

ENTRExplorer: a Serious Game for Immersive Entrepreneurs

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Abstract: The main goal of this poster is to introduce a game-based learning, also known as “serious games”, games that engage the learner and contribute to the achievement of predefined objectives.

The ENTRExplorer - Serious Game for Immersive Entrepreneurs - initiative have the potential to significantly improve training activities and initiatives for young entrepreneurs who want to run their own business, and is focused in the entrepreneurial motivation, as one of the most important factors which accelerate the speed of economic development by bringing the people to undertake risk bearing activities.

In this poster we will review the game development framework as an appropriate basis for effective learning, its implementation and background.

ENTRExplorer is a European project funded by Leonardo Da Vinci Programme during 2010-2012 developed by an European consortium.

Introduction

With the aim of assist young people in the acquisition of the necessary entrepreneurial skills to manage their own business, has been developed the ENTRExplorer project, an online serious game for immersive entrepreneurs. The ambition of the project is to stimulate innovative ideas, drive and prepare learners to set up their own occupation and the creation of new jobs.

The European Commission in the Green Paper on Entrepreneurship defines that: “Entrepreneurship is an individual's creative capacity, independently or within an organisation, to identify an opportunity and to pursue it in order to produce new value or economic success”.

Many factors are driving change, but none is more important than the rise of Internet technologies. Nowadays, the Internet is used by more than half of the world population and its applications are found in nearly every fields of life. Sparked by new technologies, particularly the internet, people are undergoing a radical transformation in the learning and playing methods.

One of the most important benefits of serious games is that they are a useful method to recreate the environment in which the players are going to develop their real work in a near future, so they will know exactly how to handle a specific situation because are already familiar



with it. Simulations offer a more pragmatic experience and provide a safe environment in which immersive entrepreneurs could test their own business (Neto & Mendes, 2012).

Background

Games have become a major recreational activity, and they have also become increasingly sophisticated and celebrated as a cultural form; they have shaken up the world of entertainment, and they have entered into educational debates and practices.

The use of games for learning purposes is increasing, mainly due the characteristics and recognised new chances created by games.

“Gaming constitutes the sum total of activities, literacies, knowledge, and practices activated in and around any instance of a game. Gaming is play across media, time, social spaces, and networks of meaning; it includes engagement with digital FAQs, paper game guides, parents and siblings, the history of games, other players, as well as the games themselves. It requires players to be fluent in a series of connected literacies that are multimodal, performative, productive, and participatory in nature. It requires an attitude oriented toward risk taking, meaning creation, nonlinear navigation, problem solving, an understanding of rule structures, and an acknowledgment of agency within that structure, to name but a few.” (Salen, 2008: 9)

According to Derryberry (2007), serious games are games with a purpose beyond entertainment and deal with issues related to learning, health and politics, among others. Michael & Chen (2006) define serious games as “games that do not have entertainment, enjoyment, or fun as their primary purpose” or “a serious game is a game in which education is the primary goal, rather than entertainment”.

Development process of serious games

To reach the established goals an effective process of design and production is needed, namely due to the need of the pedagogical and didactical experts involvement.

Following, it is presented the basic steps of the online multiplayer serious game production process:

- Objective target
 - Market research, cost estimation & budget needed, financing the project;
 - Content;
 - Game concept, proposal, goals (e.g. after the S.M.A.R.T.-system);
 - If applicable: prototype, demo-version.
- Pre-production
 - Full concept (game design);
 - Organisation/definition of resources, management of team and assets;



- Project management, risk management.
- Production
 - Phases of production;
 - Quality management;
 - Development of marketing (dissemination) and distribution materials;
 - Testing.
- Post-production
 - Release, marketing and distribution;
 - Perfective maintenance, dealing with the community;
 - Gathering feedback, what was negative - positive in order to use the findings for the next development project.

