

DESIGNING AN ICT TOOL FOR ENTREPRENEURSHIP AS AN ONLINE PLATFORM FOR THE GREENBE ERASMUS PLUS PROJECT

George CĂRUȚAȘU¹

Gabriel GARAIS²

Lavinia STĂNICĂ³

Abstract

When designing an online ICT tool for entrepreneurship, several factors need to be considered. The tool needs to be user-friendly and intuitive. Entrepreneurs are busy individuals who don't have the time to learn complex software systems. Therefore, the online tool should be easy to use, with clear and concise instructions, to enable entrepreneurs to focus on their core business activities. Designing an online ICT tool for entrepreneurship is an exciting and challenging endeavor. It requires a deep understanding of the needs of entrepreneurs and a passion for using technology to drive innovation in the field of entrepreneurship. With the right design principles, an online ICT tool for entrepreneurship can provide entrepreneurs with the tools they need to succeed in today's competitive business landscape.

Keywords: ICT, Entrepreneurship, e-Learning, social media

JEL Classification: L26; M15

1. Introduction

The GreenBE ICT Tool for entrepreneurship has to be designed and used by the Biotech students is part of the GreenBE project supported by the Erasmus+ Strategic Partnerships project 2021-1-RO01-KA220-HED-000032162 which has as general objective develop an innovative educational framework for Biotech & Economics HE graduates from Romanian, Spanish, Italian and Greek partners toward a Biotech Green Entrepreneurial pathway, able to support the Biotech sector to solve environmental and climate change problems.

¹ PhD, Professor Habil., School of Computer Science for Business Management, Romanian-American University, Romania, carutasu.george@profesor.rau.ro

² PhD, Lecturer, School of Computer Science for Business Management, Romanian-American University, Romania, garais.gabriel.eugen@profesor.rau.ro

³ PhD, Lecturer, School of Computer Science for Business Management, Romanian-American University, Romania, stanica.lavinia.justina@profesor.rau.ro

It requires a deep understanding of the needs of entrepreneurs and a passion for using technology to drive innovation in the field of entrepreneurship. With the right design principles, an online ICT tool for entrepreneurship can provide entrepreneurs with the tools they need to succeed in today's competitive business landscape.

2. The need of an ICT tool for entrepreneurship

The tool should be tailored to the specific needs of entrepreneurs. Different entrepreneurs have different requirements depending on their business type and size. Therefore, the tool should be customizable to meet the unique needs of each entrepreneur. This customization should include features such as templates, analytics, and customization options to enable entrepreneurs to create business plans, analyze their financial data, and track their progress.

The tool should be cloud-based. Entrepreneurs are always on the move, and they need to access their business data from anywhere, at any time. A cloud-based tool will enable entrepreneurs to access their business data from any device with an internet connection, allowing them to manage their business on the go.

The tool should be secure and Entrepreneurship [4] involves sensitive business data that needs to be protected from unauthorized access. Therefore, the online tool should have robust security features, such as encryption and secure authentication, to protect against data breaches and cyber-attacks.

The tool should have a reliable customer support system. Entrepreneurs may encounter technical difficulties when using the tool, and they need a responsive and reliable customer support system to resolve any issues they may encounter promptly.

3. Components and Structure

The structure of an ICT (Information and Communication Technology) tool for entrepreneurship will depend on the specific needs and objectives of the tool. The key elements and strategies for developing web platforms [3] that are relevant and effective for today's entrepreneurs are presented in the next paragraphs.

Defining the Target Audience

The first step in creating a modern ICT software web platform for entrepreneurship is to identify the target audience. Entrepreneurs come from different backgrounds and have different needs, which means it is crucial to conduct thorough research to understand the audience. The research should include the target audience's age, income, education level, location, and other relevant factors that will help in developing a web platform that meets their needs.

User Experience

A key aspect of modern ICT software web platforms for entrepreneurship is user experience. Entrepreneurs need an intuitive and user-friendly platform that they can navigate easily. The web platform should be designed with the user in mind, taking into consideration their needs, preferences, and level of technical proficiency.

Mobile Responsiveness

In today's digital world, mobile responsiveness is essential. Modern ICT software web platforms for entrepreneurship should be optimized for mobile devices, ensuring that entrepreneurs can access the platform on-the-go. This means developing a web platform that is responsive to different screen sizes and devices.

