MEDIA EDUCATION WITH KNUTH MORRIS PRATT ALGORITHM ABOUT FOOTBALL

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ABSTRACT

Media education is a media for teaching and learning. By the learning media will help someone to learn. But a way for someone to learn is different. How to learn someone may be reading, listening and viewing. Instructional media that already exists at the moment is very used, but it has its drawbacks. In any media that there is only one way to learn, whether it's reading, listening and viewing. Discrepancies media with the way someone makes a person feel tired during the study. It takes a medium of learning a unity of three ways people learn and in order to reduce the level of saturation of one learns.

Increasingly technology is growing, growing also learning media. With the advancement of technology, creating a learning media is an integral part of learning how a person can be realized. A program that can be run on a computer into a media solution for interactive learning. Users only need to enter the question, the program will give you an answer in the form of text, video and sound.

In need of learning media like this to help someone to learn and reduce the level of saturation in a person. This instructional media will be in accordance with the way a person learns, whether it means learning to read, listen and see.
Keywords: Learning Media, Programming, KMP algorithms.

1. INTRODUCTION

1.1 *Background*

Media education in general, is a tool for teaching and learning. Learning medium serves to facilitate a way for someone to learn, by the learning media is expected to ease one's learning. Media has a lot of learning that has been there to help someone in learning, whether it be visual, listening and reading. From a survey done by the use of questionnaires, sixteen of twenty people still complain or are still not satisfied with the existing instructional media. From the results of the questionnaire, the preferred medium of learning is a system that provides information to the interaction with the system is the interaction of a person upon learning reduces the saturation level at the time of learning.

Problem complained against existing learning media system is the level of saturation. Instructional media that is expected is an interactive learning media in order to reduce the level of saturation of a person at the time of learning. With the media interactive learning more interesting is expected to increase a person's interest in learning.

Interactive learning media is growing and in need at this time, with the interactive media that can enhance learning, because at the time of learning, interactive learning media can reduce the saturation of users learning media.

This technology if not developed will be very unfortunate, because for the foreseeable future, instructional media technology will be very useful for the users. Therefore, in this thesis, the theme of which will be taken, namely about the media, but the title that will be taken about the instructional media would not be too broad, and therefore will take the title "Media Learning Knuth-Morris-Pratt algorithm About Regulation Football ". Taking the title of in because football rules, football is a popular sport and really enjoy doing by many people, but there are still many people who are less or not knowing about the rules of football should be.

1.2 *Identification Problem*

Based on the description that has been described in the background, then the formulation of the problem is how to build a media program for users of interactive learning and interesting certainly reduce the level of saturation.Based on the description that has been described in the background, then the formulation of the problem is how to build a media program for users of interactive learning and interesting certainly reduce the level of saturation.

1.3 *Aim and Objectives*

The intent of this development is, to build media-based learning Natural Language Processing to interact with users and penggunapun will feel saturated in using instructional media in the wake, in the media because of this learning as much as possible can communicate directly with the users.
The objective of the development program is the instructional media, can make it easier for users to learn and improve learning for the better. The extent to which the accuracy Encryption KMP (Knuth Morris Pratt) in the search string.

1.4 Limitations

Given the problems studied very wide, so that the presentation more focused and achieve specified goals, we need a restriction of the scope of the problem or the study include the following:

a. Questions can only be done in Indonesian.

b. The topic of conversation is limited only about football rules.

c. Learning media are given the ability to answer questions about the rules of football, so knowledge about the rules Learning Media will be provided by the programmer.

2. THEORY AND ANALYSIS

2.1 *Artificial Intelligence (AI)*

Artificial Intelligence (AI) or Artificial Intelligence is a system or process that is able to think like a man, act like humans do, to think rationally, and act rationally.
Artificial Intelligence (AI) / Artificial Intelligence is used to address problems that can not be predicted and are not algorithmic or procedural. research of Artificial Intelligence (AI) / Artificial Intelligence is how to make a machine can think as well as humans who can think.

2.2 *Natural Language Processing*

Natural Language Processing usually called the Natural Language Processing Artificial Intelligence is a field that deals with an understanding of language (natural) human (English, German, Indonesia and others). Natural language or the so-called natural language is a language that is spoken, written, required by human beings to communicate with the public. So the natural language / natural language is a language understood by humans. Natural language in principle is a representation form of a message to be communicated between humans. Representation may include speech / voice (spoken language), but can also be expressed in the form of writing.

In natural language processing / Natural Language Processing consists of the main parts, namely: parser, knowledge representation systems and processing output.
a. Parser.
Is a system to take input sentence, and break it down word by word as well as to determine what kind of word that can follow the word.
b. Knowledge Representation System.
Is a system that analyzes the output parser to determine its meaning.
c. Output Translator.
Is a translation that represents knowledge system and perform the steps in the form of answers to natural language. Output translator is a special output that corresponds to other computer programs.

2.3 *Knuth-Morris-Pratt Algorithm*

Knuth-Morris-Pratt algorithm is a string searching algorithm, developed separately by Donald E. Knuth in 1967 and James H. Morris along Vaughan R. Pratt in 1966, but both publish simultaneously in 1977.Jika we see Brute Force algorithm deeper, we know that by recalling some of the comparisons are done before we can increase the size of the shift is done. This will save the comparison, which will further increase the speed of the search.

