

# Counseling Model Application: A Student Career Development Guidance for Decision Maker and Consultation

**Irwan<sup>1</sup> and Gustientiedina<sup>2</sup> and Sunarti<sup>3</sup> and Yenny Desnelita<sup>4</sup>**

<sup>1, 2, 3, 4</sup> STIKOM Pelita Indonesia, Pekanbaru, 28265, Indonesia.

Telp: +6276124418, Fax: +6276135508

E-mail: Irwan@lecturer.pelitaindonesia.ac.id

**Abstract:** The purpose of this study is to design a counseling model application for a decision-maker and consultation system. This application as an alternative guidance and individual career development for students, that include career knowledge, planning and alternative options from an expert tool based on knowledge and rule to provide the solutions on student's career decisions. This research produces a counseling model application to obtain the important information about student career development and facilitating individual student's development through the service form, to connect their plan with their career according to their talent, interest, ability, knowledge, personality and other supporting factors. This application model can be used as tool to get information faster and flexible for the student's guidance and counseling. So, it can help students in doing selection and making decision that appropriate with their choice of works.

**Keywords:** Application model, counseling, career development guidance, decision maker

## 1. Introduction

In the field of education, career guidance and student career development are the services guidance and counseling programs which aimed to help or to facilitate the students and to achieve their self-development. At school, students are required to master a variety of abilities or competencies, both related to the subject, as well as those related to personal, social, and career development. In order to achieve the optimal development, the optimal service is required from basic element of education in school. The elements of the education are management, leadership, learning, and elements of student coaching.

Guidance and Counseling is an activity that comes from human life. The fact shows that man in his life faces some problems. Human being are not equal to each other, both in nature and ability. There are people who can solve the problems by himself, but some others cannot solve the problem by himself. Related to the student's careers and how to make a decision for their life, some students decided their career based on their friends and parents suggestions, not by themselves. This illustrates that student decision making is more influenced by personal component is the narrow knowledge of career orientation than the support of parents.

Expert System is a system designed to be able to do reasoning like an expert in a certain area of expertise. In the expert system there is a knowledge base that contains the knowledge in problem solving. Implementation of knowledge base can be used in various fields, testing the accuracy of the system by looking at the suitability of interest with the recommendations of the system [1]. Then one example of application from use of the backward chaining method is used in designing a prologue for



an expert system [2]. Expert System one of the mainstay technology in Knowledge Management, using knowledge management system in education can share information effectively and relevant [3]. The relevance of integration between information and communication technology in technical, vocational education and training on knowledge management [4]. The purpose of this study is to produce a software model for counseling guidance focused on career counseling and career development of students both at school and college-based Knowledge Management System.

## 2. Literature Review

This researchers analyze based on the multiple perspectives and different point in accordance with the interests and the concentration of each researcher. This study has been reviewed several previous research. Although this review is not exhaustive, considering the limited resources and time, but could represent a review that conducted on several sources. The result this research is based on the phenomenon confusion of students at SMK to Career which will be taken. The education that is being pursued by many is not in line with the actual career desired. The purpose this research is to know the profile career maturity of students at SMK, Conducting study on career guidance program at school, knowing career counseling by BK, knowing the activity of career guidance program done. The career guidance program proves to be effective for improving student maturity so that it is feasible to apply in counseling and guidance services [5]. In the career guidance program published in Agustinus that is the result of the assessment of counseling guidance experts and the designer of the program of counseling guidance program, the product of this development is considered feasible, shown by the high research result from the counseling counselor and the result of the expert assessment of the counseling guidance program. The empirical results of the expert test scores indicate that, after revision, the product of this development can meet acceptability [6].

The development of interactive multimedia career guidance to enhance the skills of making career decisions make career decisions on the student's specialization program, how interactive multimedia career guidance improves students' career-making skills decisions that research objectives produce interactive multimedia career guidance to enhance students' career decision making skills [7]. Research by [8] on career selection by title *Linguistic and educational socialization of Sudanese-background high-school students in Australia*. In this study analyzed the interest of talent and providing solutions to the problem of career selection. The method used mixed method. The results of this study, knowing the problems of doubt in the selection of careers against young Australians. While knowledge-based decision making [9], this study aims to help students to choose the best suitable career choice program at the Higher Learning Institute in Kenya. The current flow of approaches in Kenya is where students get career advice from teachers, motivators and career counselors. The basis of the approach in this study is to design a smart artificial system model using the JESS plugin in an eclipse IDE that receives KCSE results. Variables required values and subjects.

## 3. Method

The method used is System Development Life Cycle (SDLC).

- 1) Project Identification and Selection. In this phase, direct observations are made to experts or counselors. The results of the observations are then summarized and analyzed to see the weaknesses, advantages, opportunities, and threats that exist. Thus illustrated the possibility of the aspects that should be developed towards software guidance and career development.
- 2) Project Initiation and Planning  
The second phase takes initial action (initialization) and develops a plan for the selected development project in the first phase above. The prefix action is to focus more on observations on the knowledge of student career guidance and development.
- 3) Analysis  
From some existing technological tools, student guidance and career development programs will be applied to web-based applications.

