Digital Learning Information System Entrepreneurship in College for Millennials in the Era of the Covid-19 Pandemic

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Abstract— **This research aims to develop an entrepreneurial learning information system in high learning by using the Learning Digital Entrepreneurship (ERDIS) model in information system design analysis courses with 4C competency formulation (Communication, Collaboration, Critical thinking, and Creativity). The application of the learning information system Learning Digital Entrepreneurship is very appropriate during the Covid-19 pandemic so that the learning process can run with student independence and the beginning of direct experience in entrepreneurship. With this research, entrepreneurial learning information systems, especially for sharing materials and tests of entrepreneurship education assessment to students to identify students who have an entrepreneurial spirit to realize the millennial generation of entrepreneur spirit in Higher Education. This research uses research and development (RnD) methods, a research method used to produce a particular product and test the effectiveness of that product and as a prototype in the website development business.**

Keywords—digital, learning, entrepreneurship, covid-19, business

I. INTRODUCTION

The development of information technology in recent years has grown rapidly. One of the fields that get a fairly meaningful impact with the development of this technology in the field of education. Education is a process of communication and information from educators to learners that contains educational information, has elements of educators as sources of information [1] [2], media as a means of presenting ideas, ideas, and educational materials, and learners themselves [3].

Universities have three important roles in entrepreneurial education, namely as facilitators of entrepreneurial culture, skills mediators, and locomotives of regional business development. In essence, the purpose of college entrepreneurship education is not only to print job seekers but also as job creators [4] [5].

It is not easy to do distance learning among students. This learning is easier for adult students. This learning should be supported by classroom design and appropriate delivery methods so that online learning can encourage students to 1) reflect on their beliefs; 2) provide a safe environment to discuss various perspectives; 3) guide them to explore, 4) validate and broaden new views; 5) support

them to develop new roles [6]. On 4 March 2020, UNESCO provided advice on using distance learning methods and opened an educational platform that can support school activities from home. Learning is a life process that is consciously or unconsciously must be passed by humans to achieve various life abilities that are often also called competence. Formally learning is done in educational institutions, but learning in a broad sense is the process of uniting a person with his own life.

Open distance learning increases the opportunity for access to education due to the availability of online materials. However, these conditions are strongly influenced by various variables such as age, access to computers and the internet, and the digital divide. Facilitating adequate access, for example, becomes one of the most basic things in supporting smooth open distance learning [7] [8].

Millennials are very attached to ICT, technology in IR 4.0 Era such as IoT, Big Data, Robotics, Artificial Intelligence, Cloud Computing [9] [10]. They are used to the internet and gadgets. But many millennials do not use these technological tools for positive things, especially businesses or businesses that produce [11]. The phenomenon of digital entrepreneurship has wide opportunities in the future and it should concern all of us. Some companies are successful thanks to the utilization of information technology such as grab, gojek, bukalapak, tokopedia, olx, and others. Many millennials have not utilized these means or they may not know how to use it so as to generate income [12]. Success and success in the digital era globally such as Google, Alibaba, Facebook, Twitter, Amazon, and others motivate and inspire many young people in the world so that startups appear every year almost all countries and that is also the case in Indonesia.

Entrepreneurship is a discipline that studies the value, ability of a person's behavior in the face of life's challenges to gain opportunities with variousrisksthat may befaced. Whereas [13] states that Entrepreneurship is the result of a discipline as well as a systematic process of applying creativity and innovation in meeting market needs and opportunities. [14] States that "The focus of attention from entrepreneurial learning is the need for a change in mindset in teaching entrepreneurship on campus, from learning full of theory and hapalan-hapalan to learning that can develop ideas of creativity and student spirit in entrepreneurship".

Entrepreneurship education and training are critical in economic development strategies [15].

The solution that can be offered as a result of the changes of the millennial generation in the era of the Covid-19 pandemic is to integrate digital era entrepreneurship learning based on the new literacy era of the industrial revolution 4.0 in the form of a project following real life. Entrepreneurship learning information system is highly studied by using the Learning Digital Entrepreneurship (ERDIS) model in the analysis of information system design with a complete formulation. tension 4C (*Communication, Collaboration, Critical thinking,* and *Creativity* at Putra Indonesia University YPTK Padang. Although this development is carried out in APSI courses, it can be applied to all courses in colleges that have practical learning programs. Learning outcomes of this learning is the sharing of entrepreneurial education materials and entrepreneurship education assessment tests to students to identify students who have an entrepreneurial spirit to realize the millennial generation of entrepreneurship spirit in Higher Education. Based on these problems it is important to develop a model of Digital Entrepreneurship Learning Information system in Universities for Millennials in the Era of the Covid-19 Pandemic.