Shifting the calculation algorithm is as follows, when a mismatch occurs when the pattern parallel to the text [i..i + n - 1], we can assume the first mismatch occurs between text [i + j] and the pattern [j], with 0 <j <n.berarti, text [i..i + j - 1] = pattern [0..j - 1] and a = text [i + j] is not equal to b = pattern [j] .When we shift, very reasonable when there is a prefix udari pattern will be the same with most udari suffix portion of the text. So that we can shift the pattern so utersebut parallel prefix and the suffix of u.dengan other words, matching string will be run efficiently bial we have a table that determines how long we ought to shift if a mismatch is detected in ke- jdari character pattern. The table must contain the next [j] which is the position of the character pattern [j].

after shifted, so that we can shift the pattern of j -next [j] relative to the text. Systematically, the steps undertaken algorithm Knuth-Morris-Pratt during the match string: [7]

1. Knuth-Morris-Pratt algorithm halted match the pattern at the beginning of the text.

2. From left to right, these algorithms will match the character-by-character in the corresponding text, until one of the following conditions are met:

a) The characters in the pattern and in the text are compared do not match (mismatch).
b) All the characters in pattern matching. Then the algorithm will notify discoveries in this position.
c) The algorithm then shift pattern based on the table next, then repeat steps 2 through pattern at the end of the text.

2.3.1 *Preprocessing Analiysis*

Broadly speaking, the program consists of the tokenize and similarity search algorithm says Knuth Morris Pratt.

1. tokenizer: The process of dividing a sentence into a few words, such as "What is the referee?", Tokenizer will break it down into "what", "it", "referee". Tokenizer will cast of characters and spaces.
2. The process of word similarity search algorithm Knuth Morris Pratt. As in chapter 2 that has been described on the algorithm Knuth Morris Pratt that this algorithm do the matching string from left to right. If the characters are matched not fit or miss match, the algorithm will shift to the next word.

2.4 *Algorithm Analiysis*

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1. Knuth-Morris-Pratt algorithm halted match the pattern at the beginning of the text.
2. From left to right, these algorithms will match the character-by-character in the corresponding text, until one of the following conditions are met:
a. Character in the pattern and in the text are compared do not match (mismatch).
b. All the characters in pattern matching. Then the algorithm will notify discoveries in this position.
3. The algorithm then shift pattern based on the table next, then repeat steps 2 through pattern at the end of the text.

3. IMPLEMENTATION

3.1 *Hardware Implementation*

Hardware implementation describes the hardware that is used to implement a system that has been created. Implementation of the hardware used in this system can be seen in table 2.9.

Table 3.1 Hardware Implementation

No	*Hardware*	*Specification*
1	*Processor*	*Dual Core*
2	*Screen*	*14 Inch*
2	*Memory*	*RAM 1 GB DDR3*
3	*Keyboard*	*Standar*
4	*Mouse*	*Standar*

3.2 *Software Implementation*

Software implementation describes the software used to implement a system that has been created. Implementation of the software used in this system can be seen in table 2.10.

Table 3.2 Software Implementation

No	*Software*	*Specification*
1	*Operating System*	*Windows 7 Profesional (64-bit)*
2	*Programming Language*	*Python*
3	*Modeling*	*UML (Unified Modeling Language)*

4.TESTING

Application testing plan introduction the Malay Arabic letters using black box testing. Black box testing is a fundamental aspect of system testing regardless of the structure of the internal logic of the software. This method is used to determine whether the software is functioning correctly. Black box testing is a method of designing a test data based on specification of software is created.

Table 4.1 Application Testing Plan

No	Komponen Uji Coba	Butir Pengajuan	Jenis Ujian
1	Press Button Fungsionality	Starting input process	BlackBox
2	Show a link Fungsionality	Show a link for informasion	BlackBox
3	Choice information by link Fungsionality.	Pemprosesan pemilihan informasi pada link.	BlackBox
4	show the video Fungsionality.	Show the video after user click a link	BlackBox
5	Play button Fungsionality	Process button play in video.	BlackBox
6	Pause button Fungsionality	Process button pause in video.	BlackBox
7	Stop Button Fungsionality	Provess button stop in video.	BlackBox
8	Show the information Fungsionality	Show information text after user click link.	BlackBox
9	Exit button Fungsionality	Process button exit	BlackBox

Based on the test results it can be concluded that all functional in character recognition applications arab melayu can work well and produce the expected output. Testing is done by providing input in the form of a string underneath that has been provided and the system will provide information in accordance with the input.

5. CONCLUSIONS AND SUGGESTIONS

5.1 *Conclusions*

This learning media can help a person to learn and how to make one's attractiveness for learning increases, because of the way a person learns differently. Someone learning in a visual way, listening and reading. This instructional media in three ways a person learns been available either visually, listening and reading. Knuth Morris Pratt algorithm has the accuracy that is good for the search string, and the results were in line with expectations.

5.2 *Suggestions*

This instructional media still needs pengenbangan better, for the future could be made mobile which can be used in a variety of smartphones. And in need GUI (Graphic User Interface) better.

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