Scalability and Integration with Key Business Tools

Entrepreneurs need a web platform that integrates seamlessly with key business tools such as payment processing, customer relationship management (CRM) software, and marketing automation tools. This integration allows entrepreneurs to manage their business operations more efficiently and effectively.

Security

Security is crucial for modern ICT software web platforms for entrepreneurship. Entrepreneurs need a platform that is secure and protects their sensitive business data from cyber threats. The web platform should be designed with robust security features that protect against hacking, data breaches, and other security threats.

Customization

Entrepreneurs have unique business needs, and a modern ICT software web platform for entrepreneurship should allow for customization. The platform should be flexible enough to allow entrepreneurs to customize it to their specific business needs. This customization should include branding, user interface, and functionality.

Data Analytics

Data analytics is an essential aspect of modern ICT software web platforms for entrepreneurship. Entrepreneurs need a web platform that provides them with valuable data that they can use to make informed business decisions. The platform should be designed with robust data analytics tools that help entrepreneurs track key metrics such as customer engagement, sales, and revenue.

Cloud-Based Technology

Modern ICT software web platforms for entrepreneurship should be built on cloud-based technology that provides entrepreneurs with flexibility and scalability. Cloud-based platforms allow entrepreneurs to access their business data from anywhere, anytime, and on any device. Additionally, cloud-based technology provides scalability, which means that the platform can grow with the business needs of entrepreneurs.

Artificial Intelligence (AI)

AI is transforming the business landscape, and a modern ICT software web platform for entrepreneurship should leverage AI

Customer Support

Entrepreneurs need a web platform that provides them with efficient and effective customer support. The platform should be designed with features that enable entrepreneurs to reach out to customer support via different channels such as phone, email, and chat. Additionally, the platform should have a knowledge base that provides entrepreneurs with answers to frequently asked questions. Figure 1 encompasses the main drive functions for the GreenBE ICT tool for entrepreneurship.

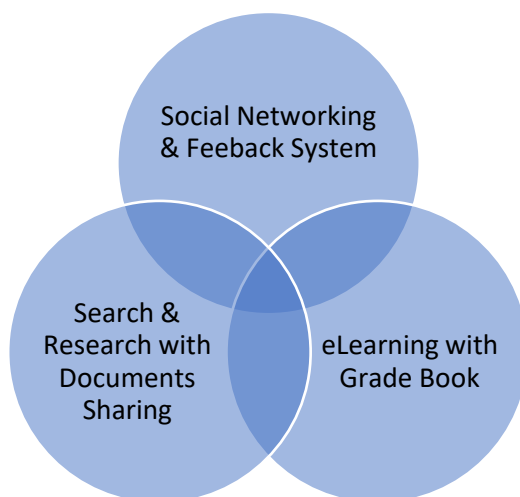


Figure 1 - Main functions for the GreenBE platform

Social media is a powerful marketing tool used in the GreenBE ICT, and a modern ICT software web platform for entrepreneurship should allow for social media integration. The platform is designed with features that enable the researchers to share their content on the integrated social media module. This integration helps entrepreneurs to reach their colleagues and community for a broader audience and increase their research visibility and feedback.

Entrepreneurship is a team effort, and the GreenBE ICT software web platform for entrepreneurship allows collaboration. The platform is designed with features that enable entrepreneurs to collaborate with team members, partners, and colleagues. Collaboration features include real-time collaboration tools such as chat, and document sharing.

A modern ICT software web platform for entrepreneurship should be designed with a robust content management system. The CMS feature inside GreenBE ICT allows users to create, edit, and publish content on their web space without the need for technical skills.

Additionally, the CMS is designed with modules that enable entrepreneurs to optimize their content for search engines.

The eLearning module of the GreenBE ICT platform has the implementation of Microlearning which is a function that breaks down course materials into smaller, bite-sized pieces. This approach is particularly useful for students in green entrepreneurship who have limited time and need to learn on the go. With microlearning, students can quickly access the information they need and learn at their own pace.

The platform is developed on a MySQL database with PHP web programming. The open-source programming languages have been used to accompany the idea of the GreenBE project to offer the platform for public use for both the trainers and the students in the field of Green Entrepreneurship through the use of the worldwide cloud services.

The descriptive screen capture from the GreenBE in figure 2 shows the main menu presenting the main functions and the actual page of the Social Networking Module with the active working account of one of the authors of this book chapter.

