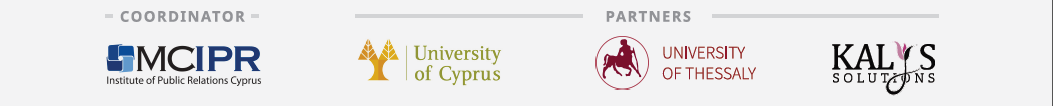
**BASE**

**Become a successful entrepreneur**

**game design document**

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| **Project Information** | |
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# Introduction

**Literature review**

The use of simulation games in teaching and learning is not a new phenomenon but it has a considerable history as part of education. The last few decades, simulation games have become a new training paradigm and a popular tool providing realistic educational experiences. Simulation games are widely used in the military, in medical field for surgical training or in pilot training through pilot simulations (Kovalik & Kuo, 2012).

The simulation games literature does not reveal one globally accepted definition for the term, while the definition varies among the different professions and fields (Crookall, 2010). According to Sitzmann (2011), simulation games ‘refer to instruction delivered via personal computer that immerses trainees in a decision-making exercise in an artificial environment in order to learn the consequences of their decisions’ (pp. 490). Kikot et al. (2013), defines simulations as ‘a digital imitation of something real that has game characteristics: competition, rules’ (pp. 14). Simulation games offer learners the unique benefit of experiential learning where they ‘practice developing, implementing and controlling competitive strategies as well as making complex and functionally integrated decisions in a competitive environment that reflects real life’ (Zhang, 2015: 154).

Research results indicate the value of computer-based simulation games in education as an effective tool for the improvement of knowledge, competencies and skills. Simulations provide the users the opportunity to practice and develop their skills in a safe environment similar to that of the real world and deal with situations or dilemma that they are likely to occur in the future (Fowler & Pusch, 2010; Kovalik & Kuo, 2012). Equally important is that training via simulation games is less expensive than arranging training in a real environment that might be risky or unsafe (Kovalik & Kuo, 2012). Furthermore, within this low-risk environment players have room for error, as they can experiment, fail and start over again learning from their mistakes.

Simulation games promote active learning and it is learners’ responsibility to build their own knowledge during the process (Palmunen et al., 2013). Additionally, the use of games can increase motivation to learn and have a positive impact on students' learning performance (Randel et al., 1992; Kovalik & Kuo, 2012; Schwabe & Göth, 2005; Sitzmann, 2011; Terrell & Rendulic, 1996). Moreover, gaming can increase the interaction among the users while promote the development of skills in decision making and problem solving (Kovalik & Kuo, 2012; Schwabe & Göth, 2005). Additionally, simulation games offer players the possibility to try innovative strategies developing their creativity skills (Kovalik & Kuo, 2012). Furthermore, through constant playing of the game the player can develop critical learning skills (Kovalik & Kuo, 2012). Simulation games promote the development of the 21st Century skills that are considered to be critically important for a successful and sustainable future of new generations (Great Schools Partnership, 2014).

Another important aspect is that simulation games allow the users to transfer the knowledge learned in the traditional education to real-life situations connecting theory and practice. Thus, since simulation games represent situations similar to those of the reality, it is extremely important to create realistic experiences something that would be difficult to create in traditional training (Kovalik & Kuo, 2012).

Simulation games are widely used in the business field, although according to Kovalik and Kuo (2012) business simulation games are not frequently used as part of the curriculum mainly because it is difficult for educators to choose the suitable game, use it effectively and evaluate what the students have learned. Benita (1999), also argues that the importance of the use of business games lies in their ability to improve participants’ business skills and especially problem solving and decision making. Furthermore, business simulation experiences offer ‘unique learning benefits that allow business students to develop critical strategic management knowledge and skills needed in the marketplace’ (Zhang, 2015: 154).

Simulation games can be used for the training of employees in order to upgrade and improve their skills. Jana (2006) refers to the development of a simulation game for the training of the staff in customer service. According to the results those trained via the simulation game obtained assessment scores 5% to 8% higher than those trained with older techniques such as manuals. Research by Chang et al. (2003) relative to the implementation of business simulation games also identified the effectiveness of their use. The results of the study revealed that the use of the simulation game promoted the development of participants’ decision-making, problem solving and planning skills. Moreover, the game helped participants understand the concepts related to business.

