The New Rising of the Ylsung

A Business Simulation Game constructed around the Concept of Farmers Fable to teach Business Concepts

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**Abstract—**With *The New Rising of the Ylsung* a Business Simulation Game is developed by students of the Technical University of Munich. The concept is based on Marc Elsberg’s farmers fable and findings of the London Mathematical Laboratory. The philosophy of sharing vs. not-sharing is discussed throughout the game and explained with the help of graphs.

Furthermore we are having a look onto the usage of several parameter sets, that can change the effect of the economical concept. Players, in our case, mainly high school students, are forced to interactively change those parameter sets and think about why the depicted graphs and outcomes change.

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**Keywords—**business simulation, game, farmers fable, economy, C#, Python, Economy, E-Learning

1. A Simulation

Simulations reproduce processes or systems in various application fields. These simulations may analyze possible issues within the system, without putting anyone or anything at risk.

* 1. Defining a business simulation

Not only because of lower risk, simulations are very common in a business setting. Working every day in this business world, it is important to understand the main issue similarly as everybody else on the team. Regarding this setting, the simulations not only align people on the same strategy, they also improve the sense for the business idea. A business simulation facilitates a faster growing of the learning curve, by creating an immersive feeling and with no risk of damaging a working system. It allows to gain an overview of the project, while depicting bottlenecks and raising questions for improvement of the overall product. In comparison to just reading about a system or a process, the user is able to engage themselves and receive some hands-on experience. For instance, the business simulation of the farmers fable, helps the user identify and understand the ground principle a lot quicker than reading the whole story behind the phenomenon. In the following we will have a closer look onto the farmers fable as a Business Simulation Game.

* 1. Converting the business simulation into a game

Moreover a Business Simulation will try to create a feeling of immersion, nevertheless this feeling is created more strongly by the use of games. Furthermore taking a closer look onto our target group, juveniles between the age of 14 to 20, it is of high importance to create a simulation easy understandable, but also enjoyable. Games in general are very multifaceted. Some are created for the simple pleasure of joy, others are created more seriously to support people in learning, to help detect issues and how to solve them, to train certain brain activities and so on. Games, in particular Serious Games and Business Simulation Games, are able to create a link between entertainment and work. For these reason the Farmers Fable Business Simulation Game aims to be an interactive and playful way of studying economic principles and learning to adapt them quickly.

1. The Farmers Fable

The Farmers Fable is an economical concept woven into the story of Marc Elsberg’s book “Gier”. In Marc’s story, four farmers have to decide whether they are going to cooperate and share the earnings of their farming, or whether they don’t want to cooperate and every farmer keeps their whole earnings.

* 1. The Motivation for developing a Business Simulation Game used for E-Learning

TODO <https://www.intechopen.com/books/e-learning-instructional-design-organizational-strategy-and-management/challenges-of-business-simulation-games-a-new-approach-of-teaching-business>

* 1. The Advantages of Cooperating vs. Not Cooperating

It is important to consider that the farmers fable takes up a span of several years. If one would only take one or two years into account, they might not discover any significant advantages either way. In the author’s book, the reader is confronted with four farmers, Ann, Carl, Bill and Dana. Ann and Carl are sharing the same weather and grow conditions for their crops on the west side, as well do Dana and Bill on the east side. The conditions on the west and east side are almost never the same.

Ann and Bill decide to not cooperate, but rather work on their own. Each and every year they will make a win or a loss and have to deal with it on their own. If, for instance, in a couple of consecutive years the weather conditions for Bill are always really badly, he will make very little to almost none earnings at all. If the weather conditions change after some time and he still has enough crops to farm, he can build up his work again and make significant earnings. Ann on the west side of the country has in contrary, excellent weather conditions in the first years, but terrible ones after a couple of years. She might lose everything she worked for.

On the other hand, Carl and Dana cooperate. Let’s say Carl, who farms on the same side as Ann, has huge earnings in the first years and Dana, farming on the same side as Bill, makes deficits with her farming, because of bad weather conditions. At the end of the day, they will come together and share all of their earnings. Hence, everybody can start with an equal amount of crops in the consecutive year. By continuing the process of sharing, the risk of loosing everything is reduced drastically. Even though Dana did not make any huge earnings by herself, she still had Carl to help her out and vice versa.

The advantage of cooperating lies in this concept of not risking everything you own. You always have somebody to rely on if the times are not suitable. Even though you might have to give away a lot of your earnings, over time the profit will be larger at the end. Whereas if you never share, you might make high profits for a couple of years, but if anything bad happens, you are at stake to lose everything you worked so hard for.

For a more detailed version of the farmers fable, please consider reading the book “Gier” of Marc Elsberg.

1. *The New Rising of the Ylsung*

*The* *New Rising of the Ylsung* is a Business Simulation Game with the target group of teenagers, currently visiting middle and high schools. For our purposes we constructed a single player game, containing a lot of information about the economical phenomenon of the farmers fable. With this context, *The* *New Rising of the Ylsung* can be used for E-Learning purposes in schools.

