



Artikel

Expert System Selection Topics Thesis Title With Forward Chaining Method Web-Based

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A B S T R A K

Expert Systems are computer-based applications that are used to solve problems as the expert thinks. Many college students majoring in Information Technology are difficult to get the thesis title topic even though it has been reading many journals and looking for some references. Therefore to make it easier college students, then the author wants to create an application where college students majoring in Information Technology can more easily get the thesis title topic so the work of thesis becomes more fluent and not obstructed. This app is web based. In system design, the author used several methods in his research that is method of Analyze, Design, and Implementation. Methods in the design of this expert system even this also used forward chaining method as tracking ahead and best first search method. And also using data collection method mean literature study and questionnaire from system that has been created. The result of Expert System of Thesis Title Topic Selection with Forward Chaining method web based expected to be useful and helpfully college students in getting the thesis title topic. Based on questionnaire that has been shared and filled, it can be said that the Expert System of Thesis Title Topic Selection with Forward Chaining Method Web Based is helpful and beneficial for the college students because it helps college student Information Technology in getting Thesis Title.

INTRODUCTION

The development of technology today has a very big influence for the world of information technology, especially for students and workers even early childhood has been affected by advances in technology. Those who make the most of information technology today are referred to as modern society. The emergence of a variety of applications that provide options in improving the performance of a job, both desktop-based,

web-based, until now the emergence of new applications that run in mobile phones / mobile phones.

Many students majoring in Informatics Engineering are difficult in getting the topic for thesis title even though it has been reading many journals and looking for some references. Therefore to simplify student / i, hence writer want to make an application where student / i majors of Informatics

Engineering can more easily get topic for title of thesis so that workmanship of thesis become more smoothly and not hampered. For the method used in the manufacture of this expert system application, the use of

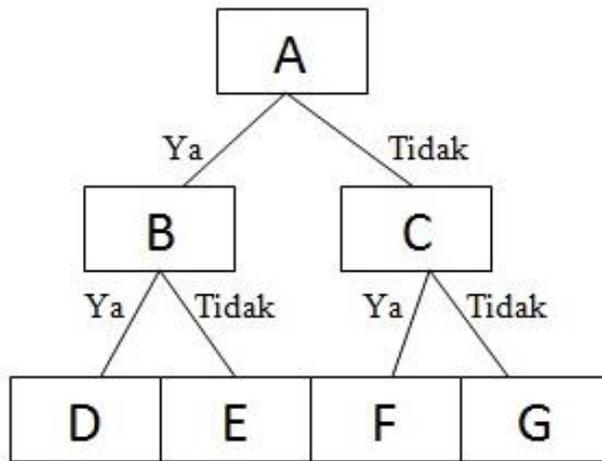
forward chaining method, because this method performs processing that begins from a set of data until the optimal conclusion is found.

I. METHODS

Best First Search Algorithm Design

In research for this writing, the use of Best First Search (BFS) technique algorithm. The

illustration in the picture below will describe the steps performed by the search technique Algoritma Best First Search.



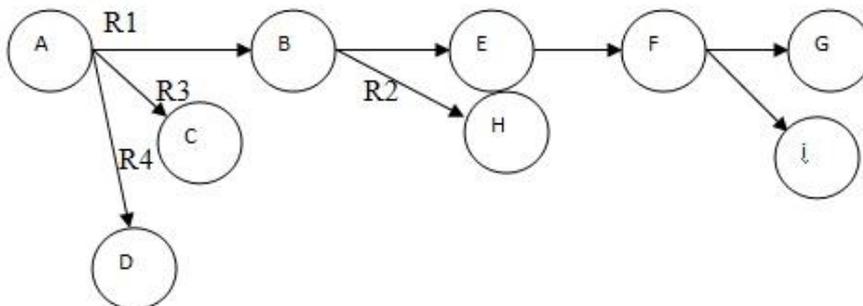
Pic 1. Search Techniques : Algoritma Best First Search

Starting from node A which is a preliminary opening question in the expert system to determine the next step but depending on the answer to be selected between "Yes" and "No" which will determine where the next node goes, answer each question until the conclusion is found as in the node illustration D, E, F, G which is the result of the conclusion of each question or even another node as according to the rule base of the topic selection table of thesis title.

This first search (BFS) search technique has the advantage of making a quick decision-making process because it stops when a decision is made.

Forward Chaining Method

In this research also used the method of Forward Chaining tracking. The following illustration will describe the steps that must be performed with the Forward Chaining tracking method.



