RSS feeds.
- Participants worked on their own using specifically designed educational material and software (asynchronous distance learning).
- They communicated, cooperated and constructed new knowledge with their fellow students, using the modern tools and communication spaces provided, through well designed and structured educational activities.
- Finally, participants had the opportunity to access e-shops (developed by the design team using a Content Management System, Joomla™) parameterized and personalized to fit their business plan.

The primary aims of this course are to i) let the participants perceive the Web as new channel for doing business and ii) have them accept the idea of directly marketing their products and services using the Web, selling their products and services through the Web and facilitating some of their business processes with the help of Web-enabled tools, at large.

### IV. ASSEMENT AND CONCLUSIVE REMARKS

Overall, the course was successful. Trainees learned how to use web to investigate for competitors and products, the different kinds of online advertising, how to conduct online surveys and organize online events, about copyrights and personal data safety in online transactions, and how to build their own e-commerce site. They understood procedures and means that they should be aware for while doing online business.

The methodology followed was flexible and easy for everyone to follow. Learners founded courses very interesting. The one-week time period between classes was enough for learners to do their assignments and study additional material. Podcasts, were received very positively because they contained mostly practical examples and no complicated terminology, addressing all the main aspects of e-business.

In sum, the learners acquired valuable knowledge in e-commerce procedures that could be applied in local businesses; realized the importance of copyrights and personal data security; realized that there exist legislation and directives that define commercial online activity; met and socialized with new people.

The overall assessment of the project, including evaluation of the courses offered is described in detail in the relevant deliverable of the project, available at <http://revit.cti.gr>. It included questionnaires for the students, participation in a (multinational) focus group at a conference at the end of the project and a directed interview with all tutors (also available at the web site for registered users).

We reconsider ways to introduce the e-shop platform earlier in the course, so that learners complete the parameterization of their e-shops in an incremental manner along with the topics introduced during weekly synchronous sessions. It is expected that in this way, they would have time to reflect, review and evaluate their design.

### ACKNOWLEDGMENT

This paper has been partially supported by the REVIT project (143664-LLP-1-2008-1-GR-KA3-KA3MP) funded by the Lifelong Learning Program of DG Education and Culture, EUC.

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## V. APPENDIX A: OVERALL DESCRIPTION OF THE E-COMMERCE COURSE

**Title:** Introductory Course in E-Commerce

**Type of Course:** International Course (initially offered in Greece and Cyprus, translated in English and localized for Bulgaria)

**Dates:** 18/01/2010 – 10/05/2010 (*every Monday, in total 14 weekly one-hour synchronous meetings in the form of tutorial discussions*)

**Short Description:** The main aim is for trainees to experience through appropriate educational activities, the direct marketing of their products and services using the Web, selling their products and services through the Web and facilitating some of their business processes with the help of a Web-enabled tool. The objectives of this course in detail are as follows:

### Knowledge

- Use web tools to identify competitors' offers and customers' needs.
- Define and describe the processes involved in electronic business. Identify and evaluate different web advertising methods (i.e. banners, paid ads, online coupons, promotional emails etc).
- Identify the critical success factors in e-commerce (ways to support communications, trust enhancing methods, etc).
- Become aware of the challenges involved in e-commerce and become familiar with best practices to overcome them. Understand fundamentals of logistics related to the distribution of physical products. Become aware of legal and ethical obligations regarding direct marketing and e-commerce.
- Get familiar with the process of parameterization of a prototype and the reference to a framework that can be used to evaluate alternative e-business implementations.
- Become familiar with funding/sponsoring possibilities to support future e-business initiatives.

### Skills

- Search the web for products and services relevant (i.e. similar or complimentary) to their own and evaluate them from a marketing perspective.
- Identify the principles of their electronic retailing (e-tailing) strategy for products or services.
- Promote and advertise a site.
- Describe their own business and e-business needs
- Customize (parameterize) a template application program to derive their e-business implementation.
- Evaluate alternative e-business prototypes for their company and decide based on a structured framework.

### Attitude

- Adopt a positive, yet realistic, attitude towards e-business, acknowledging its potentials and limitations.
- Form a well-informed attitude relevant to their company's needs and priorities, their effectiveness, complexity, advantages, limitations and overall feasibility.

### A. Teaching and Learning Methodology

Each week there were: a **synchronous** (1-1.5 hours) session through the use of Elluminate and **asynchronous**

learning activities (2-3 hours) developing e-Commerce skills. A typical synchronous session would include:

**Welcome (5'-15')**: the participants try to login the synchronous Elluminate application and check the functionality of their speakers and microphone. Tutor welcomes the participants, asks questions about the assignments and tries to prepare the field for the class to begin.