Instead of copying the story of Marc Elsberg and just forming the farmers fable into a Business Simulation Game, our group decided to develop a new story line which will be explained in the following. Nevertheless it is from rather importance to use an already existing knowledge base[[1]](#endnote-1), which is given on the one hand, through Marc’s book “Gier” and on the other hand, through the results conducted in research of the London Mathematical Laboratory. Huge parts of our project are developed on their foundation.

* 1. The Background Story to the Business Simulation Game

The Business Simulation Game centers around a group of young adults that have to learn to survive in a medieval technological post-apocalyptic world. Their homeland got destroyed by a volcano eruption, but due to fortuitously circumstances they survived the catastrophe. These young adults are travelling to an island far away, since everything they currently own is a ship in the harbor that was not destroyed by the volcano. Arriving at the island, the group has to build up a new stable society sustained by farming. Everyone of this collective has to decide if they want to manage themselves or work together in a group to share the drawback of risks but as well the positive outcome of good harvests.

To read the whole story of *The* *New Rising of the Ylsung* please have a look at the attachment.

* 1. The Business Simulation Game – A Walk-through

The following will depict a walk-through of our Business Simulation Game.

Starting the Game, one has the option to choose between four and ……. Farmers that can either cooperate or farm by themselves. Another factor the player can choose is the timeline. It is important to not set it too shortly, since the most effect is achieved over a larger time period.

While the Business Simulation Game runs through, one can watch the farmers running around their fields. Meanwhile a graph is depicted in the top left corner, which shows how much profit each farmer respectively each collaboration of farmers make. This is really useful to grasp the idea of the business concept in real time. To get a more elaborate explanation, the player receives more graphs when the simulation is completed. Those graphs are ordered in the shape of spider webs to explain different parameter sets that act upon the profits of the farmers simultaneously.

The impact of various parameter sets will be discussed in more detail later on.

* 1. Interaction Cycles to form a better Learning

The Business Simulation Game was

1. Technological and Non-Technological Aspects of the *New Rising of the Ylsung*

Having only a limited amount of time, in our case, one semester, to build the New Rising of the Ylsung, we decided to use the Game Engine Unity and the Programming Language C# and integrate Code written in Python.

* 1. Defining the Technological Aspects

The Business Simulation Game was developed in the Game Engine Unity with the Programming Language C#. To depict the graphs at the end of the Simulation, we integrated Code written in Python.

TODO

* 1. Art Style, Graphics and Sound

TODO

* 1. Integrating the Feedback of Play Testers

TODO

1. Results of the Business Simulation Game

To analyze the impact of our Business Simulation Game we applied various sets of parameters and compared the results accordingly. Not fixating the Business Simulation Game to the original story of Marc Elsberg, where he explains the concept with the use of four farmers, but giving the player the opportunity to change the parameters, the Business Simulation Game becomes more interactive. This interaction helps players to learn more thoroughly. As Zimmermann and Miliband explain in their paper on self-regulated personalized learning SRPL, we developed the Business Simulation Game to act as teachers and help students understand an economic concept more easily; not with us just presenting all the knowledge we acquired, but by letting the players discover how to adjust the parameter sets themselves. Thereby the player holds the responsibility for learning themselves[[2]](#endnote-2). Especially since we integrated a storyteller and an additional information section. It is up to the player to make the effort and read through the additional explanations and learn more about the economical concept.

* 1. Usage of various Parameter Sets

TODO Which parameter sets did we use and why

* 1. The Impact of applying several Parameter Sets

TODO

Heading1 and Heading2 are numbered (sub)section headings. Write them, place the cursor in it and click the style.

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(1)

(2)

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|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item1** | **Item2** | **Item3** | **Item4** | **Item5** |
| Test1 | .001 | .004 | .341 | .01 |
| Test2 | 4.5 | 3.4 | 12 | 21 |
| Test3 | 28 | 30 | 41 | 65 |

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<name>

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</name>

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* 1. References

In your text, number citations consecutively in square brackets [1]. You may refer to them like “as stated in [3]” or “as stated in Ref. [3]. A list of all cited references is placed at the end of your document, that is, in a list that is formatted and numbered automatically by applying the *referenceitem* style.

1. Acknowledgment

You may mention here granted financial support or acknowledge the help you got from others during your research work.

1. References

The following references are real ones, but have not been cited in this document. They have been pasted here for demonstration purposes.

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4. Authors

In the authors below the paper title we will leave only the authors’ names and their main institutions (e.g. the University) – faculty, department, laboratory, address, postcode etc go here. You may also add a short bio statement.

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1. Cf. Hevner et al. 2004, p.88 [↑](#endnote-ref-1)
2. Zimmermann and Miliband, Self-regulated personalized learning SPRL: Stop pampering or incapacitating learners [↑](#endnote-ref-2)