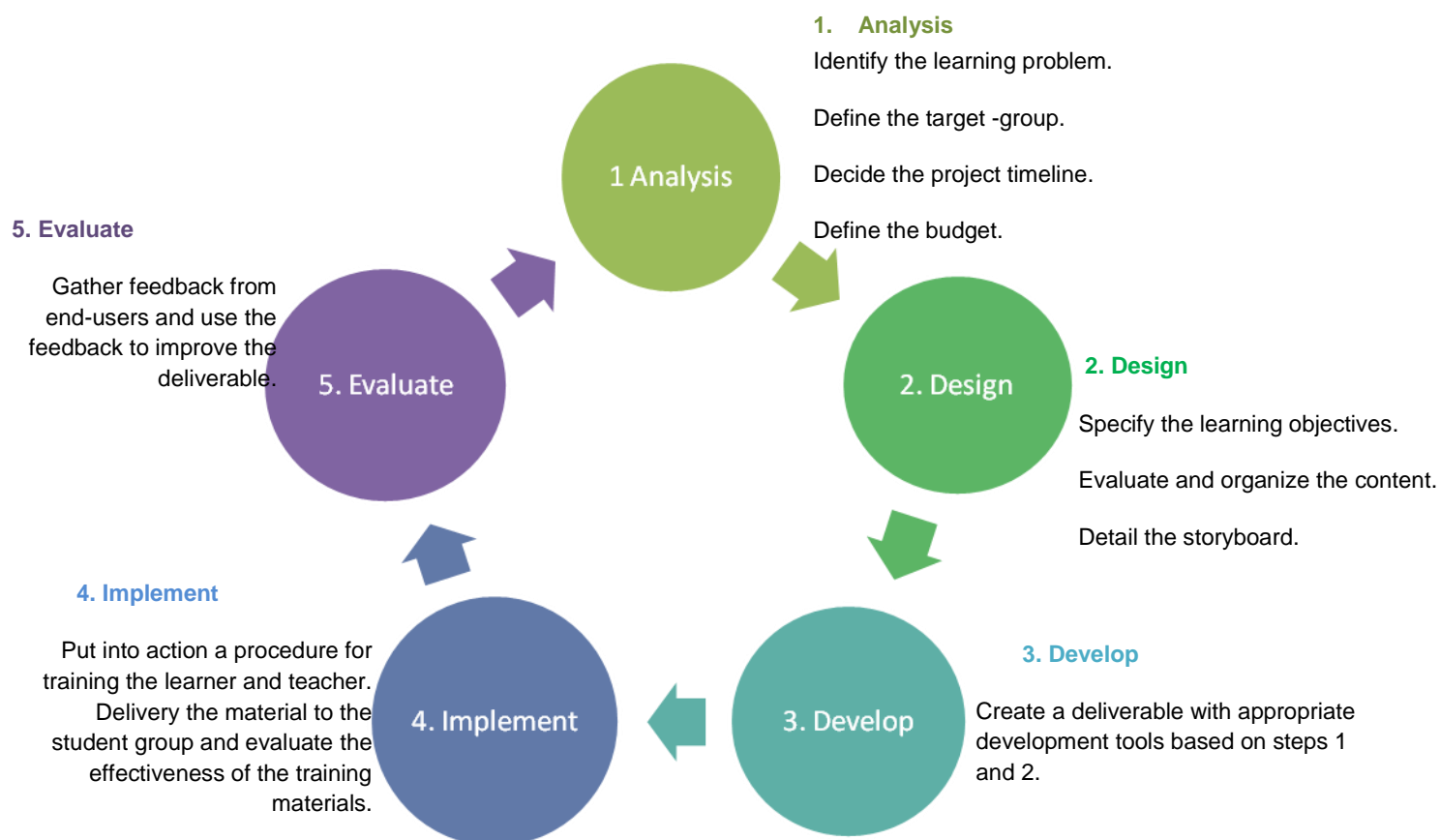
There is a big difference in the development process between games and serious games is the “serious” background, the learning which has to be worked out and developed by subject matter and pedagogical experts. They are especially important in the phase “objective target” as well as “preproduction”, where they have a great influence on the whole process.

A crucial point in the design of a serious game is the interface between the designers of the game and the subject matter experts as well as the pedagogical and didactical experts.

This means, that the production of a serious game is - regarding the content - more complex because of more interfaces between experts with different interests.

The process which defines the steps needed for the development and implementation of contents is named instructional design. There are different models; although the most common used due to its general scope and the one which is used in ENTRExplorer is the ADDIE Model. This model represents an active and flexible guideline by making use of five phases: Analysis, Design, Develop, Implement and Evaluation.





