E-LOCATION INDICATOR BASED ON INTRANET AS A SUPPORT OF LEARNING FLIGHT PLAN AT AVIATION POLYTECHNIC OF SURABAYA

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Abstract
Location Indicator which is useful for knowing the name of the aerodrome and the location of the aerodrome.Website E-Location indicator based on Intranet using internal network. This research uses research and development methods. The development model in this study is 4-D from Thiagarajan with 4 stages, namely define, design, develop, disseminate. The population used was 2 material experts and 1 media expert and 23 cadets D-3 Aeronautical Communication batch 6 at Aviation Polytechnic of Surabaya. This research has been validated by material experts and media experts and has been declared fit for use. The results of this study show that 92.3% of respondents strongly agree with the E-Location indicator website and the remaining 7.7% did not carry out further research.

Keywords: Aeronautical Communications, , four-D (4-D), Learning, Flight Plan.

INTRODUCTION

Flight plan is one of the lessons that discusses Location Indicator which is useful for knowing the names and locations of fixed flight stations. When carrying out cadet practices, it is often confused to identify Location Indicators that are still unfamiliar and when searching in a browser using the Location Indicator code, the search results do not explain the desired airport.

An intranet is a LAN that uses communication standards and all Internet facilities, like the internet in a local environment [1] [2] [3]. Localhost is a server that can run computers without requiring an internet connection [4]. Considering that using web hosting has an active period and is based on a rental basis, the author uses localhost so that it can be used offline and without any time limits on using the web. In accordance with the Flight Plan Semester Learning Plan (RPS) which learns about Location Indicators, the author created a Website that makes it easier for cadets to understand Location Indicators. The Surabaya Aviation Polytechnic has provided material on Location Indicators but it is still in the form of a PDF on Doc 7910 and AIP Indonesia.

Electronics is the science and technology of the passage of electrically charged particles in a gas or a vacuum or a semiconductor. [5]. Electronics is the science that studies the properties and use of devices whose working principle is the flow of electrons in a vacuum or gas and the flow of electrons in a semiconductor. [6].

Airport or commonly referred to as an airport is a certain area on land or water (including buildings, installations and equipment) which is intended either in whole or in part for the arrival, departure and movement of aircraft. [7] [8] [9]. Location Indicator is a four-letter code group formulated in accordance with the rules determined by ICAO and designated as the location of an aeronautical fixed station. [7]. Location Indicators are found in document AIP and document 7910. Aeronautical Information Publication (AIP) is a published document under the authority of the government which contains actual information required by flight navigation. AIP publication aims to provide adequate, accurate, up-to-date and timely information for regularity and efficiency in the world of aviation [10]. Location Indicators are found in document AIP and document 7910. Aeronautical Information Publication (AIP) is a published document under the authority of the government which contains actual information required by flight navigation. AIP publication aims to provide adequate, accurate, up-to-date and timely information for regularity and efficiency in the world of aviation [11].

Based on the explanation above, it can be concluded that the E-Location Indicator is a science and technology that studies the flow of electrons which discusses airport codes based on predetermined documents. [12] [13] The

difference between the E-Location Indicator and the manual Location Indicator is the effectiveness in its use. The learning that has been carried out so far is presented in documents that require searching manually. Technology is needed to support Flight Plan learning. This website is designed to support flight plan learning, the way to use it is expected to make it easier to search and understand location indicators.

Website is an internet facility that connects local and remote documents. Documents on the Website are called webpages and links on the Website can be used by users to move from one page to another [14]. A database or database is a collection of information that is stored in a computer systematically so that it can be checked using a computer program to obtain information. [15] The database is a collection of operational data that is deliberately stored and also used by the application systems of an organization. There are 3 types of data stored in the database, namely Input data (Data entering from outside the system), Output (Data generated from the system) and Operational (Data stored on the system). [16].

This research only discusses airports in Indonesia, the E-Location indicator website only displays the airport name, airport location, ICAO code, IATA code and because the E-Location Indicator website is based on Intranet, the website can only be used within the Surabaya Aviation Polytechnic with using the Surabaya Aviation Polytechnic network. This study explains how to design a website and cadets understanding of the E-Location Indicator website. To fulfill the objectives of this study, the following questions were asked:

1. How to design E-Location Indicator based on Intranet as a support learning flight plan at Aviation Polytechnic of Surabaya ?

METHODS

Research and Development (R&D)

Research and Development (R&D) are steps in the context of developing a new product or perfecting an existing product so that it can be accounted for.. [17] [18]The purpose of development research methods is to produce new product designs, test the effectiveness of these products, it is necessary to conduct research to test the effectiveness of these products. This development research is guided by the research design for the development of instructional teaching materials by Thiagarajan. The research and development steps are described in 4-D, namely define, design, development, and dissemination.

The steps taken at each step are as follows:

1. Define

- Front-end Analysis

- Learner Analysis

- Concept Analysis

- Task Analysis

- Specifying Instructional Objectives

2. Design

Designed the E-Location Indicator Website Prototype to be developed.