**Introduction (15-30')**: The tutor gives an introduction on the topic of the day, prepares the class slideshow and makes some questions in order to begin a discussion with trainees, encouraging their participation.

**Practice (30'-40')**: Tutor shares his Internet browser or his desktop, so everyone can have access to his material. Based on the theory and tutor guidance, participants try to execute live some exercises and examples. Normally this procedure brings up questions which are discussed during the class. In most cases, learners have personal examples to share in order for the material to be easier understood. The communication with trainees is effected through voice or chat.

**Assignment (5')**: At the end of the class, tutor gives directions to learners about their weekly assignments. The assignments are located in the Moodle part of the Revit portal and most of the times learners write their answers or comments in the forum, which is also located in Moodle.

**Asynchronous Activities** All course material can be found in Moodle so that learners have always access to it. The preferred means of communication for questions and clarifications is the Moodle forum; direct communication with the tutor through e-mail is also possible. Podcasts were prepared corresponding to each week of the course; learners could download and listen to them in several means (mobile phone, car, personal media player etc.).

#### Participants' Profile:

IOS : 2 participants (1 male and 1 female)  
PALAICHORI : 6 participants (1 male and 5 female)

Some of the learners owned a local business and some of them were having unrelated jobs (such as teachers or courier employees). They all wanted to attend the course in order to create an e-commerce site or expand electronically their activities. They had experience on how the use of Elluminate, since they had completed the Introductory Revit course on Internet Services.

#### Activities

The activities designed for the learners were flexible enough to match their capabilities and broad enough to relate to a large part of the "theory". Examples include:

- Use of search engines to locate competitors and products Identification and description of online ads.
- Drafting the questions for a customer survey
- Creating an online questionnaire

- Listening to the discussions (podcasts) and posting comments in the forum
- Registering in an online market and search for products related to own or projected business.
- Use of the web to organize own vocation.
- Design, Creation and parameterization of an e-commerce site.

Learners were following class material and tutor's guidance during synchronous sessions. In asynchronous sessions didn't spend much effort so we were trying to solve any problem during the synchronous sessions. Some extra Elluminate meetings were made in order for learners to understand some course issues.

#### Platforms Used

Elluminate Live™ v.10, Moodle v.1.9.4, Web 2.0 tools (wikis, blogs, podcasts and RSS feeds) Joomla™.

The overall structure of the course follows. Sections are denoted by a three level notation, in the style of Section k.l.m. The first level (i.e. k) refers to the lesson during which it was delivered. The second (i.e. l) refers to the learning objective addressed and the third one (i.e. m) relates to the learning activity that supported the learning objective.

**Section 1.1.1** "Exploring The Business Environment – Look Up Competition": Participate in an online session and use Google and Hakia search engines to search for competitors, substitute products or services.

**Section 1.2.1** "Exploring The Business Environment – Search Engines": Discuss in the forum the cases when popularity-based search engines are the preferred choice. That is when the desired result is described well by a set of keywords.

**Section 1.2.2** "Exploring The Business Environment – Assignment On Search Engines": Use a popularity based search engine (i.e. Google to search for something related to your business (i.e. products/services offered in your region similar to yours). Repeat the search with another search engine (i.e. Bing). Add your comments in the forum.

**Section 1.2.3** "Exploring The Business Environment - Learn About Semantic Web Or Web 3.0": Have you ever encountered a case in which the selected keywords could not yield the desired results in a search engine? If yes, try to characterize such cases. If not, try the following case: During one of her visits in Bulgaria, one of the contributors tasted a white wine that a delicate flavor of roses in its bouquet. It was explained to her that this is due to the fact that vines absorb aromas from their surroundings and this particular vineyard was neighboring to cultivation of roses. Unfortunately, she cannot recall the name of the wine, although she recalls that the bottle had an elongated shape with downward spiral edges and greenish kind of etiquette.

Can you find this wine based on this description? Add comments in the forum.

**Section 1.2.4** “Exploring The Business Environment – Assignment On Semantic Web”: Visit [www.hakia.com](http://www.hakia.com) which is an ontological search engine based on Web 3.0 technologies. Use the phrase “Bulgarian wines with floral aroma” Can you locate it? The third link gets you to [www.alibaba.com](http://www.alibaba.com) and although not helpful at this point the trainees should make a mental note about it and we’ll get back to this marketplace later. Add your comments in the forum.

**Section 1.2.5** “Exploring The Business Environment – Business Environment Analysis”: Use various search engines to collect as much information on the products and services they offer and use web assessment tools to evaluate their online presence.

**Section 1.2.6** “Exploring The Business Environment – Business Environment Analysis Discussion”: Discuss the analysis you have conducted in the forum.