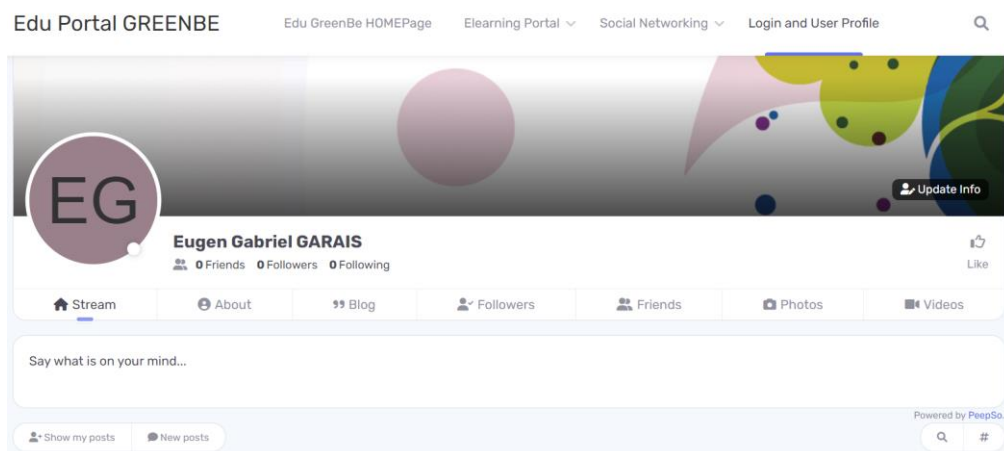


Figure 2 - Main functions for the GreenBE platform [5]

3.1 e-learning module for the ICT tool for entrepreneurship

The e-learning modules are designed to be interactive and engaging, with quizzes, assessments, and other activities that help entrepreneurs reinforce their learning.

In addition to e-learning, an ICT tool for entrepreneurship with social media modules provides entrepreneurs with a platform to connect and collaborate with other entrepreneurs and industry experts. The social media module allows entrepreneurs to share ideas, ask questions, and get feedback from their peers. They can also network and build relationships that can be valuable for their businesses.

In today's fast-paced business environment, entrepreneurs need to stay up-to-date with the latest knowledge and skills to succeed. eLearning [1] is a powerful tool that can be used to provide entrepreneurs with the resources and training they need to start, run, and grow their businesses. By using an eLearning plugin or module with courses and quizzes on an online platform for entrepreneurship, entrepreneurs can learn at their own pace and on their own schedule.

An eLearning plugin or module with courses and quizzes on an online platform for entrepreneurship can be a valuable addition to any entrepreneur's toolkit. Here are some benefits of using an eLearning plugin or module with courses and quizzes on an online platform for entrepreneurship:

Self-paced learning: eLearning allows entrepreneurs to learn at their own pace and on their own schedule. This is particularly important for entrepreneurs who are busy running their businesses and may not have time for traditional classroom-based training.

Flexibility: eLearning can be accessed from anywhere with an internet connection, which means entrepreneurs can learn from anywhere in the world. This can be particularly useful for entrepreneurs who live in remote areas or who travel frequently.

Interactive learning: eLearning can be designed to be interactive and engaging, with courses and quizzes that test knowledge and skills. This can help to reinforce learning and improve retention.

Cost-effective: eLearning can be more cost-effective than traditional classroom-based training, as it eliminates the need for travel, accommodation, and other expenses associated with traditional training.

When choosing an eLearning plugin or module for an online platform for entrepreneurship, it's important to choose one that is user-friendly and easy to use. The plugin or module should offer a wide range of courses and quizzes that cover topics relevant to entrepreneurship, such as business planning, marketing, finance, and management.

Using an eLearning plugin or module with courses and quizzes on an online platform for entrepreneurship can be a valuable tool for entrepreneurs. By providing access to high-quality training and resources, eLearning can help entrepreneurs to stay competitive and grow their businesses.

3.2 Social-Media and Networking module for the ICT tool for entrepreneurship

Social media has become an essential part of our daily lives, and it has also become a crucial tool for entrepreneurs to promote their businesses and connect with customers. Social media can be used to build brand awareness, generate leads, and drive traffic to a website. When social media modules are added to an online platform for entrepreneurship e-learning, it

provides entrepreneurs with additional resources and tools to learn and collaborate with others in their field.

