**CHAPTER THREE**

**DESIGN METHODOLOGY**

**3.1 OVERVIEW OF THE PROPOSED SYSTEM**

This **Career Guide App** is a crucial process that influences an individual’s professional trajectory and personal satisfaction. Many individuals struggle with selecting the right career path due to a lack of information, self-awareness, or guidance. This project focuses on the development of an application that assists individuals in making informed career choices by leveraging data analytics, artificial intelligence, and personalized recommendations.

is for searching institution information for junior schools students and senior schools focuses on creating a structured, efficient, and user-friendly approach to gathering, filtering, and presenting relevant data. The goal is to help students find necessary details about educational institutions, such as programs, admission requirements, fees, faculty, and campus facilities.

At this stage, the information gathered were analyzed and restructured into a more relevant and useful data. Data analysis and restructuring was based on the identification of the basic needs and the structure required for the project. The information gathered were that the analyzed and restructured in such a way that the subsystems and the modules were achieved efficiently. The analysis and restructuring of these data were such that the system is capable of presenting one frame at a time to the user.

**3.1.1 METHOD OF DATA COLLECTION**

Having achieved the software requirements, the next step was to source for information relative to the subject. This process of information gathering was achieved through so many sources including:

1. File downloads from the Internet
2. Textbooks in the library
3. Newspaper, Journals and articles
4. Other publications
5. Personal observations.
6. Institution websites
7. Government education portals

3.1.2 OBJECTIVE OF THE EXISTING SYSTEM

The objective of the system is to develop searching career institution for junior and senior secondary students that will aid in searching for institution details to help them in their career.

1. To develop an application that provides career guidance based on personal attributes.
2. To integrate data analytics and AI to suggest suitable career paths.
3. To offer real-time job market trends and required skill sets for different professions.
4. To enhance user engagement through interactive assessments and personalized recommendations

**3.1.3 FEATURES OF THE APPLICATION**

1. Career Assessment Quiz: Evaluates user interests, skills, and personality traits.
2. AI-Powered Recommendations: Provides personalized career suggestions based on input data.
3. Job Market Insights: Displays current industry trends, job availability, and salary expectations.
4. Skill Development Suggestions: Recommends courses and certifications to enhance career readiness.
5. Interactive Dashboard: Allows users to track their career exploration progress.

**3.1.4 EXPECTED OUTCOMES**

1. Increased awareness and clarity in career decision-making.
2. A more accessible and data-driven approach to career guidance.
3. Improved alignment between user skills and job market demands.
4. Enhanced career progression with continuous learning and mentorship opportunities.

**3.1.3 INPUT ANALYSIS**

The input to the new system is student’s login form, student’s forum dialogue space, question setting form, and answer form. These forms are captured online and contain details of the user, the questions and answers.

**3.1.4** **PROCESS ANALYSIS**

The answer supplied by the user is processed by accessing the institutions details and jobs details, and get more information about the institution and jobs.

**3.1.5 OUTPUT ANALYSIS**

The output from the system is to let the student know their career and how they can get started. The Career Guide system also forms part of the output.

**3.1.6 PROBLEM OF THE CURRENT SYSTEM**

Choosing a career can be overwhelming due to numerous factors such as personal interests, skills, job market trends, and educational requirements. Traditional career counseling methods may not be accessible to everyone, and self-assessment tools often lack personalized insights. There is a need for an intelligent system that guides users based on their unique profiles and evolving career landscapes. Without Career Guide, it will be difficult for student to learn fast. Experts are not readily available, so there is need to have a knowledge based system that can be used to train students in various fields of learning and to know the best institution to have their education.

**3.1.7 JUSTIFICATION FOR THE NEW SYSTEM**

Career Guide App can provide benefits for the organizations and individuals involved. It provides students with the opportunity to learn fast, get skills and have a wide knowledge. Internet access makes learning easy, obtainable, and affordable.

**3.1.8 DATA PROCESSING**

Data processing involves the manipulation and processes involved in displaying the institution and jobs information for student so that can get started with their education. These processes start from the school administrators, follow by administrator’s (staff) to the student. All resources are uploaded to the system by the admin into the system where the student can search for a desired institutions. All vital records are stored in the database for future purpose. All the processes are being strictly authenticated and validated to ensure data integrity.

**3.1.9 SYSTEM ARCHITECTURE**

**Presentation Layer (Frontend)**

User Interface (Mobile App)

Career Assessment Quiz

Dashboard & Career Recommendations

Mentorship & Learning Resources

Programming Language

(ReactNative.js)

**Data Layer (Database & External Services)**

User Profiles & Career History

Job Market Trends & Skills Repository

Learning & Certification APIs (e.g., Coursera, Udemy)

AI/ML Model Storage (for personalized recommendations)

Database

(MySQL)

**Application Layer (Backend)**

AI-based Career Recommendation Engine

Data Processing & Analytics Module

User Management & Authentication

API Gateway

Programming Language

(PHP)

**FIGURE: 1.2 SYSTEM ARCHITECTURE**

**3.3 SYSTEM FLOWCHART**

**User Login**

**Login**

**Successful**

**NO**

**YES**

Career Assessment

Quiz

Skill Development & Learning Resources

Career Recommendations

AI Analysis & Career Matching

AI Analysis & | | Career Matching

**System  
Satisfied**

**ADD & PUSHBLISH INSTITUTION, NEWS, BLOGS, FAQ’s**

Mentorship & Job Market Insights

**NO**

**YES**

Job Application & Resume Assistance

**Assistance**

Refine Suggestions Retake Quiz, Career Recommendations

**FIGURE: 1.4 SYSTEM FLOWCHART**