

Development of online directory of Islamic higher education in Java Island

Roudhotul Jannah¹, Djoko Andrijono²

¹Library of University of Merdeka Malang

²Department of Mechanical Engineering, Faculty of Engineering, University of Merdeka Malang
Jl. Terusan Raya Dieng No. 62-64 Malang, 65146, Indonesia

*Corresponding Author: E-mail: djoko.andrijono@unmer.ac.id

Abstract

Currently, we have entered the industrial era 4.0 where technology and information are developing very quickly so that a lot of data can be obtained easily by the public, but the credibility of this information cannot be accounted for because the source of information is unclear. It is known, with these problems and supported by sophisticated technology, a new search medium has emerged which is called an online directory. The contents of online directories include important information such as names of organizations, institutions, or individuals, addresses, telephone numbers, as well as credible sources. Many people, especially high school graduates, and the equivalent want to continue their education in tertiary institutions, one of which is an Islamic university. Thus the online directory of Islamic universities in Java made by this author can be used as a reference for people who wish to continue their education at Islamic universities in Java but users also need to find further information through the website link that is already listed in the directory because the information in the directory is not 100% complete.

Keywords: Directory; Islamic university; Java Island; Online

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1. Introduction

Industry 4.0 is marked by the development of the internet which is followed by new technologies in artificial intelligence, data science, cloud, robotics, three-dimensional printing equipment, and nanotechnology (Azis & Abduh, 2019; Ghufron, 2018). What underlies the emergence of the industrial revolution 4.0, namely personal computers and microprocessors and their performance is growing rapidly so that the technology on computers can be embedded into cameras and music players (Syamsua, 2018). The emergence of the industrial revolution 4.0 was so fast and unthinkable and made major changes in many aspects, from social, educational, political, and economic, etc. One example of educational innovation in the 4.0 revolution era is that education is currently utilizing information technology to improve the quality of learning.



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The era of the industrial revolution 4.0 is also known as the era of disruption which is defined as innovation, where changes occur in a massive society in the field of technology in various aspects of people's lives (Musfah, 2021; Risdianto, 2019). According to Kagerman et al. (in Prasetyo, 2018) industry 4.0 is the integration of Cyber Physical Systems (CPS) and Internet of Things and Services (IoT and IoS) into industrial processes including manufacturing and logistics and other processes. Meanwhile, according to Prasetyo (2018) Industry 4.0 is a term to refer to a set of value chain technologies and organizations in the form of smart factories, CPS, IoT and IoS, where IoS is an application that can be utilized by everyone.

The emergence of the 4.0 industrial revolution provides many benefits in people's lives, while the benefits that can be felt by the community with the presence of industry 4.0 are increased income, increased service to users, and speed flexibility. In addition, in the era of the industrial revolution 4.0, this has led to quite rapid developments in the field of technology and information, with so many search media emerging that contain information that cannot be guaranteed for the accuracy of the contents of the information, one of the online search media is the online directory. The online directory is a reference containing certain names or data that are considered important and arranged systematically.

The author chose to make an online directory product because it provides many benefits for users, and for users who wish to continue their education to the tertiary level, because the author here will create an online directory with the theme "Islamic Higher Education in Java". The author chose this theme by paying attention to data from the statistics center (Number of Schools, Teachers and High School Students under the Ministry of Education and Culture By Province, 2020/2021, 2020) the number of high school students in 2021/2022 on the island of Java is 1,612 .252 students, of the number there are still many who wish to continue their education to higher education, namely to tertiary institutions, and generally choose tertiary institutions which are located not far from where they live. In the current revolutionary era, there are many high school graduates or equivalent who want to continue on to higher education, especially universities in an Islamic environment, because the majority of the population on the island of Java are Muslim (Rozi, 2020), this is evidenced by data on the website of the Ministry of Religion, the total number of participants who registered for PTKIN 2022 was 142,716 and there were 63,717 participants passed. According to data from the Ministry of Religion of the Republic of Indonesia, there are 391 Islamic tertiary institutions on the island of Java, of which this number certainly makes 3 people confused to find suitable tertiary institutions, both based on location, status, accreditation, and tuition fees. The online directory that the author will create aims to help and provide references to users who have graduated from high school or the equivalent who wish to continue their education at Islamic higher education institutions.

