Automatic Detection of Career Recommendation Using Fuzzy Approach

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ABSTRACT

In today’s era where personalization of the learning material is a key factor towards the success of learning goal for any student according to their personality traits, learning style and cognitive style, choosing a career according to personality traits is also become a key to success of job satisfaction. Hence, this article proposes the recommendation of career on the basis of candidate personality attributes. In this article, Holland’s theory is used to detect candidate’s personality. Weights are assigned to each personality traits to calculate the scores are calibrated manually with help of research work done in this domain before and the feedback. A survey is conducted to test the accuracy of proposed method on 217 responses. The result shows the 74.35% candidates are satisfied with the recommended career and average rating for personality traits score was 3.58/5. This article also suggests a fuzzy approach to automatic detection of career recommendation based on personality score.

KEYWORDS

Fuzzy Approach, Holland’s Code Theory, Personality Score, Recommendation

1. INTRODUCTION

Career represents one of the major successful millstones achieved by the person in his life (Adekola, 2011). The career choices are highly dependent on their personality traits, activities engaged by individual, behaviourism towards facing challenges and attitudes developed to approach problems (Asanov, 2011; Bimrose, Brown and Barnes, 2005). Particularly, today there is a need to explore the role of guidance and counselling in preparing learners for work from primary to university levels of education (Borchert, 2002; Bublitz, 2013; Chen Lulu, 2002; Firkola, 2005). In developed or underdeveloped nation’s education system designed in such a way that very limited options are available for people. Moreover, it is less supportive in the exploration of new careers or to choose the right one for oneself (Erdogan and Bauer, 2005; Gardner et al., 2011; Frank and Shen, 2016). Today, choosing the wrong career is one of the most important criteria of job dissatisfaction.

The objective of this work is to develop a career path recommendation system for targeted population of higher secondary school (HSS) students. As, the primary issue with HSS students found to be confused while choosing a career path, due to existence of diverse human influential factors like family members, friends, teachers, government or non- government organization (Heckman, 2012; Janger and Nowotny, 2013; Murugami & Nel, 2012). Therefore, better understanding and analysis of diverse career options enhance students to gain better acumen of different types of jobs they would want to explore in future. It is essential for HSS students to get motivated and to develop great knowledge quest through process of good education beforehand of career path selection. Figure 1 shows the influencing factors and its outcome on higher secondary school student career path selection.

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Further, HSS students often may be provoked for incorrect choice in deciding their career path due to lack of career experience, guidance, and support from parents, relatives, friends, teachers, career counsellors. Also, HSS students often give away and puzzled while choosing a career path, due to multiple human and environmental factors.

As information technology is evolved and by penetration of mobile, PDA, it is easy for student to access and explore the recommendation system of career on various platforms (Margaret and Norma, 2012). It has become convenient, cost effective solution for those students who are not able to afford proper career counselling to choose the right career due to very high charges of career counsellors.

Several theories are developed on how the career path selection is a key factor which further leads to career development, job satisfaction, career commitment and career developments as shown in Table 1. It is observed that, most of the existing research focuses on recommendation of career path to students of at least undergraduate level. As discussed in (Verma, Sood & Kalra, 2017), very few research and discussions are carried out to study the effectiveness of career recommendation at HSS student’s level.

In this work towards developing career path recommendation system, Holland code theory (Eggerth et al., 2005; Gottfredson et al., 1996) is adapted to solve the objective of focused problem for HSS students. Selection of career is a complex decision-making process in which subjectiveness and imprecision are usually present. So recommendation of career using fuzzy approach is also proposed.

According to Holland’s theory, there exists strong correlation between personality traits of the individual with his career choice. Further, there are six personality traits which fall into seven categories of career domains. The six personality traits are identified as conventional, artistic, realistic, investigative, enterprising, and social. According to these six personality traits there exist correlation with seven career domains such as public administration and govt, Defense & Military, Education & Training, Engineering Services, Medicine & Biotechnology, Corporate Sector, and Architecture & Interior Design. If the student knows that in which personality attribute him/her under lie and have sufficient knowledge about the wide range of career possibility, then according to his personality and skills, a person will be able to choose the right career.

Figure 1. Influencing Factors and its outcome on Higher Secondary school student career path selection
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[www.igi-global.com/article/a-novel-recommendation-system-for-dental-services-based-on-online-word-of-mouth/172793?camid=4v1a](www.igi-global.com/article/a-novel-recommendation-system-for-dental-services-based-on-online-word-of-mouth/172793?camid=4v1a)

Internet Privacy Policies: A Review and Survey of the Fortune 50
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