3. Develop

- Validation

- Revision

- Product Trial

- Product Revision

4. Disseminate

Dissemination of product results Website E-Location Indicator

Website Design

Website Design includes a display concept that includes product work process designs. The E-Location Indicator website has a display design that contains information on airports throughout Indonesia. The E-Location Indicator includes information on ICAO Code, IATA Code, Airport Name and Airport Location. The website design is in the form of a digital map that has a symbol for each airport.

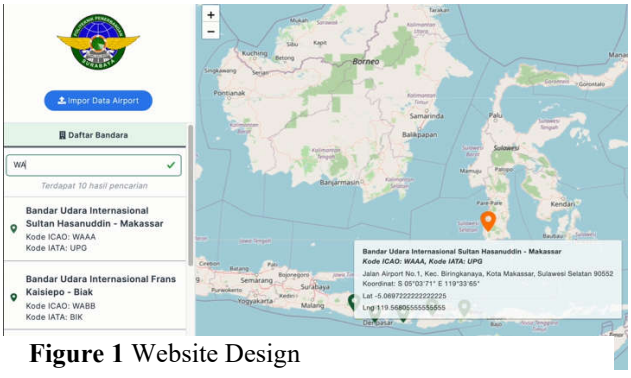

Figure 1 Website Design

Figure 1 describes the design of the E-Location Indicator website in the form of a digital map of the entire territory of Indonesia and there are points at every active airport in Indonesia, and there is a search column on the left which will make it easier to search for location indicators. The airport point that is clicked will appear a

pop-up which will explain the airport name, location, ICAO code, IATA code.

Participants

This study used a population with three expert validations consisting of two flight plan material expert validations and one media expert and product trials were conducted with 23 cadets D3 Aeronautical Communication batch 6.

Data Collection Technique

Data collected by the author using quantitative methods. Quantitative data collection techniques are methods used to collect quantitative data from various relevant sources. The data obtained in this study were from filling out expert validation questionnaires and trials using questionnaires to find out the response of cadets. [19] Questionnaire is a research data collection method using a list of questions that must be answered by respondents. [20] The procedure for preparing a questionnaire is as follows: [21]

a. Formulate the objectives to be achieved in the questionnaire.

b. Identify the variables that will be used as the target of the questionnaire.

c. Breaking down each variable into more specific and single sub-variables.

d. Determine the type of data to be collected, as well as to determine the analysis technique.

Data Analysis Technique

Data analysis techniques in writing and developing this writer use the quantitative method by distributing questionnaires using a Likert scale containing questions from the data then used as guidelines for revising, then analyzed to determine the feasibility of the Website.

RESULTS AND DISCUSSION

Penelitian dan pengembangan ini dilakukan dengan menggunakan metode 4-D dari Thiagarajan yang melalui 4 tahapan yaitu :

1. Define

- Front-end Analysis : Observation
- Learner Analysis : Uninteresting Learning
- Concept Analysis : Digital Maps
- Specifying Instructional Objectives : Facilitate the learning process

2. Design

The stage that changes from the previous learning method that used Doc.7910 manually to an innovative design of a product that can be used easily.

3. Develop

a. Develop of Website

Figure 2 Submenu Display

Figure 2 Displays the submenu display on the left of the screen, the submenu contains the meaning of location indicators, manual books, and a list of location indicators.

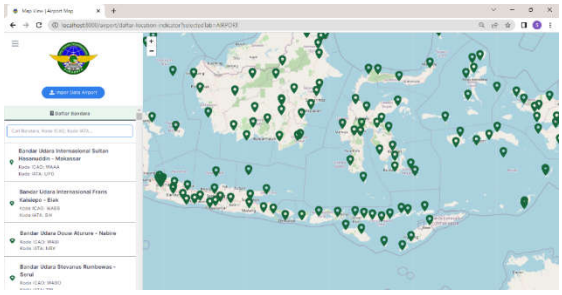

Figure 3 Location Indicator Display

Figure 3 Displays a digital map that displays airport data throughout Indonesia along with ICAO codes, IATA codes, airport names and airport locations.

b. Expert Validation

Products that have been designed can be validated and revised by material validators and media validators.

c. Respondent

The test results on 23 cadets D3 Aeronautical Communications batch 6 got a total of 92.3% with the criteria of strongly agreeing and the website is suitable for use and the remaining 7.7% did not carry out further research.

4. Disseminate

Provide the entire database of the E-Location Indicator website to the Aeronautical Communication Study Program.

CONCLUSION

The E-Location Indicator website can be used as a support for learning, especially in learning Flight Plan courses to become a form of technological progress in the world of education. The E-Location Indicator website is expected to be able to help support the teaching and learning process, especially in the Flight Plan course at the Surabaya Aviation Polytechnic. It is hoped that cadets will understand more about Location Indicators in Indonesian territory through the E-Location Indicator Website. Location Indicator data still needs to be supplemented by the latest airport data to improve the appearance and usability of the Website E-Location indicator.

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