The online directory of Islamic Higher Education in Java made by this author has problem limitations, while the problem limitation here is that there is no further information regarding faculties and study programs, it's just that the information provided by the author is in the form of a website link to the website or study program.

Data on the names of Islamic religious tertiary institutions taken by the author are only those that have been recorded in the Ministry of Religion data which can be accessed via the link http://diktis.kemenag.go.id/bansos/cari_nspt.php. One of the information that will be published in the online directory is information related to Higher Education rankings, where the author uses a guide through the EduRank website (<https://edurank.org>), where EduRank.org is an independent metric-based ranking website of 14,131 universities from 183 countries for 246 topics. In addition to using the EduRank

website, the author also uses the Webometrics website, where Webometrics is a ranking system in the world using composite indicators, which takes into account the volume of 4 websites' content, as well as the visibility and impact of website publications according to external links that have been received.

2. Method, Data, and Analysis

This section typically has the following sub-sections: sampling (a description of the target population, the research context, and units of analysis; the sample; and respondents' profiles); data collection; and measures (or alternatively, measurements). The research method uses qualitative methods, which according to James Mc. Millan and Sally Schumacer (Nilamsari, 2014) stated that there were 4 sources of data collection or one of the other methods used by the author, namely document study. According to Bungin (2007), the documentary method is one of the data collection methods used in social research methodology to trace historical data.

Making an online directory of Islamic Higher Education in Java requires some information or data which will later be included in the directory. The information needed in making this directory is related to the status of tertiary institutions, accreditation of tertiary institutions, faculties, study programs, addresses, campus facilities, tuition fees and the number of faculties and study programs owned by tertiary institutions. To find this information the author uses the Ministry of Religion's DIKTIS website (http://diktis.kemenag.go.id/bansos/cari_nspt.php) to search for Islamic religious colleges in Java Island, and then to find information from each of the colleges the author uses the College's website and social media.

After the data has been collected the writer will group the data, while the grouping system used by the author in making the Online Directory of Islamic Higher Education in Java is based on: (1) Status of Tertiary Education, later in this section will contain menu options for State Universities (PTN) and Private Higher Education menus, where each menu will display the names of Higher Education which include PTN or PTS. (2) Higher Education Accreditation, later in this section contains several menus containing Higher Education accreditations, namely the accreditation menus A, B, C, and Not Detected, and each of these menus contains the names of Higher Education which have been grouped according to Higher Education accreditation. (3) Location of Higher Education, where in this section the author will divide by province and then will be narrowed down by district or city.

3. Results

Preparatory Stages

At the preparatory stage, the author describes the preparations that have been made to create an Online Directory product for Islamic Higher Education in Java. The first preparation that the author needs to prepare is preparing tools and materials, while the tools and materials prepared are: (1) Laptops, are the main media for making online product directories, tools for creating websites, search tools and managing data and information, so that users can easily capture the contents of the website, in the preparation stage the author checks whether the laptop used by the author can be used and supports in online directory creation. (2) Xampp, is the main application in making online directories, because the author creates the website manually so the author needs Xampp so that the author can access the database on Localhost. At this preparation stage the author

checks and ensures that the author's xampp can be connected to localhost. (3) The web browser application has a role as media where authors can access and collect data and information needed in making online directories from official websites and social media. In addition, this application also connects writers with Wordpress as a medium for making online directories. The web browser used by the author is Google Chrome, so the author needs to check and ensure that the Google Chrome application that the author has is still functioning properly. (4) Internet access is an element to make it easier to obtain information and data needed for making online directories, besides that in making online directories the author uses Wordpress which is accessed via the internet. The author uses internet access in the form of wifi.