Social media plugins or modules on an online platform for entrepreneurship e-learning can be used to create a more engaging and interactive learning experience. Here are some benefits of using social media plugins or modules on an online platform for entrepreneurship e-learning:

Increased engagement: Social media modules can be used to encourage learners to interact with each other and with the course material. For example, learners can share their thoughts on a discussion board, collaborate on a project, or provide feedback on their peers' work. This can help to increase engagement and retention.

Real-world examples: Social media modules can be used to showcase real-world examples of entrepreneurship in action. For example, learners can follow successful entrepreneurs on social media and learn from their experiences.

Networking opportunities: Social media modules can be used to facilitate networking opportunities between learners and industry experts. For example, learners can connect with entrepreneurs, investors, and other professionals on social media platforms like LinkedIn.

Brand awareness: Social media modules can be used to promote the online platform for entrepreneurship e-learning and increase its visibility. For example, learners can share their progress on social media and encourage their followers to sign up for the course.

When choosing a social media plugin or module for an online platform for entrepreneurship e-learning, it's important to choose one that is user-friendly and easy to use. The plugin or module should integrate seamlessly with the platform, and it should be easy to set up and configure.

Social media plugins or modules can be a valuable addition to an online platform for entrepreneurship e-learning. By using social media, entrepreneurs can learn from each other, connect with industry experts, and promote their businesses.

3.3 Search & Research with Documents Sharing module for the ICT tool for entrepreneurship.

As biotech [2] entrepreneurship continues to grow, there is an increasing need for students to have access to tools that can help them search and research the latest developments in the field. An online platform for entrepreneurship biotech students that includes document sharing capabilities can be a powerful tool to meet this need.

With document sharing, students can access research papers, scientific journals, and other industry publications in real-time. They can also collaborate on projects and share their own research with peers and mentors, enabling them to work more effectively as a team.

One of the key benefits of document sharing is that it can save time and reduce duplication of effort. Rather than spending hours searching for relevant research, students can access a centralized repository of documents that have already been curated and organized for them. This can be especially helpful for students who may be working on multiple projects simultaneously, as they can easily find and access the information they need.

In addition to saving time, document sharing can also facilitate collaboration among students and mentors. By allowing multiple users to access and edit documents simultaneously, document sharing tools enable students to work together on projects and share their ideas and insights with each other. This can help to foster a sense of community and encourage students to learn from each other.

Moreover, document sharing can enable students to stay up-to-date with the latest developments in the biotech industry. By accessing and sharing research papers and scientific journals, students can learn about new discoveries and developments in the field, and stay ahead of the curve.

Finally, document sharing can be an invaluable resource for biotech entrepreneurs who are seeking funding or looking to commercialize their research. By sharing their work with potential investors and business partners, entrepreneurs can gain valuable feedback and insights that can help them refine their ideas and take their businesses to the next level.

In conclusion, document sharing is a valuable tool for biotech entrepreneurial students who are seeking to stay up-to-date with the latest developments in the field. By providing access to research papers, scientific journals, and other industry publications, document sharing tools can save time, facilitate collaboration, and enable students to learn from each other. As biotech entrepreneurship continues to grow, document sharing is likely to become an increasingly important tool for students and entrepreneurs alike.

4. Benefits of combining e-Learning with Social-Media in an ICT platform for entrepreneurship

In today's digital age, entrepreneurs need to stay ahead of the curve when it comes to technology and business practices. An online ICT platform for entrepreneurship that combines e-Learning, social media, and document sharing modules can provide a powerful suite of tools that can help entrepreneurs achieve their business goals. In this article, we'll explore the benefits of combining these modules in an online platform for entrepreneurship.

Increased engagement: The combination of e-Learning, social media, and document sharing modules can help entrepreneurs to engage with each other and with the course material in new and innovative ways. For example, learners can share their thoughts and ideas on a discussion board, collaborate on a project, and provide feedback on their peers' work.

Real-world examples: The integration of social media and document sharing modules can be used to showcase real-world examples of entrepreneurship in action. Learners can follow successful entrepreneurs on social media and learn from their experiences, or access case studies and other resources through the document sharing module.

Networking opportunities: Social media modules can be used to facilitate networking opportunities between learners and industry experts. For example, learners can connect with entrepreneurs, investors, and other professionals on social media platforms like LinkedIn.

Flexibility: The combination of e-Learning and document sharing modules allows entrepreneurs to learn at their own pace and on their own schedule. They can access course materials and other resources anytime, anywhere, as long as they have an internet connection.