II. METHODOLOGY

The research method used in this research is Research and Development (RnD), namely the research methods used to produce certain products, and test the effectiveness of the product. To be able to produce the specific products used in the analysis of needs. This needs analysis is followed by the development of a specific product and testing the effectiveness of the product [16].

Steps of research RnD can be seen from the illustration of Fig. 1 below:
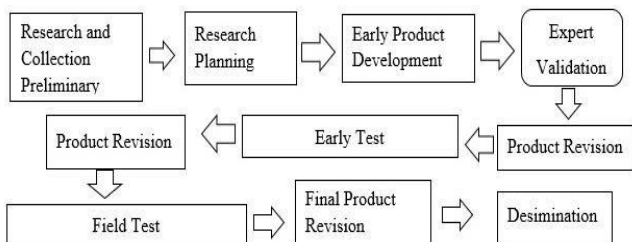

Fig.1. Steps RnD

Steps in research Research and Development (RnD) is as follows.
1. The potential and problems.
   Research can depart from the presence of potential and problems. Potential is everything when utilized will have added value. The problem is a deviation between the expected with what happened.
2. Gather information.
   After the potential and the problem can be shown in a factual and updates, then the next need to be collecting information that can be used as a material for the planning of a specific product which is expected to resolve the issue.

3. The design of the product.
   The product is designed to be able to overcome the existing problems.
4. Design validation.
   Design validation is the assessment of the draft product by competent experts in their field,
5. Design improvements.
   After product design, assessed through discussion with experts and other experts, it will be known weaknesses. The drawback is reduced to improve the design.
6. Trial of the product.
   Products tested on finite groups.
7. The revision of the product.
   Weaknesses of the product found in the sample limited further improved to obtain the product more perfect.
8. Trial usage.
   Product tested on a wider group.
9. The revision of the product.
   Repair the product if it is found weaknesses in testing on a wide scale.
10. The manufacture of mass-produced products.
   The final product that is produced is mass-produced to be used optimally.

For website development, the Prototyping Method is used because it is one of the methods the life cycle of a system based on the concept model work (working model). The goal is to develop a model into a system of finals. It means that the system will be developed more quickly than in the traditional method so that the cost becomes lower [17]. The Prototype method is a new paradigm in software development methods where this method is not just an evolution in the world of software development but also revolutionized the methods of software development are the old system of sequentially commonly known by the name of SDLC or waterfall development model. There are many ways to do prototyping, similar to its use. The characteristic of this method is the developer and the customer can see and work with the parts of a computer system from the beginning of the development process [17].
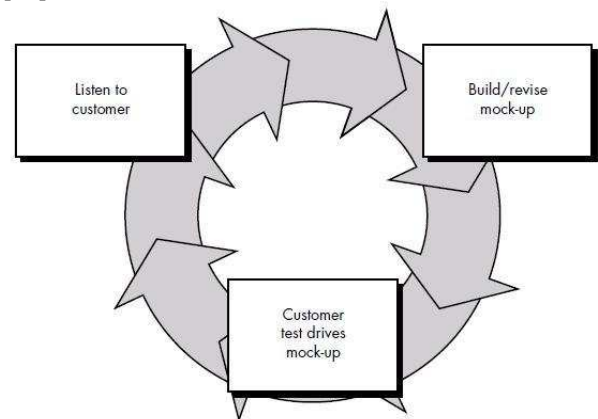

Fig. 2. The Prototype Model

The stages in the manufacture of prototyping [18]:
1. Requirements gathering

Customers and developers together define the format and the overall needs of the software, identify all needs, and an outline of the system be created.

2. Build prototyping

   Build prototyping with making the design while centered on the presentation to the customer (for example, by making the input and sample output).

3. Evaluation prototyping

   This evaluation is carried out by the customer whether prototyping has already been constructed following the wishes of the customer. If it is appropriate then the fourth step will be taken. If not, then prototyping corrected by repeating steps 1, 2, and 3.

4. Encode system

   In this stage of prototyping that has been agreed upon translated into the appropriate programming language.

5. Test system

   After the system has become ready-made software, it must be tested before use. Testing is done with White Box, Black Box, Base Path, testing, and other architecture.

6. Evaluation System

   Customers evaluate whether the system already so it was as expected. If it is, then the seventh step is done, if not then repeat steps 4 and 5.

7. Using the system

   The software has been tested and accepted the customer is ready to use it.