Core Stages

Data collection

The online directory with the theme of Islamic Religious Colleges in Java Island is an information medium or source of reference for users who intend to continue their education to the Higher Education level, especially to Islamic Religious Colleges. To determine what information is needed by users in considering Higher Education, the authors conducted a search through several journals. According to Yuniati (2017) and Primadini & Bangun (2019) the factors that influence users in determining the decision to choose a university, namely 4P: (a) Products are goods or services that are sold to users and can satisfy the needs or desires of users. Products in this case are focused on services offered by universities to users, while these services can include curriculum, accreditation and the image of universities. (b) Price, is a value to exchange the product or service that has been offered. Price greatly affects the success of a company or agency in determining the size of the profit that will be obtained by the company. Factors included in the price that can influence users to decide on tertiary institutions are the costs of education during lectures. (c) Place, is a place that will be used as a place of business. Place is a combination of location and distribution decisions, where later universities can convey that their location is quite strategic to consumers. Factors that influence users in choosing tertiary institutions in the aspect of place are the location and facilities of the tertiary institution. (d) Promotions, is an activity that communicates the activities and benefits that will be obtained by users when buying or using the services of a company through advertising, sales promotions, etc. Factors that influence users to choose Tertiary Education in the promotion aspect are the job prospects++. According to Yuniati (2017) there are several reasons for users in determining a tertiary institution, namely the quality of the institution, the education offered, job opportunities, the opportunity to attend training, the image of the tertiary institution, quality of the faculties, educational standards, tertiary facilities and emphasis curriculum. Almost the same as Lin's opinion which was explained earlier, according to Sander the main factors that influence users in choosing a tertiary institution are job opportunities, courses, tuition fees, faculty reputation, academic programs, location and tertiary accreditation.

The initial stage of creating an online directory is to look for the names of Islamic Higher Education Institutions using the Ministry of Religion's Directorate of Islamic Higher Education website (http://diktis.kemenag.go.id/bansos/cari_nspt.php), the website contains the names of tertiary institutions, both public and private, as well as the area code of each university, so the author needs to look for the name of the city or district through the area code, after getting the names of the cities/regencies on the island. Java, then the author's further group the Higher Education based on the region.

The second stage determines the names of the Higher Education Institutions that are included in the online directory creation. The data that must be searched by the author is

the website of each tertiary institution. After obtaining the website of each university, the author searches for further information, while the information needed in making this directory is the name of the college, the logo of the college, the faculties and study programs owned by the college, the college's social media, the college's address. which is displayed using Maps, college galleries and finally, general information about universities including university status, university accreditation, university rankings, facilities, tuition fees, registration information, and collaborations carried out by universities. The data collected by the author is data or information needed by users to make judgments in choosing tertiary institutions, both in terms of campus accreditation, tuition fees, distance to campuses, and study programs that are of interest to users. So that users can imagine how the college looks like the author also adds some pictures of the college.

Making an online directory does not only reach the information search stage, the author also performs data and information processing so that the information displayed by the online directory is neatly arranged, easy to use by users and designed as attractive as possible so that users are more enthusiastic about using the online directory that is designed by the author.

Layouts product

The author makes a product layout that is used as an overview of the layout of online directory websites. The website layout designed is as Table 1.

Table 1.

Product Layout

Home page	Region	Status	Accreditation
Website logos			
College Recommendations			(Widgets)
The Best Universities in West Java	The Best Universities in Central Java	The Best Universities in East Java	- Tips & Tricks - Videos - Category
Menu		Date	

Table 1 is an overview of the layout of the main page on the website that will be created, where the menus on the website are: (a) Homepage: contains an overview of online directories, a brief explanation of Universities and the background of making online directors. (b) Region: the regional menu contains the names of Higher Education which have been classified according to their region. This menu has a province sub-menu, which is then simplified again into a City/Regency sub-menu and then arranged alphabetically. (c) Status: this status menu contains the status of Higher Education, namely public universities (PTN) and private universities (PTS), so that in this menu there will be PTN and PTS sub menus. (d) Accreditation: the accreditation menu will be simplified to several sub-menus, namely the accreditation sub-menus A, B, C, Good, Very Good, and Not Detected. In each menu, the names of higher education institutions will be listed in alphabetical order.