Taking all the above into consideration, the ultimate objective of the BaSE project is the development of a business simulation game that aims to bridge the gap between the traditional training and real world work situations and enhance the development of the potential entrepreneurs’ skills. The simulation game will offer experience through practice in situations that reflect real-life situations in setting-up a business. The scenario will promote the development of decision-making, problem solving and planning skills while it will enhance participants’ understanding of the different concepts that are related to the establishment of a new enterprise.

**The scenario of the simulation game**

Wolfe and Gold (2007) argue that when developing an educational simulation it is essential that the game corresponds to the course content. Thus, for purposes of pedagogical effectiveness the design of the scenario was based on the following topics that will be covered during the training session that will take place both in Cyprus and in Greece:

* Business Plan
* Marketing
* Accounting
* Financing and Investment
* Controlling
* Enterprise planning and
* Economics

During the game the user will be responsible for the development of his/her new business – establishment of the legal person. The users will have to understand their objectives and choose the best course of action relative to the name of the enterprise, creation of logo or trademark, choice of type of business or registration of enterprise. The user will have to take the necessary actions in order to ensure the initial capital for the development of the company. The product or services provided by the enterprise must also be determined and the user will have to take into account several variables including the ways of promotion, the market plan, pricing policy etc. During the game players will have the ability to choose the appropriate facilities and equipment by taking into account various parameters including the location, the rent, the character or the fame of the area. Furthermore, the simulation game will allow the users to be trained in issues like staff recruitment, budget development, management strategies and crisis management.

The BaSE project aims to provide a representation of the main features of reality relative to the establishment of a new business that will allow the training of potential entrepreneurs in a low-risk environment. During the game the users will be required to make business decisions in order to achieve the goal of starting up a new business by taking into consideration how their decisions will affect their own choices.

Another significant aspect of the proposed simulation game relates to the feedback that the players will receive after the end of the simulation experience that will allow them to understand their decisions and their mistakes, reflect on them and improve their strategies.

# Overview

BaSE is a first and third person interactive business simulation game that places the player in the body of a youth that is unemployed due to the economic crisis and decides to start up his/her own business.

In order to progress in the game the player must interact with the virtual characters and fulfill the tasks that will ensure the establishment of the company.

The game takes place in a city and it is a fully immersive environment allowing players’ interaction with the other people.

The player’s main task is to navigate the youth within the city, interact with other people to take instructions and visit all the necessary buildings for the establishment of the enterprise.

The game will reward the players creativity and choices relative to the steps and strategies followed for the establishment of the enterprise.

**Market considerations and features**

The game refers mostly to young and inexperienced people who wish to create their own business but have no skills, confidence and knowledge to do so. Through continuous practice young people will have the ability to experience real-life situations that are related to starting-up a new business and will face real-life problems that might encounter during the process of building a new business.

The simulation game addresses the lack of practical experience in higher education, lifelong learning and adult education organizations, proposing the connection of traditional education and practice in a low-risk virtual environment that allow room for error. The importance of the simulation lies in the ability to train young people who lack the skills and knowledge within a safe environment without the risk of negative consequences in case of inability to create and maintain a new business due to inexperience and possible incorrect choices.

# Story and gameplay

**Game Story**

Due to the economic crisis and the lack of job opportunities in the labor market one youth decides to start up his/her own business. In order to start-up the business the youth must set up his/her business goals and expectations and reflect on how to meet those goals. Starting from scratch in order to create a new business, our youth must decide the product or service of the company, fulfill legal obligations, ensure funding, rent buildings, hire staff, choose logo and forwarding the business. An adventure journey begins and our youth will face several problems and challenges and will have to take the best course of action in order to achieve the establishment and survival of a successful enterprise. BaSE is a challenging business creation and management simulation game that will allow players to learn how to create and run a successful business.

**Game objective**

The games’ main goal is the establishment and maintenance of a successful enterprise. The smooth operation and survival of the enterprise for an amount of time will allow the player to win the game and become a successful entrepreneur.

**Game Play**

In our game, the main character will aim to complete the various levels which are necessary for the creation of a new company through a fun and yet realistic environment. Each level has a specific goal that upon completion of the integration of the player/and when the player completes it, gets a relative feedback where it is written the score for this specific aim, which is proportional to the integration time as well as correct and incorrect decisions made. Then if the score exceeds a given threshold then our character can move to the next target. In addition, there will be the selection of replay regardless the score.

# game flow

Tutorial: A sort tutorial that takes place in the city in order for the player to be familiarized with the game environment, perspectives and controls.

