

INTERACTIVE VIRTUAL EXHIBITION IN INCREASING THE MARKET OF STUDENT BUSINESS STARTUP PRODUCTS AND SERVICES

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Abstract

Many students at Merdeka University Malang have become Entrepreneurial Students (business start-up), where they have been able to gain experience in business and form the entrepreneurial spirit. However, the Covid-19 outbreak during 2020 to 2022 does not allow for product and service exhibitions, so exhibition activities can be carried out online using interactive virtual exhibitions. The main objective of this research is to produce product and service marketing program applications for student business start-up through interactive virtual exhibitions. The research method is qualitative aimed at research and development. There are 10 (Ten) research steps, namely: Formation of a development team, Sitemap Creation, Application design, Video Content, Explainer and Subtitle animation, Compossing (Programming and Coding), Database Creation, Rendering Visualization, Hosting, Trial Testing, and Online Deployment. The sample is 20 students who take part in the Independent Business Incubator Program. Currently, the Unmer Virtual Exhibition website has been successfully created which is ready to be explored.

Keywords: *virtual exhibition, market, startup, students*

Introduction

In order to prepare students to face changes in social, cultural, world of work and rapid technological advances, student competencies must be prepared to be more responsive to the needs of the times. Universities are required to be able to design and implement innovative learning processes so that students can achieve learning outcomes covering aspects of attitudes, knowledge, and skills optimally and always relevant. Merdeka Campus is a form of learning in higher education that is autonomous and flexible so as to create a learning culture that is innovative, unfettered, and in accordance with the needs of students. Currently, many students at University of Merdeka Malang (Unmer) have participated in the Entrepreneurial Student Program (business start-up), where they can gain experience in doing business and form the entrepreneurial spirit, are self-confident, dare to take risks in entrepreneurship, have a leadership spirit in running a business. business and creative (Wibowo et al., 2015). Verni Y. Ismail (Ismail et al., 2015) stated that in the context of fostering new entrepreneurs from universities, it is necessary to study entrepreneurial competencies in students. Based on the psychological and business aspects, entrepreneurial

competence is used to determine the characteristics and skills of students in order to become successful entrepreneurs. Juhanis (Juhanis et al., 2020) stated that self-success factors, freedom in work, and the need for achievement are the dominant things in influencing students' desire to become entrepreneurs. One of the promotional media for student business products is through exhibitions. Trade fairs or exhibitions that are generally open to the public are a means to introduce a product to the public so that they are interested, then buy it (Proszowska, 2018). However, the Covid-19 outbreak for 2 years did not allow for product and service exhibitions for entrepreneurial students. The government is trying to prevent this outbreak from spreading further by providing regulations in the form of health protocols, until the enactment of PSBB (Large-Scale Social Restrictions) which requires that all activities related to large numbers of people must be stopped. So that alternatives and other strategies are needed in an effort to maintain business during the pandemic. Advances in information technology are helping efforts in realizing exhibition activities so that they can still be carried out online even in a pandemic situation.

Based on the description above, the formulation of the problem is: How is the implementation of an interactive virtual exhibition strategy that utilizes digital applications as online promotion media in an effort to increase sales of entrepreneurial student products and services?

The main objective of this research is to produce product and service marketing program applications for student business start-ups through interactive virtual exhibitions.

Research methods

This study uses a qualitative approach aimed at research and development (Research and Development). There are 10 (Ten) research steps, namely: (1) Formation of a development team, (2) Sitemap creation, (3) Application design, (4) Video Content, Explainer and Subtitle animation, (5) Composing (Programming and Coding), (6) Database Creation, (7) Rendering Visualization, (8) Hosting, (9) Trial and Evaluation, (10) Online Implementation. This study took a sample of 20 students who took part in the Independent Business Incubator Program at the Merdeka University, Malang.

Research Results and Discussion

Based on the research method, the results and discussion are divided into 10 (ten) discussions.

Application Development Team Formation

Making an Unmer virtual exhibition application system by choosing people who are able to play a role in each of them in the manufacturing process. a) The project manager as a drafter, executor and quality control, also has the task of managing the schedule (timeline) of working on an application (Schwalbe, 2019). b) Visual Design (Visual Artist) has the role of translating the concept of oral and written communication into a visual design that is clearer (clarity) and beautiful (beauty) with the aim of providing operational convenience and navigation for users (Kimball, 2013). The scope of visual design tasks includes: 2-dimensional and 3-dimensional design, icon processing, image processing, video processing, animation and typography. c) Programmers (Coders) are personnel who have competence in the field of computer language programming who specifically have the task of converting basic human languages into computational languages (Liu, 2008) so that they can run on a computer system or smartphone. d) Content Writers have the responsibility to ensure that the writing and visuals produced are in line with the information to be conveyed (Ferrand et al., 2010). e) Audio Engineering has the task of processing all audio components that will be used in the Unmer Virtual Exhibition system, including background music, sound effects, voice over and ambient (Roland, 2022). f) The layouter is in charge of arranging the layout of all visual components that have been prepared by the visual artist in a single unit in accordance with the system concept.