Xampp installation

Xampp is an application that can be used to create a local web server that can be used to create websites. The way to download and install Xampp is by visiting the Apache Friends website (<https://www.apachefriends.org/>)

Installing and Creating a Wordpress Account

WordPress is software that is used to create websites for free, as for how to download until the account creation process is as follows: (1) Download the Wordpress Software in the Wordpress application which can be accessed via the link <https://en.Wordpress.org/download/>, after the download process is successful, save the WordPress file in Folder C. (2) The next step is to activate Apache and mySql on Xampp to create a database on localhost. (3) To create a new database type link http://localhost:8080/phpmyadmin/server_databases.php?server=1. (4) After finishing creating the database, the next step is to create a WordPress account on the WordPress Website.

Online Directory Creation

Creating an online directory begins with choosing a theme to use on the website, using the theme according to the needs of the website, so that the information contained on the website can be conveyed clearly by users. The next step is that the author arranges menus and sub menus according to a predetermined classification, with the aim of making it easier to use online directories.

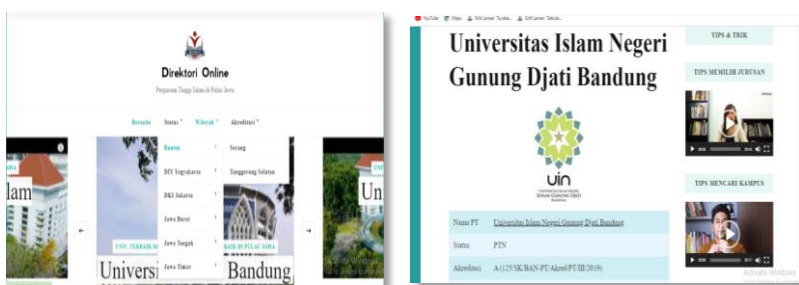


Figure 1. Menu Layout

Figure 2. University Name, Logo, Status and Accreditation of Higher Education

The directory arrangement starts from college name, college logo, faculties and study programs owned by universities, college social media, college address displayed using maps, college gallery, general information on tertiary institutions includes the status of tertiary institutions, accreditation of tertiary institutions, rankings of tertiary institutions, facilities, tuition fees, registration information, and cooperation carried out by tertiary institutions.



Figure 3. Higher Education Faculties and Study Programs

Figure 4. Social Media, Maps and College Galleries

Figure 5. General Information of Higher Education

4. Conclusion

The era of society 5.0 is an era where technology and information are developing very rapidly, therefore a lot of information appears and the validity of this information is not known, therefore the emergence of online directories where the validity of the information contained in directories can be tested. The existence of this online directory is expected to meet the information needs of users.

The purpose of creating an Online Directory of Islamic Higher Education in Java is to meet the needs of users, especially high school students or the equivalent who wish to continue to the next level, especially Islamic Higher Education in Java. Online directories created by the author can be useful as a source of reference by users, besides that online directories can be used as promotional media for Islamic tertiary institutions, because there are still many Islamic tertiary institutions that are not yet known by the public.

The author as an information provider has managed and designed simple and attractive data and information so that users can easily digest the information on the website. The information contained in the website is attempted by the author so that all information is important information needed by users. The arrangement of the information included by the author has been arranged alphabetically, making it easier for users to find the information they need.

The author realizes that the process of creating an online directory for Islamic tertiary institutions in Java is far from perfect, there are still many things that need to be improved. For the long term, the product online Directory of Islamic Higher Education in Java Island needs improvement, such as adding information, because there is still some information that has not been included in the online directory. In addition to this, the information in the directory needs to be upgraded because each university changes every year, such as the section on tuition fees and registration information. Users are advised to carry out further searches related to information available on the website of each university where the link to the university website has been determined by the author.

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