## 4) Design

The guidance and development program will be implemented in web-based applications, the interface design of this software and career development using a text editor added with CSS and Javascript, then to design the database using PhpMyAdmin

## 5) Code Generation

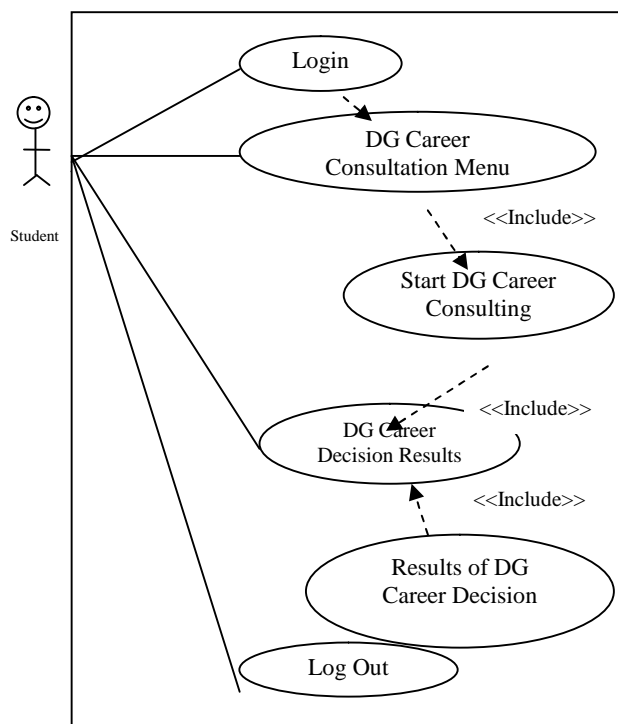
The process of making coding or coding is a translation of design into a language that can be recognized by the computer, programming language that is used is the programming language Php

## 6) Testing

Testing techniques to test the software guidance and career development is by using black box testing techniques. Because with this technique testing is done to determine whether the program is made in accordance with its functional requirements. Tests are performed on all program modules.

#### 4. Result and Discussion

This chart is used to describe users of apps and user behavior against apps. The user is represented by the actor while the behavior represented by the use case is shown in figure 1.



**Figure 1.** Use Case Diagram of DG Career Counseling

Where the use description diagram guidance career development students can be seen in the table below.

**Table 1.** Description Use Case Diagram login Career Development Guidance

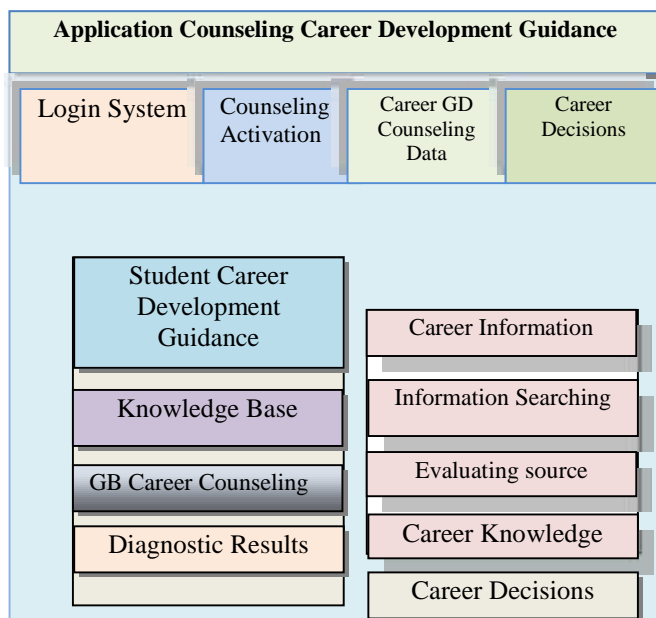
Use Case Name	Login Student Career Development Guidance
Requirement	A1-A6
Goal	Students successfully enter the Career Development Guidance page (DG Career)
Pre-condition	Students may start Career Development Guidance (DG Career)
Post-condition	Shown the results of the decision DG Career
Failed end condition	Students do not do DG Careers
Primary Actor	Student
Main Flow/Basic Path	1.Students can see the results of DG Career decisions 2.Students can print DG Career results 3.Students exit the DG Career application

#### 4.1. Knowledge Base

Knowledge base is formed on facts in the form of information about how to generate a new fact from a known fact. This knowledge is a representation of the knowledge and the way of a thought approach of a counselor. This software is designed 3 main parts of the knowledge base (the place of actual information storage), Inference Engine for the reasoning process to find solutions and conclusions that data sent by the user and the facts stored on the knowledge base, and user interface.