III. RESULTS AND DISCUSSION

A. Use Case Diagram

Use case diagram is an image in the form of a symbol that describes what activities can be done by actors such as admins or any menus that can be accessed by admins. The following is a use case diagram of the Learning Digital Entrepreneurship system that will be created. For more details, you can see in Fig. 3
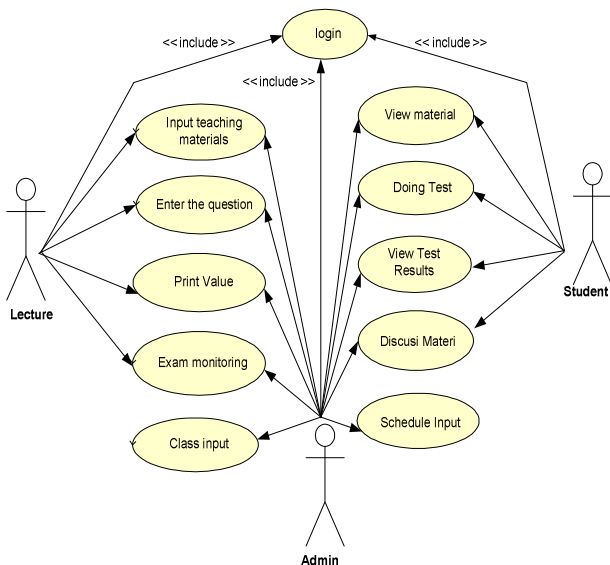

Fig. 3. Use Case Diagram

Fig. 3. Use Case Diagram show data management products
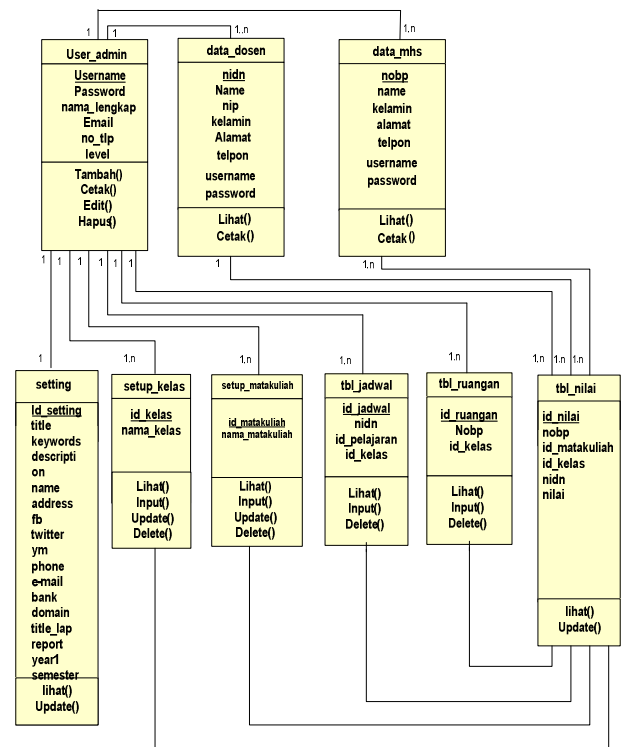
B. Class Diagram

Fig. 4. Class Diagram

C. Deployment Diagram

Deployment diagrams are used to physically show the layout of a system, showing parts of *software* running on hardware parts.
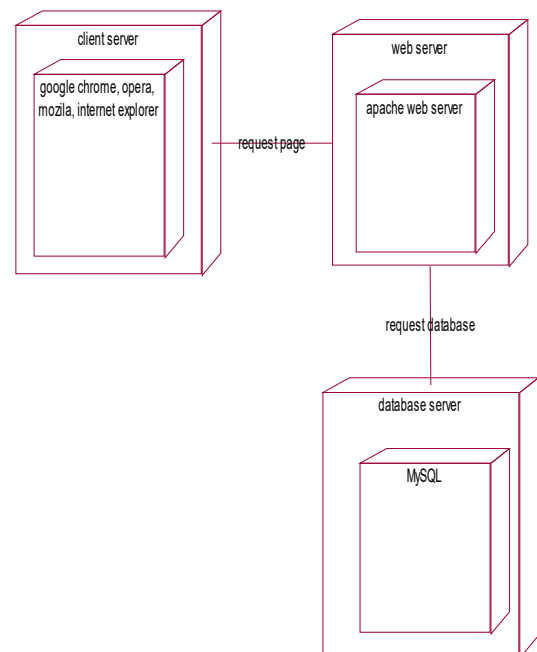
Fig. 5. Deployment Diagram