**Section 2.1.1** “Getting To Know What your Customers Want And How to Reach Them”: Participate in an online session and do the following tasks: Use the Feedmil search engine to search in social media for customers’ perceptions and views. Discuss how it could be important to your business. Visit the website of a national newspaper or a news portal and identify the ads. Go on [www.facebook.com](http://www.facebook.com) and visit your Profile or the Profile of your tutor and identify the ads. Visit [www.google.com](http://www.google.com) and search for a keyword and identify the ads. Visit [www.youtube.com](http://www.youtube.com) and watch a video and identify the ads and the major differences from the previous cases. (Explore different methods of soliciting customer’s views and preferences. Use a variety of web advertising and online promotions to reach your customers. Understand how to measure success of these promotional alternatives.)

**Section 2.2.1** “Getting To Know What Your Customers Want and How To Reach Them - Marketing Fundamentals”: Use podcasts to learn the theory on Marketing Fundamentals.

**Section 2.2.2** “Getting To Know What Your Customers Want And How To Reach Them – Conduct a list of questions”: Use a text editor and type some questions you would like to ask your customers (demographics, preferences, suggestions etc)

**Section 2.2.3** “Getting To Know What Your Customers Want And How To Reach Them – Advantages And Limitations of Web Advertisements” Use the 7 diffs and sims game approach to discuss the web over traditional media.

**Section 2.2.4** “Getting To Know What Your Customers Want and How To Reach Them - On-line Ads”: Use podcasts to learn the theory on on-line ads.

**Section 2.2.5** “Getting To Know What Your Customers Want And How To Reach Them – Search On-line Ads”: Search ads and display ads.

**Section 2.2.6** “Getting To Know What Your Customers Want And How To Reach Them – Evaluate On-line Ads Assignment”: Which would you consider as your first choice?

**Section 3.1.1** “Getting To Know What your Customers Want And How To Reach Them – Online Survey”: Participate in an online session and do the following tasks: Use the list of questions you prepared at home and a web-based survey tool to create a preliminary online survey to solicit information your customers. Consult <http://groups.yahoo.com> and explore how you can use Email to send emails to your customers

**Section 3.2.1** “Getting To Know What Your Customers Want And How To Reach Them - Online Survey”: Use a web-based survey tool (as demonstrated in class) and enhance the online survey for your customers. Email the link of your survey to a few customers/friends/family members and ask them to answer the questions.

**Section 3.2.2** “Getting To Know What Your Customers Want And How to Reach Them - Online Survey”: Solicit their feedback on the questions. Change questions, Add or remove based on the feedback you receive.

**Section 4.1.1** “Getting to Know What Your Customers Want And How To Reach Them - Products And Services Promotion”: Participate in an online session and do the following tasks: Visit [www.coolsavings.com](http://www.coolsavings.com). Describe how products and services are promoted. Discuss ways to solicit answers from your customers for your survey questions. Update your survey

**Section 4.2.1** “Getting To Know What Your Customers Want And How To Reach Them - Products And Services Promotion”: Use podcasts to learn about the theory on Web Advertising and become familiar with the terminology and the concepts.

**Section 4.2.2** “Getting To Know What Your Customers Want And How To Reach Them - Products And Services Promotion”: You are given a budget of 1000 Euros for promotion of your company for the next three months. What would you do with it. Defend your choice.

**Section 4.2.3** “Getting To Know What Your Customers Want And How To Reach Them - Products And Services Promotion”: Use podcasts to learn about the theory on promotions, online events and attractions.

**Section 4.2.4** “Getting To Know What Your Customers Want And How To Reach Them - Products And Services Promotion”: Get in groups of 2-3 and organize an online event for your region. Present your ideas in class. Vote for the best plan and start implementing it.

**Section 5.1.1** “Electronic Commerce Part I: Tangible Products” Participate in an online session and visit e-commerce sites that sell tangible products. Discuss advantages and limitations of conventional vs. online setting.

**Section 5.2.1** “Electronic Commerce Part I: Tangible Products”: Study the material on e-commerce.

**Section 5.2.2** “Electronic Commerce Part I: Tangible Products”: Study the material on disintermediation, channel conflict, re-intermediation.

**Section 5.2.3** Electronic Commerce Part I: Tangible Products”: Get to [www.alibaba.com](http://www.alibaba.com) register (it is for free) and put up sales lead for your local products (or ask for buying leads for products that you need for the functioning of your business.

**Section 6.1.1** Electronic Commerce Part I: Tangible Products Shipping And Handling”: Participate in an online session and Visit several different sites, place an order for several different products and see how shipping and handling issues are handled. Study their returns policy. Discuss payment methods. Refer to security aspects.