Sitemap Creation

The sitemap is a design for determining the flow of information on the system. A sitemap is a hierarchical structure of a site with links to all relevant pages (Hussain et al., 2005). Sitemap form is a floor plan of a site/application. A sitemap provides a visual representation and structure of a site/application so that different parts can be linked together. Sitemaps help make it easier for users to navigate on sites/apps that have more than one page by showing users a diagram of the entire content of the site/app

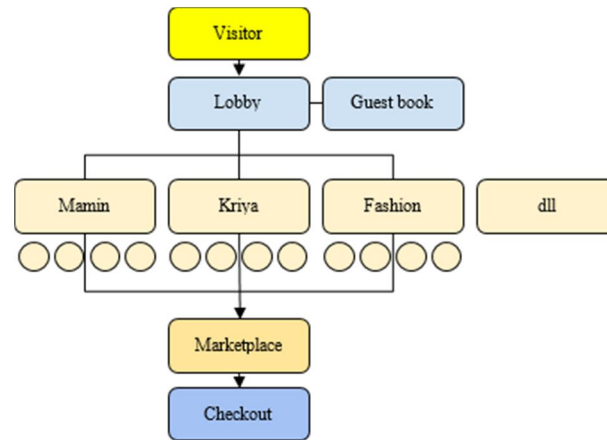


Figure 1. Unmer Virtual Exhibition Sitemap

Unmer Virtual Exhibition app design

Unmer Virtual Exhibition Design is a technical stage of transforming concepts into visuals using several software, namely: a) Corel Draw is used in making: logo designs, icon designs, PNG format output; b) Adobe Aftereffect is used in making: logo animation, icon animation output in MOV Alpha format; c) Grassvalley Edius is used in making: animation video editing, video greeting editing, MP4 format output; d) Sketchup, used in making: modeling 3D objects, 3DS output format; e) 3DSMax is used in making: finishing modeling 3D objects, 3D object layouts, material ID, FBX format output; f) Lumion, used in making: Layout 3D objects, Giving other 3D assets, texturing, coloring, lighting, setting panoramas, output JPG format.

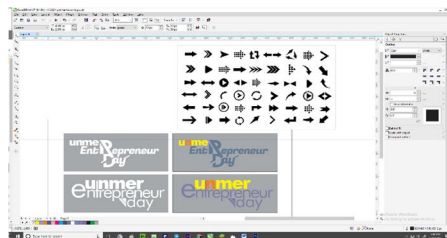


Figure 2. CorelDRAW Program Application

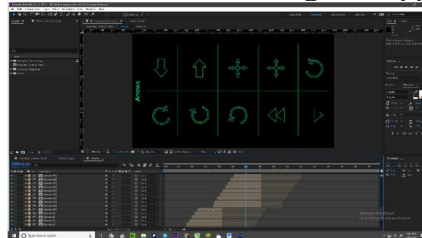


Figure 3. Adobe After Effects Program Application

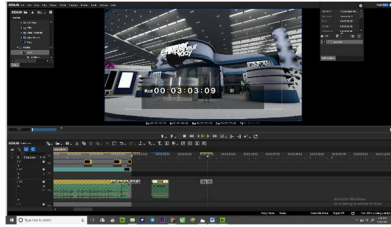


Figure 4. Grassvalley Edius Program Application

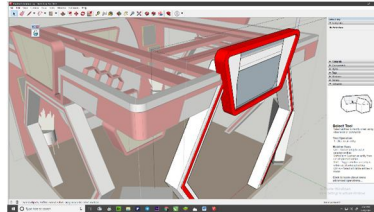


Figure 5. SketchUp Program Application

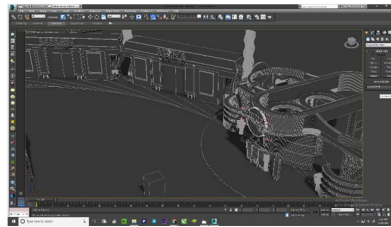


Figure 6. 3ds Max Application Program

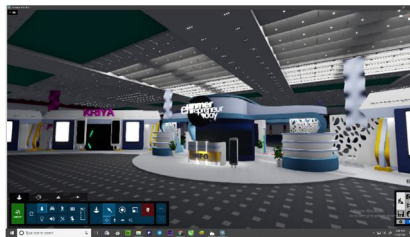


Figure 7. Lumion Program Application

Video Content, Explainer Animation and Subtitle

At the end of the Unmer Virtual Exhibition, videos will be embedded that support content information, including: a. Video Greeting is a welcome video that is included in the Unmer Virtual Exhibition in the form of a greeting from the manager in the form of a video with subtitles; b. Video Tutorials, namely videos with stand-alone subtitles containing tutorials on how to use Unmer Virtual Exhibition which can be published on social media; c. Voice recording that will be a guide during the Unmer Virtual Exhibition. The software used is adobe audition.