Pic 2. Technique Tracking: Forward Chaining Method

The initial given only A, then start answering each answer question if the answer Yes then see in accordance with the knowledge base table, if appropriate it will start to R1 which means the first rule to node B, if the answer No it will go to node C which means third rule (R3). From node B if answer Yes will go to node E, but if answer No then it will go to node H which means second rule (R2). If from node E answer Yes it will go to node F where after choosing answer between Yes and No from question F will get conclusion result of answer from every question which result of

answer is node G or I, but if after node A answer No it will entering the node C, as well as the node C if it answered No will go to node D which is the fourth rule (R4).

Tracking Techniques Forward Chaining method has the advantage if an application produces a tree width and not deep, it is better to use Forward Chaining method.

II. RESULTS

In this study, the authors make the procedure on the expert as follows:

P = Question T = Topic

Questions:

For questions using PXX code (XX as a sequence from the questionnaire):

P01 Creating a Website
 P02 Website for company profile
 P03 Website for sales
 P04 Website for education
 P05 Website for social media
 P06 Website for information media
 P07 Using PHP programming language
 P08 Complete data for sales websites
 P09 Complete data for educational website
 P11 Complete data for information media websites
 P12 Create a mobile app
 P13 Game app
 P14 Application for education
 P16 Apps for news
 P17 Applications for sales
 P18 Using Java programming language
 P19 Creating a Robot
 P20 Create a sound sensor
 P21 Create a mini computer tool
 P22 Creating a temperature sensor
 P23 Using PHP programming language
 P24 Using Java programming language
 P25 Already know the research method for mobile-based news app

P27 Already know the research methods for mobile-based sales applications

P28 Complete data for company profile website

P31 Have some reference titles for company profile website

P32 Complete data to create company profile website

P33 Sure still want to choose company profile website

P34 Have some reference titles for the sales website

P35 Sure still want to choose the sales website

P36 Have some references to educational website titles

P37 Sure still want to choose educational website

P38 Have some references to social media website titles

P40 Has some reference titles of mobile-based social media apps

P41 Have some references to media information website titles

P42 Sure still want to choose media information website

P43 Have some reference titles of mobile based gaming apps

P44 Know the research methods used in making game applications

P45 Sure you still want to choose a mobile based game app

P47 Knowing examples of mobile-based education apps

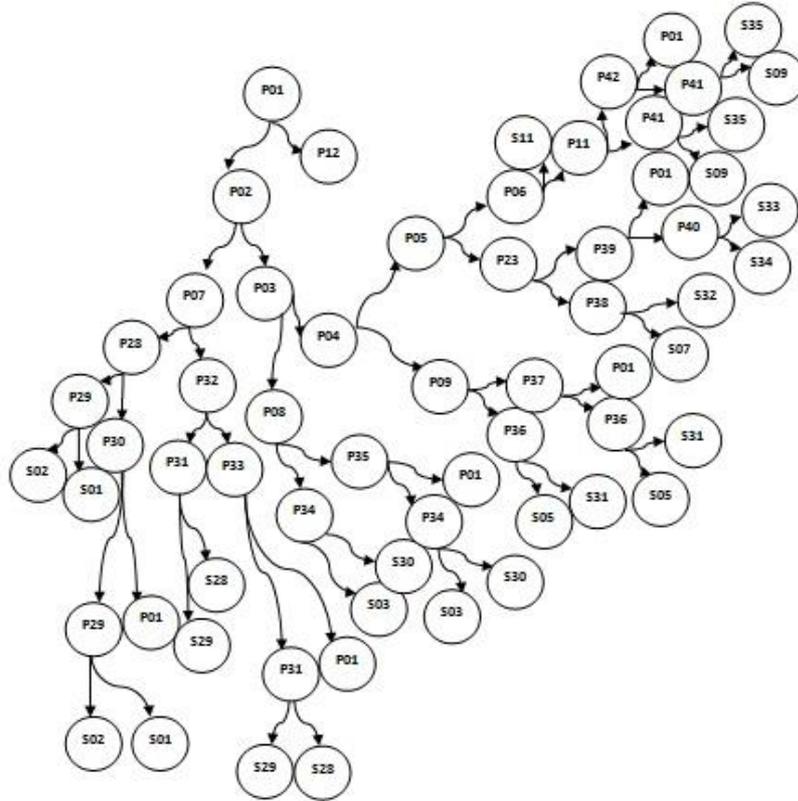
P48 Have some reference titles of mobile-based education apps
 P49 Sure you still want to choose mobile-based education app
 P52 Have some reference titles of mobile-based education apps using macromedia flash
 P53 Sure you still want to choose mobile based education app using Macromedia flash
 P54 Have some reference titles of mobile-based news apps
 P56 Sure you still want to choose mobile-based news app
 P57 Have some reference titles of mobile-based sales apps
 P58 Have some reference titles of mobile-based sales apps and their research methods
 P59 Sure you still want to choose mobile-based sales app
 P60 Creating sensor detection tool
 P61 Has some reference to the robotics title of the sound sensor tool
 P62 Know the programming language used in making robotics
 P63 Sure you still want to choose to make a sound sensor tool
 P64 Have some reference to the robotics title of mini computer tool
 P65 Know the tools used to make mini computers
 P66 Sure you still want to choose a mini computer tool
 P67 Know the programming language that will be used in robotics
 P72 Has some reference to the robotics title of the temperature sensor tool
 P73 Know the programming language that will be used to create Robotic temperature sensor tool
 P74 Sure still want to choose robotik temperature sensor tool
 P76 Has some reference to the title of robotics sensor detection tool
 P77 Know the programming language that will be used to make Robotics detection sensor tool
 P79 Sure still want to choose robotics detection sensor tool