D. *Design System*

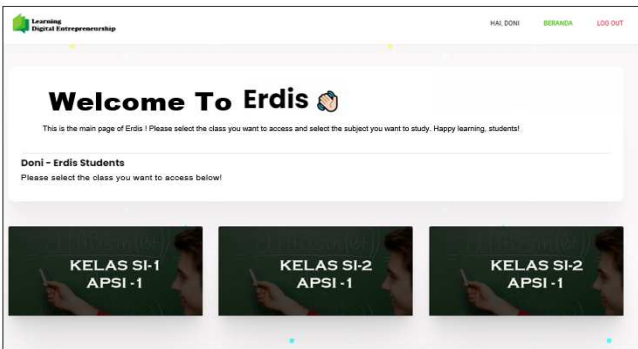
Fig. 6. Home page design

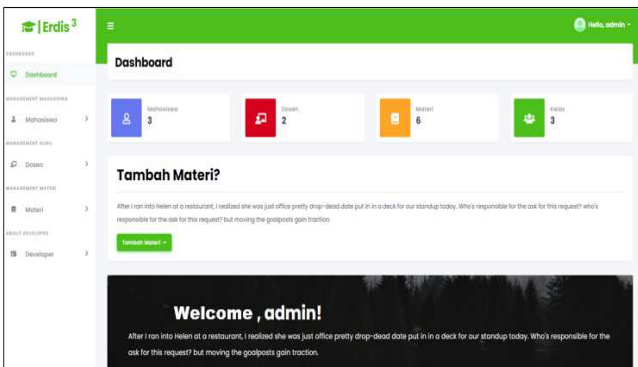Fig. 7. Student page design

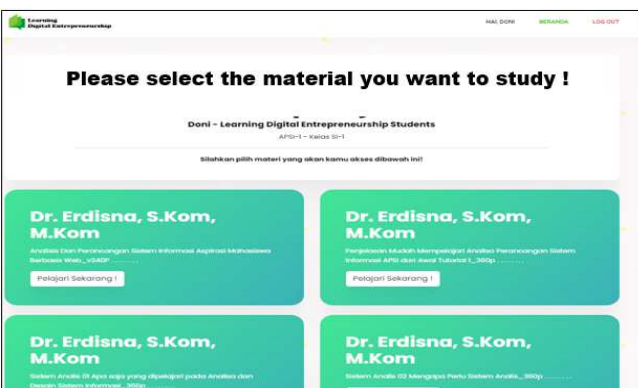
Fig. 8. Admin page design

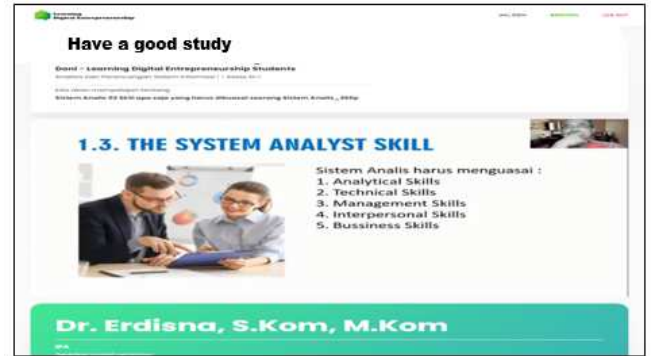Fig.9. Material access page design
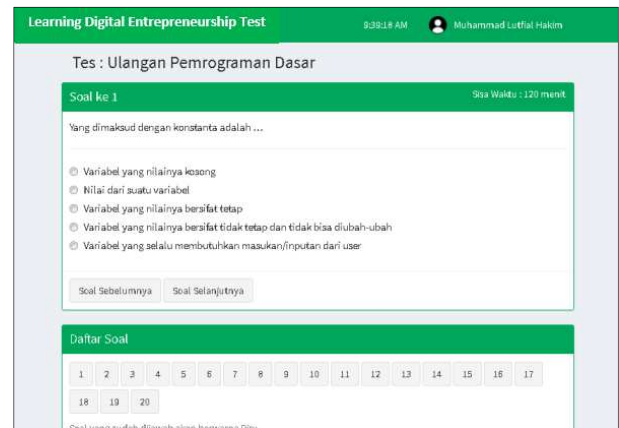

Fig. 10. Material access page design

Fig. 11. Design of assessment exam page

IV. CONCLUSION

This pandemic period presents challenges for the world of education. The academic community demands to be adaptive and creative in creating a learning atmosphere that is in accordance with the changing times and socio-economic conditions of society. Online learning is one of the alternative learning models that meet the criteria of the covid-19 protocol. Theenterprisingness of learning online learning will become more interesting and learners will be more creative if educators are also creative in teachingactivities. With the application of Learning Digital Entrepreneurship is accompanied by the entrepreneurship education assessment test feature to students to identify students who have an entrepreneurial spirit to create a millennial generation in Higher Education.

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