Level 1: Takes place at law firm office where the player must visit in order to establish the creation of the business: the user can fill his name (input), the sector of activity (list) and the type of business (list) through an UI. If it is possible we would like to check the uniqueness and the size of the name, because they will play an important role at the passing points.

Level 2: Takes place in the Bank where the player has to visit in order to ensure funding: the user can convince the bank that his business deserve a funding. This can be achieved through a dialogue with predefined questions and answers lists and by completing a questionnaire. In order the user to speed up the meeting with the bank, s/he could detect his/her secretary inside or outside the building so that the character doesn’t have to wait at the queue for his/her turn.

Level 3: Takes place in the sponsors’ offices where the player has to visit for funding: the user can visit sponsorships’ offices for trying to convince them for a potential funding. The decision of the investors may be proportional to the benefits that would have (ex. shares) and the valuation of the idea of the business. The user to prevent other traders to go to investors should find a way so that the offices seem to be closed (ex. to post a sign CLOSED outside the door, without anyone notice it).

Level 4: Takes place in European Commission offices where the player can be informed about European funding opportunities: the user can ask other businessmen about the program which should be interested for. In this way s/he saves time for not searching all the possible programs. There will be a different person for each program group.

Level 5: Takes place in Real estate offices visited by the player in order to find and rent the space that will house the business: the user can visit the estate agency to find offices for locating his/her business. There will be an offer according the money from the funding, but if the user wants, s/he could choose the place that wishes. Each place will cost differently, depending on the size and the location. An agent will be necessary at the beginning, but then the user can continue without agent’s help in order to save money. The user would be able to visit the offices and then search alone and find the owner to make a private deal. Otherwise, the agent will be there for any help. If it is possible we would like to add the meaning of ‘haggling’ at the price.

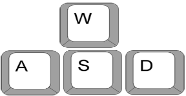
Level 6: Takes place at the graphic artists’ store where the player will go for the design of the logo or trademark: according to the price that is available, the user should give a price. The higher the value, the more impressive will be the logotype and the servant of the graphic designer. The user can suggest his/her own logotype.

Level 7: Takes place at the family home as the player is looking for funding: the character can go at his/her family house for asking money from his parents. S/he can be kind and do nice things for his/ her parents, in order to give him/her more money (ex. bring flowers to his/her mother, visit them more often during the game or doing housework).

# characters and controls

The user can choose one of the following characters:





The character can move through the game with the keys ‘wasd’

 Rotate the camera with the ‘mouse’

Open doors or use things with the key ‘F’



Pause the game with the key ‘P’

computer_key_Space_bar_TJump: “Space”



Collect Items: “R”



Inventory: “E”



Quest: “Q”



Interact: “I”



Talk: “T”



Change view: “Shift”



Go to menu: “ESC”

# main gameplay concepts

**Game environment**

The game begins with our hero located in outer space at the center square of the city. There will be different paths that the players will be able to follow leading to different quests related to the creation of the new enterprise. The player will be able to move around and explore the city but at times the player will have to be contained into specific areas.

The background will contain buildings and singes that will show to the player the direction for every building that he/she must visit for the establishment of the company.

The world layout will consist of distinct areas, each one making up either a complete level or chapter (some areas may be split up into multiple levels depending on size and complexity). Each distinct area will correspond to different tasks relative the establishment of the new company.

**Game walkthrough**

The player will be able to visit the following spaces:

* Law firm
* Bank offices
* Real estate offices
* European Commission offices
* Sponsor’s offices
* Stores for business equipment
* Buildings for the accommodation of the business
* Graphic artists
* Family home

# game world

Camera follows the character either at first-person or third person. The character locates in a big city where for some buildings will exist interior space. It will be appeared only when the character approaching and opening the door of the building. In addition, in the top right corner of the screen there will be a mini map which the user can see the whole town in a plan view. If the user, though the mini map selects one point within the city, s/he can be teleported by selecting the option teleported pout, below the map. Also, there will be the option of minimize and maximize for the mini map so that it would not block the game (minimize) and the user can observe better the entire city (maximize).

**Dialogue**

The hero will talk to different people during the game. Other characters will give advice, and other will assign the tasks. The GUI elements will disappear after a reasonable period of time, allowing enough time for the player to read the text. The dialog will appear at the middle of the bottom of the screen.

Some of the non-player characters will talk to our hero for a sentence or two. If the player wants to talk to a character he/she will have to push to appropriate action key when near the character.