Customization: An online platform for entrepreneurship that combines e-Learning, social media, and document sharing modules can be customized to meet the specific needs of learners. For example, learners can choose to follow specific topics or experts on social media, or access only the course materials that are relevant to their particular business.

Cost-effective: The integration of e-Learning, social media, and document sharing modules can be more cost-effective than traditional classroom-based training. It eliminates the need for travel, accommodation, and other expenses associated with traditional training.

Combining e-Learning, social media, and document sharing modules in an online ICT platform for entrepreneurship can provide a powerful suite of tools that can help entrepreneurs achieve their business goals. By providing access to high-quality training and resources, networking opportunities, and real-world examples of entrepreneurship in action, this type of platform can help entrepreneurs stay competitive and grow their businesses.

5. Need and opportunity to develop an e-Learning tool with social media integration for biotech entrepreneurial students

Biotech is a rapidly growing industry, and as a result, there is a growing demand for biotech entrepreneurs. Biotech entrepreneurial students need to learn not only the technical aspects of industry but also the business aspects, such as finance, marketing, and management. e-Learning tools with social media integration can provide biotech entrepreneurial students with a unique opportunity to learn and grow in this exciting field.

One of the biggest advantages of e-Learning tools with social media integration is that they allow biotech entrepreneurial students to learn at their own pace and on their own schedule. This is particularly important for students who may be working part-time or have other responsibilities outside of school. With e-Learning tools, students can access course materials, lectures, and other resources anytime, anywhere, as long as they have an internet connection.

Social media integration in e-Learning tools can also provide students with a powerful tool for networking and collaboration. Social media platforms like LinkedIn and Twitter can be used to connect with industry professionals, potential mentors, and other students. This can help biotech entrepreneurial students to build their network, stay up-to-date on the latest industry news, and find new opportunities.

In addition, e-Learning tools with social media integration can provide biotech entrepreneurial students with a unique opportunity to learn from industry experts. Guest lectures, online forums, and social media platforms can all be used to connect students with experts in the field. This can provide students with valuable insights into the biotech industry and help them to develop a deeper understanding of the industry's challenges and opportunities.

The need for biotech entrepreneurial students to develop a wide range of skills, from technical to business, is more important than ever. e-Learning tools with social media integration provide an excellent opportunity for students to learn and grow in this exciting field. With their flexibility, networking opportunities, access to industry experts, and cost-effectiveness, e-Learning tools are an essential tool for the biotech entrepreneurs of tomorrow.

Finally, e-Learning tools with social media integration can be more cost-effective than traditional classroom-based training. This is particularly important for biotech entrepreneurial students, many of whom may be working with limited budgets. By eliminating the need for travel, accommodation, and other expenses associated with traditional training, e-Learning tools can help biotech entrepreneurial students to access high-quality training and resources without breaking the bank.

5. Conclusions

As a conclusion the benefits of a the GreenBE ICT Platform with eLearning plus Social Media Capabilities are the Improved Engagement, Accessibility, Personalization and Analytics. The GreenBE ICT Platform with eLearning plus social media capabilities can improve student engagement by creating a sense of community and a shared learning experience. Students are more motivated to learn when they feel connected to their peers and educators. The users can set learning goals, track their progress, and receive feedback on their performance. Additionally, personalized learning paths can be created for each student to ensure they are receiving the best possible learning experience. Personalization is a key benefit of a platform with eLearning plus social media capabilities. With personalized learning paths, students can receive the best possible learning experience tailored to their unique needs and preferences. Analytics can provide valuable insights into student performance, course effectiveness, and areas of weakness.