**Section 6.2.1** “Electronic Commerce Part I: Tangible Products Shipping And Handling”: Study the material on lessons learned and success factors for e-commerce sites.

**Section 6.2.2** “Electronic Commerce Part I: Tangible Products Shipping And Handling”: Discuss in the forum your concerns on shipping and handling.

**Section 7.1.1** “Electronic Commerce Part II: Services” Participate in an online session and plan a trip. Visit an online travel agent. Reflect upon needs/desires that have not been satisfied by such sites. Use a destination management system such as [www.visitbritain.com/](http://www.visitbritain.com/) What other features could you get from a destination management system?

**Section 7.2.1** “Electronic Commerce Part II: Services Travel Agent Services” Organize your trip using at least 3 of the suggested travel agent sites.

**Section 7.2.2** “Electronic Commerce Part II: Services Travel Agent Services” Discuss in a forum advantages and limitations on travel online services. Which is your favorite?

**Section 8.1.1** “Electronic Commerce Part II: Travel Agent Services”: Participate in an online session and discuss about your experiences on travel online services. Use special-purpose Web 2.0 tools ([www.wayn.com](http://www.wayn.com) or [www.tripadvisor.com](http://www.tripadvisor.com)) to see how travelers share tips, recommendations and advice. Discuss your findings. Based on the analysis of your fantasy trip, now identify points of interest, historical sites, local products (oil, wine, aromatics herbs etc) and/or establishments (vineries, olive mills, crafts, arts etc) special treatments or spas,, that can be complementary to your business and may be referred and used as marketing tools to promote your services (i.e. to extend the length of visits for guests). You may get information and inspiration from regions like Napa Valley in California or Provence in France. Discuss your ideas (30 minutes).

**Section 8.2.2** “Electronic Commerce Part II: Travel Agent Services”: Study reading material on travel and tourism services online and Zaragoza case study.

**Section 9.1.1** “E-environment”: Participate in an online session to learn on Data Protection and Privacy issues as well as issues related to the contract law, that is, information on i) The company identity including address; ii) The main

features of goods or services; iii) Prices information including tax and, if appropriate, delivery costs, iv) The period for which the offer or price remains valid; v) Payment, delivery and fulfillment performance arrangements; vi) Right of the consumer to withdraw (i.e. cancellation terms); vii) The minimum duration of the contract and whether the contract for the supply of products or services is to be permanent or recurrent, if appropriate; viii) Whether an equivalent product or service might be substituted and confirmation as to whether the seller pays the return costs in this event. Compare the derived policies and negotiate solutions. Visit site [www.out-law.com/page-430](http://www.out-law.com/page-430) for more details. Visit the [www.w3.org/WAI](http://www.w3.org/WAI) site and get to know accessibility issues, the Accessibility Law and guidelines to avoid common accessibility problems.

**Section 10.1.1** “E-environment”: Participate in an online session. Get to understand how the legislation on Intellectual property rights (IPR) (2001/29/EC) extends to Internet i.e. through infringement of content (see for example [www.copyscape.com](http://www.copyscape.com)) or misappropriate replication of patented tools (i.e. Amazon’s patented “one-click” purchasing option. Get to understand issues related to tax jurisdiction (Council Directive 2002/38/EC and Council Regulation 792/2002) on how Value Added Tax (VAT) was to be charged and collected for electronic commerce. List to the podcast to learn how the business plan of nau.com and how it differs from its competitions. Visit [www.nau.com](http://www.nau.com) to see how the concepts have been implemented in practice.

**Section 10.2.1** “E-environment – European Union”: Listen to the podcast to understand what the European Union Act 2002/58/EC Directive on Privacy and Electronic Communications means in practice.

**Section 11.1.1** “Implementation And Evaluation Of An E-commerce Site”: Participate in an online session Visit [www.useit.com](http://www.useit.com). Learn about the Usability Heuristic Evaluation as outlined in Nielsen (2000). Select an e-commerce site and apply the Usability Heuristic Evaluation. Discuss the results.

**Section 12.1.1** “Implementation And Evaluation Of An E-commerce Site”: Participate in an online session. Use the implemented prototype and learn how to parameterize its attributes.

**Section 12.2.1** “Implementation And Evaluation Of An E-commerce Site”: Work on the prototype and complete your parameterization.

**Section 13.1.1** “Implementation And Evaluation Of An E-commerce Site”: Participate in an online session. Present your parameterized prototype. Each student may select someone else’s e-commerce prototype and apply the usability evaluation heuristics to identify advantages and limitations. Discuss the results in the forum (1 hour).

**Section 14.1.1** “Implementation And Evaluation Of An E-commerce Site”: Participate in an online session. Questions and Answers. Explore funding opportunities for e-commerce development for each country.