Source: Development of Multiplayer Serious Online Games

Picture 1 - ADDIE Model

Project Description

ENTRExplorer is a European project with duration of two years, funded by Leonardo Da Vinci programme, coordinated by The Economic Policies Research Unit from the University of Minho (Portugal), with the participation of EDIT VALUE (Portugal), Sketchpixel (Portugal), Coventry & Warwickshire Chamber of Commerce (United Kingdom), Sterische Volkswirtschaftliche Gesellschaft (Austria) and Bulgarian Development Agency (Bulgaria).

The project intends to develop an online serious game about the various issues associated with entrepreneurship where learners can have access to learning contents that will assist them in acquisition of entrepreneurial skills.

According to Heeter (2011), to make a good serious game is necessary an effective design and a theoretical understanding about learning, knowledge and fun and it should be created with the help of experts in educational content.

To accomplish the goals, a simulation was developed in a computer/mobile gaming based e-learning suite of training materials which will assist users in acquiring the entrepreneurial skills necessary to set up and run their own businesses. The platform is browser based, allowing a broad use on different devices and operating systems.



Within the gameplay the entrepreneur will survey the personal characteristics, values and beliefs (like optimism, the vision, initiative, persistence, risk tolerance) among other that allow getting through tough times.

The gameplay will be developed in different scenarios, there is a building with several floors where the player learns about specific subjects and face different challenges.



Picture 2 - ENTRExplorer gameplay

In each floor/level the player has access to the most relevant knowledge about the phases of creating a new business. The information provided in the game guide the player through the different phases in the process of write a business plan, he can learn and apply the lessons learned, being able to complete its own business plan, a tool provided in the game.

Also, he will be able to experiment a simulation on the virtual market, which is linked to the previous learning levels, so a good score and performance throughout the learning levels, gives more chance of being successful! A badly prepared entrepreneur will have lower probability of being successful, in contrary, a well prepared and informed entrepreneur will have a better chance of being successful in the business!



The ENTRExplorer game has the following curriculum units along the eight levels:

Levels	Learning Outcomes
1: Market and Ideas	Students will learn how to identify and classify the economic activities by sector. Understand what a target audience is and explore the techniques of generating ideas.
2: Strategic Positioning	Students will learn to understand what it is the strategic positioning, the importance of the corporate mission, vision and values statements.
3: Product Strategy	Students will learn how to identify and classify products by category.
4: Price Strategy	Students will learn how to understand the main price strategies.
5: Distribution Strategy	Students will learn how to recognize the importance of the distribution channels.
6: Communication Strategy	Students will learn to explore the main objectives to achieve in a communication strategy. They will also understand how the communication process works.
7: SWOT Analysis	Students will learn to understand and make a SWOT analysis.
8: Financial Viability	Students will learn/know the main financial maps.

Table 1 - ENTRExplorer curriculum units

Regarding the impact of our project, we want to extend the use of game-based learning for the skills development and also to support potential entrepreneurs getting the knowledge and skills needed to run their own business.

Conclusion

ENTRExplorer has as ambition to promote the development of entrepreneurial skills and help organizations to work smarter by providing a broad understanding of business and organizational dynamics. Stimulating innovative ideas and turning them into value-creating profitable business activities, drive and prepare young people to set up their own occupation and create new jobs.

Evaluation is a key step in any education and training device. Whatever the logic behind, the



evaluation process is essential, and more than a concept, it should be seen as a process that cuts across all the training: from preparation, through management. According to the Peer Course Review - Rubric (Quality Matter, 2010), when we analyse on the peer perspective, we evaluated the level of satisfaction of the following dimensions: course overview/introduction, learning objectives/competences/outcomes, assessments and measurements, resources and materials, learner interactions, technology, learner support and accessibility.

Some of the important results show that more than 60% of the answers state that it is easy to learn using the game; and 70% that the game has all the expected features and capabilities. These results reinforce the importance of the involvement of subject matter experts with field experience, in this case with experience in supporting entrepreneurs creating their own business, in order to create scenarios and challenges that are similar with daily life.

The multiplayer feature of these serious games is also a benefit, for example all the advantages provided to users: make possible to play with and against other people, meet new people, slip into various roles and remain private. One important issue is the social interaction (Karner and Härtel, 2011); therefore the ENTRExplorer Game is an experience multiplayer interaction, bringing together players from different countries but with the same entrepreneurial goals.

The ENTRExplorer Game is still under development, although it will be officially launched in November 2012. A demo version of the game is available at www.entrexplorer.com.

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