References

- [1] Virgil CHICHERNEA, Eugen-Gabriel GARAIS – *From E-Learning and On-Line Education to the Digitalization of the Main Activities in Current Society*, Journal of Information Systems & Operations Management, Vol. 15 – No 1, May 2021, Bucuresti, Editura Universitara, 2021, pg. 58-65, ISSN: 1843-4711
- [2] Florentina MATEI, Flavia ANGHEL, Mihaela GHIDURUS PANAGOPULU, Mioara VARGA, Mihaela DRAGHICI, Cristina COCULESCU, Bogdan MATEI, Gabriel Eugen GARAIS, Radu Cristian TOMA – *A Study on the Romanian Biotech Entrepreneurs Profile and Challenges*, SCIENTIFIC PAPERS SERIES “MANAGEMENT, ECONOMIC ENGINEERING IN AGRICULTURE AND RURAL DEVELOPMENT”, Vol. 19 – Issue 2, Sept 2019, pg. 257-262, ISSN 2284-7995, ISSN Online 2285-3952
- [3] Gabriel Eugen GARAIS, George CĂRUȚASU – *Entrepreneurial Game Simulation E-Platform for Supbioent Erasmus Plus Project*, Journal of Information Systems & Operations Management, Vol. 13 – No. 1, May 2019, Bucuresti, Editura Universitara, 2019, pg. 179-187, ISSN: 1843-4711
- [4] Perju-Mitran Alexandra , GARAIS Eugen Gabriel , Carutasu George, Zirra Daniela Lenuta, Gabriela Lucica Mărgărit , *Start-Up and Management Features in Biotech Business in Introduction to Biotech Entrepreneurship: From Idea to Business – A European Perspective*, Year 2019, Publishing: Springer, ISBN: 978-3-030-22141-6
- [5] <https://edu.greenbe.usamv.ro/> - The actual web domain link for the GreenBE ICT for entrepreneurship

Bibliography

- Virgil CHICHERNEA, Eugen-Gabriel GARAIS – *From E-Learning and On-Line Education to the Digitalization of the Main Activities in Current Society*, Journal of Information Systems & Operations Management, Vol. 15 – No 1, May 2021, Bucuresti, Editura Universitara, 2021, pg. 58-65, ISSN: 1843-4711
- Florentina MATEI, Flavia ANGHEL, Mihaela GHIDURUS PANAGOPULU, Mioara VARGA, Mihaela DRAGHICI, Cristina COCULESCU, Bogdan MATEI, Gabriel Eugen GARAIS, Radu Cristian TOMA – *A Study on the Romanian Biotech Entrepreneurs Profile and Challenges*, SCIENTIFIC PAPERS SERIES “MANAGEMENT, ECONOMIC ENGINEERING IN AGRICULTURE AND RURAL DEVELOPMENT”, Vol. 19 – Issue 2, Sept 2019, pg. 257-262, ISSN 2284-7995, ISSN Online 2285-3952

- Gabriel Eugen GARAIŞ, George CĂRUŢASU – *Entrepreneurial Game Simulation E-Platform for Supbioent Erasmus Plus Project*, Journal of Information Systems & Operations Management, Vol. 13 – No. 1, May 2019, Bucuresti, Editura Universitara, 2019, pg. 179-187, ISSN: 1843-4711
- Perju-Mitran Alexandra, GARAIŞ Eugen Gabriel, Carutasu George, Zirra Daniela Lenuta, Gabriela Lucica Mărgărit , *Start-Up and Management Features in Biotech Business in Introduction to Biotech Entrepreneurship: From Idea to Business – A European Perspective*, Year 2019, Publishing: Springer, ISBN: 978-3-030-22141-6
- Siqueira, A. C. O., Webb, J. W., & Bruton, G. D. (2016). *Informal Entrepreneurship and Industry Conditions*. Entrepreneurship Theory and Practice, 40(1), 177–200.
<https://doi.org/10.1111/etap.12115>
- R. Schulz, G. M. Isabwe and F. Reichert, *Investigating teachers motivation to use ICT tools in higher education*, 2015 Internet Technologies and Applications (ITA), Wrexham, UK, 2015, pp. 62-67, doi: 10.1109/ITechA.2015.7317371
- Cerna, M. *Modified recommender system model for the utilized eLearning platform*. J. Comput. Educ. 7, 105–129 (2020). <https://doi.org/10.1007/s40692-019-00133-9>
- Kučak, D., Biuk, A., Mršić, L. (2022). *Enhancing Student Learning Productivity with Gamification-Based E-learning Platform: Empirical Study and Best Practices*. In: Vasant, P., Zelinka, I., Weber, GW. (eds) Intelligent Computing & Optimization. ICO 2021. Lecture Notes in Networks and Systems, vol 371. Springer, Cham.
https://doi.org/10.1007/978-3-030-93247-3_81
- E. Pecheanu, A. Cocu, I. Susnea, L. Kevelaerts (2022) *E-Learning Experiences for the Entrepreneurial Education of Students*, ICERI2022 Proceedings, pp. 5587-5594.
<https://edu.greenbe.usamv.ro/> - The actual web domain link for the GreenBE ICT for entrepreneurship