Career guidance system/software

Our main objective is to assist learners in making informed career decisions and selecting the appropriate courses offered by higher learning institutions. The system will collect information from the learner and use advanced AI machine learning and expert system algorithms to predict a suitable career path for them. After that, we will provide a list of universities or colleges that offer courses that align with the chosen career path.

Our specific objectives are as follows:

- Collect relevant information from the learner, such as interests, hobbies, strengths, and weaknesses.

- Provide feasible career path suggestions based on the collected information.

Functional Requirements:

- The user needs to be able to write a brief paragraph about their hobbies and interests in a designated space.

- They should be able to rate their strengths and weaknesses from a provided list.

- A career suggestion will be provided to the user.

- The speech recognition feature will be available for users who find it difficult to express themselves in writing.

Speech Recognition:

- For individuals who have difficulty articulating their interests in writing, our system will include a speech recognition feature to aid them in conveying their passions.

Two types of AI are relevant to career guidance:

Machine learning, expert systems, and natural language processing. Machine learning algorithms can analyze data to make predictions about future trends therefore it will analyze data given by learners and predict potential career paths that may interest the learner. Expert systems, on the other hand, can simulate the decision-making process of a career guidance counselor to provide personalized recommendations. The AI career guide will use NLP to help understand the user's statement, questions, and inputs. The software will use intent recognition to identify the user's intent behind their inputs so it can know whether the user is seeking advice or looking for information related to their career.

Unsupervised learning is a type of machine learning that utilizes unlabeled data to train machines. The model then learns from this data, creates a pattern, and returns an output. It is commonly used to solve clustering and association problems. Our system can benefit from this technique by allowing learners to input their interests, strengths, and weaknesses. The model can then make associations with the data and link it to potential career paths.

K-Means is an unsupervised learning algorithm that is used to cluster data. It groups data based on their similarities. Our system will use this algorithm to cluster the interests, hobbies, strengths, and weaknesses of the learners into different career path groups.