**In-game Information**

During the game the player will receive information and hints in the form of wall illustrations, documents, screen messages that will help him decide the best course of action for the establishment of the new enterprise.

**Inventory**

The player will have a simple inventory in the form of a notebook where the different tasks will appear and the steps the hero followed in order to achieve the goals each time. The player will also be able to see the total score for each task.

# interface

* Start Interface

On starting for the first time the game will display the start interface where the user should:

* Choose a character
* Completes the following fields:
* Name
* User Name
* Password
* Age
* Male/Female
* If the user is businessman or not
* Main Menu

It will appear every time before the game starts ( after the start interface if it has to appear both), or when the user wishes it any time by using the Pause Menu. The above menu will have the following options:

* New Game

Start a new game from the beginning

* Load Game

Loading previous saved situation

* Save Game

Save current situation

* Options

Go to Option menu

* Exit Game

Close game

* Pause Menu

It will be displayed by pressing the button ‘Esc’ and will have the following options:

* Resume

Return to the game

* Restart

Resetting the last saved game

* Options

Go to Option menu

* Main Menu

Go to Main Menu

* Options

It will appear after selecting ‘Option’ from the Main Menu or the Pause Menu and it will have the following options:

* Sound

Through a horizontal bar will be able to spin the Sound

* Music

Through a horizontal bar will be able to spin the Music

* Controls

It displays a table that the user is possible to vary the controls on

* Report/End level

It will appear after the completion of the level and will have the following elements:

* Completion time
* Correct and wrong decisions
* Money
* Score

Also, it will have the following options:

* Next

Go to next level

* Restart

Restart level

# Points

At the end of each stage the player will collect some points that will be depending on how s/he went at the particular level. For the calculation of the points is taken into consideration: the time of completion of the level; sooner completed a level the more points the user will take, and the correct decisions the user will take during the level; more correct decisions means more points.

Also, there will be other points regardless the above, depending on the rest game. The user will get points depending on the ‘tricks/cheatings’ that s/he will make during the game. These will be completely independent and will not be taken into account in the final score for the level.

Finally, it calculates the money that the user will need during the game. For example, when s/he will find the graphic designer for the logotype of the company, s/he will have to offer an available amount of money. This amount will be added as an exit for the player and at the end of the game will calculate all the money which the player will take from the funding. Also, it will be a comparison between the amounts and it will count for the final score.

# mechanics

**Game engine**

For the development of the BaSE simulation game the game engine that will be used is called Unity developed by Unity Technologies. Unity game engine is a system designed to develop games for various platforms like consoles, computers and handheld devices like smartphones.

**Platform**

This game is specifically developed for computer platform.

**Camera system**

BaSE can be played in two modes: first-person and third-person. The player will be able to switch between the two perspectives during the game. First-person perpective will allow the user to see through the eyes of the hero providing a realistic feel. Moreover, first-person perspective allow the immersion of players as they feel more connected to the game hero.

When switching to third-person, players will be able to see the actions from a distance. The player can see the avatar and its movements through the virtual world. Third-person perspective allows the user a better understanding of the environment and simplifies the navigation. The camera will be placed behind the character at a reasonable view of character and the current environment.

**Game physics**

The hero of the game will be moving and behave as real people. The hero will be able to jump either straight up and down or in a parabola going left or right. When an obstacle is in front of the character it will not be able to proceed further in that direction. Gravity should be present.

# Database

The database saves all the Usernames and Pass. For each Username the data will be different, as they will be the elements that the user completes at the Start Interface. Then for each user will be kept the information required for the Save state of the player.

Also, each user will have a reference about his/her character movements through the map. This reference will be used to make inquiries about the business, and will help in the upgrade of the game.

Finally, the Database will be updated:

* Per regularly intervals
* At the end of each level
* When the user will choose Save Game for the Menus.

# sound

**Music**

The game will have music playing during the entire course.

The music will be simple loops and should include:

- Opening section

- Menu Loop

- Standard Game Loop

**Sound Effects**

Sound effects will be included throughout the game.

# Script Reference

Scripting will be used for the following:

* Player Controller
* Inventory
* Animation states
* Character status
* Sound Controller
* AI
* UI
* Camera
* Game Repository
* Game Manager
* Button Controller

# Mind map

A mid map was design as the main body structure of the game containing the most important steps that a potential entrepreneur must follow in order to create a new company. The mind map was created based on the training materials that will be covered during the training courses.



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