Composing (Programming and Coding)

This stage is the programming stage of all components that have been prepared both visually and audio using 3Dvista Virtual Tour. In this panoramic photo-based software, the visual component will be simulated in a round shape (cube) with the pivot (axis) in the middle of the cube. By embedding computing commands on each installed hotspot, it will provide interaction for Unmer Virtual Exhibition visitors.

Database Creation

A database is a collection of data that is organized in such a way as to collect, process and access that data. In the Unmer Virtual Exhibition, the database is used to accommodate user data, both service providers and visitors. The system used is a database from the Google cloud, namely GoogleForm and Google Spreadsheet. Database is a data processing and storage system that can be accessed by a particular programming language. This database is public because it can be accessed by web applications that can run on various platforms, such as applications developed with HTML tags and server-side programming such as PHP (Odeh, 2019).

The image shows a Google Form titled "Dahar Virtual Expo" for registration. The form is displayed on a mobile device interface. At the top, there is a header with the text "Unmer Entrepreneur Day" and a background image of a building. Below the header, the form title "Dahar Virtual Expo" is followed by a "Link to this form" button. The form contains several input fields: "Name", "Email", "Username", "Password", "Program", and "Gender". Each field has a "Next Step" button to the right. The "Gender" field has radio buttons for "Male", "Female", "Other", and "Prefer Not to Say". At the bottom, there is a "Submit" button and a "Link to this form" button. The form is set against a light pink background.

Figure 8. Googleform for registration of Unmer Virtual Exhibition participants

Rendering Visualization

Rendering is the process of creating or building an output file from computer animation.

When an animation is rendered, the program takes the various components, variables, and actions in the already animated scene and builds them into a final viewable or viewable result. The rendering result is in the form of an image, a collection of images (frames), or a collection of images that are put together into a video format.



Figure 9. Unmer Virtual Exhibition Rendering Visualization

Hosting

Hosting is the stage of uploading data on the server so that the Unmer Virtual Exhibition service can be accessed via computers or smartphones that have an internet network connection. A place to store all files and website data so that it can be accessed by many people via the internet. The website files and data can be in the form of videos, images, emails, scripts, applications, and databases (Niagahoster).

Trial and Evaluation

Testing is an execution process to find errors in the system, then make improvements. This stage is an important stage in system development because at this stage it is a stage to ensure that a system is free from errors. Testing is also carried out by paying attention to the development concept, the testing stages include: operational, performance, security.

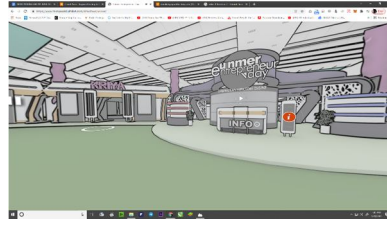


Figure 10. Testing on the desktop (computer)



Figure 11. Testing on a smartphone (android)

Online Application

To visit the Unmer Virtual Exhibition, it can be accessed via the website: <https://hexagonaldigitalart.com/virtualtour/expo/>

Conclusion

Many students in universities have become Entrepreneurial Students (business start-ups), where they have been able to gain experience in business and form the entrepreneurial spirit. However, the Covid-19 outbreak during 2020 to 2022 does not allow for product and service exhibitions, so alternatives and other strategies are needed in an effort to maintain business during the pandemic. Advances in information technology are helping efforts in realizing exhibition activities so that they can still be carried out online even in a pandemic situation, namely interactive virtual exhibitions that can showcase the products and services of entrepreneurial students.

The Unmer Virtual Exhibition application at Merdeka University Malang is carried out by the team according to their respective roles. Visual design software used in making the Unmer Virtual Exhibition application, including: CorelDRAW, Adobe Aftereffect, Grassvalley Edius, 3D Studio Max (3ds Max), SketchUp, Lumion. Meanwhile, the programming software used in making

the Unmer Virtual Exhibition application include: HTML, 3DVista Virtual Tour. Software for programming used in audio processing is Adobe Audition

On the Unmer Virtual Exhibition website, the business fields of entrepreneurial students are grouped into 4, namely: Culinary, eating/drinking (mamin), fashion, and digital. Each entrepreneurial student is facilitated in 1 (one) booth, which can display: booth displays, product information, product catalogs, and marketplace links.

Suggestion

This research can be further developed with market research and planning that is integrated with the Unmer Virtual Exhibition, so that each university has 1 (one) Unmer Virtual Exhibition website and 1 (one) integrated marketplace website.

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