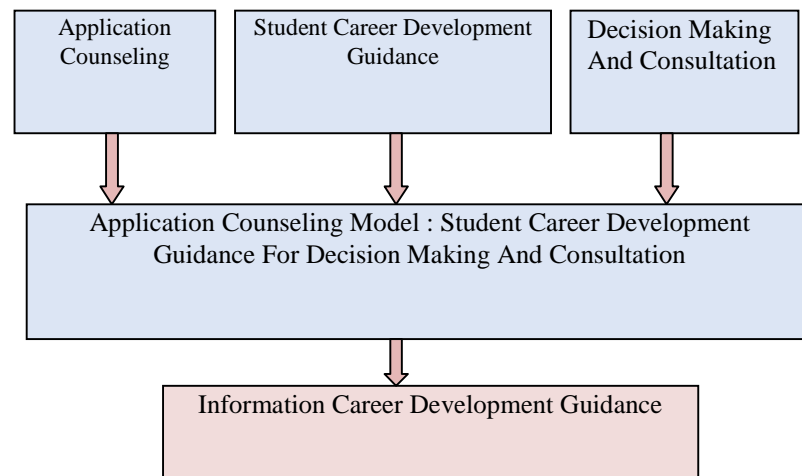
#### 4.2 Application Model Counseling Guidance Career Development

The application model of counseling career development counseling students for decision-making and consultation to improve information management skills on career knowledge is illustrated in Figure 2.

**Figure 2.** The Model Application Counseling

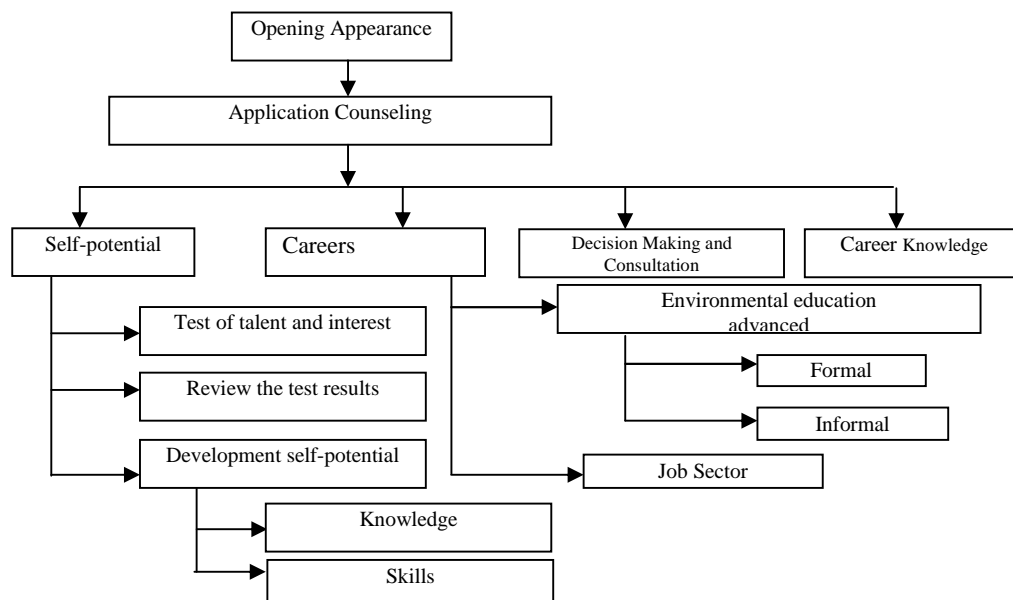
#### 4.3. Conceptual Framework

The conceptual framework of making application counseling model: student career development guidance for decision making and consultation integrates application counseling design Career Development Guidance illustrated in figure 5

**Figure 3.** Conceptual Framework

#### 4.4. Application Architecture

Figure 6 shows the application architecture of Career Development Counseling. The application consists of four modules: (i) Self Potential module, (ii) Career, (iii) Decision Making and Consultation, and (iv) Career Knowledge. Furthermore, application module Counseling Guidance Development of career carrier (figure: 6) contains applications to help students make decisions whether to continue to the next level of education or work. This application can be used as counseling service provision of Career Development Guidance indirectly because counselor do not directly face to face with counselee (student). Counseling services Career Development through Application (Information Technology) is expected to reach students. This represents a small contribution to the advancement of education in Indonesia.

**Figure 4.** Application Architecture Counseling Guidance Development Career

## 5. Conclusion

This paper shows, though the design of the model result counseling application: student career development guidance for decision making and consultation in an effort to assist students and counseling teachers in handling the careers of students they will take. This counseling application can be an alternative to student career development guidance, among them: 1) This application model is created to help the students to get immediate results from career counseling guidance counseling application, as well as to assist teachers counseling in directing students for career development; 2) This application is designed web-based, making it easier for students in its use and information can be seen on the spot; 3) This counseling application has the ability to store the knowledge base and archive data with a database that is owned and can be done data backup at any time.

## 6. Acknowledgements

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