For topics using TXX code (XX as a sequence from the topic list):

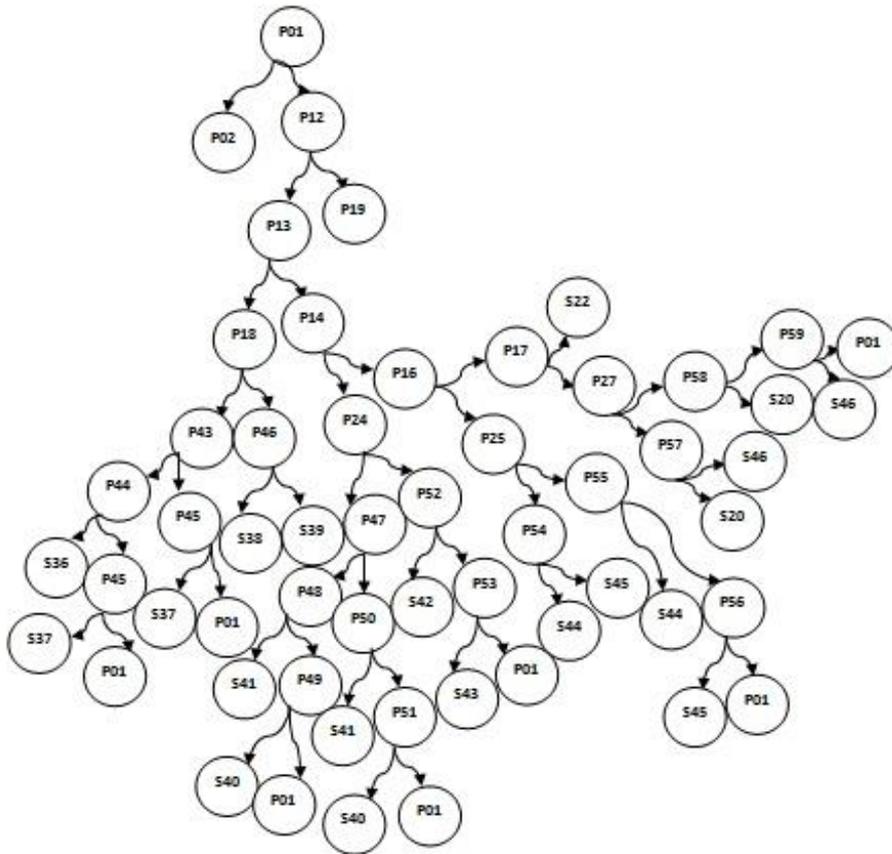
T01 *Website Company Profile (company profile)*
 T02 *Website Sales*
 T03 *Education Website*
 T04 *Social Media Website*
 T05 *Media Information Website*
 T06 *Game Apps*
 T07 *Education Application*
 T08 *News App*
 T09 *Sales App*
 T10 *Sound Sensor*
 T11 *Mini computer*
 T13 *Temperature Sensor*
 T14 *Sensor detection*
 T15 *Topic is not detected expert*

Topics:

III. DISCUSSION



Pic 3 : Decision Tree



Pic 4 : Decision Tree : 1



Pic 6 : Man Page

IV. CONCLUSION

Based on the results of trials and evaluations that have been done then it can be concluded as follows:

1. Students can determine the topic title thesis by using expert system program topic selection web thesis title.
2. Forward Chaining Method that has been used by the author for the application can be used optimally by the students. The Forward Chaining method is chosen because it performs the processing that begins with answering each question

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BIOGRAPHY

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