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LBYCPEI

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I. Introduction

The JobFit Explorer is a job finder application designed to assist individuals in identifying suitable industries and job opportunities based on their academic background and interests. This application aims to address the goal of Decent Work and Economic Growth, which is one of the United Nations Sustainable Development Goals (SDGs).

The primary objective of JobFit Explorer is to provide personalized career guidance by matching users' academic backgrounds and interests with relevant industries and job roles. By leveraging this information, the application suggests industries that are well-suited to the users and provides insights into the specific job occupations that people with similar profiles have pursued or shown interest in.

The problem this project seeks to solve is the challenge individuals often face when trying to navigate the job market and identify suitable career paths. Many individuals struggle to align their academic background and personal interests with available job opportunities, resulting in dissatisfaction and underutilization of skills. JobFit Explorer aims to bridge this gap by providing tailored recommendations and facilitating informed career choices.

The project's scope includes the following features and functionalities:

1. Interest Matching: The application will analyze users' academic background and interests to match them with suitable industries and job roles.

2. Industry Suggestions: Based on the user's profile, the application will suggest industries that align with their academic background and interests.

3. Top Performing Industries: The application will provide information on the top-performing industries in terms of job growth, salary, and demand.

4. Job Finding: Users can search for specific job roles within recommended industries and access relevant job listings.

5. Industry Statistics: The application will generate statistical data on various industries, including job growth rates, average salaries, and employment trends.

Constraints of the project may include limited availability of real-time data for industries and job roles, as well as the need to simplify the application by focusing on a select number of industries (Medical, Business, Technology, Engineering, and Creatives).

By offering personalized recommendations and insights, JobFit Explorer aims to empower individuals to make informed decisions about their careers, fostering economic growth by ensuring a better match between individuals' skills and job opportunities.

II. Methodology

Major Milestones

Milestone 1: Develop CSV Files for Jobs and Industries

The first stage in creating the application is creating a text file containing information for each job stored inside the assets folder. Although they may not necessarily be completely accurate, the jobs and industries must be based on real occupations and industries in the real world. To keep the application fairly simple, the industries selected were Medical, Business, Technology, Engineering, and Creatives. Each industry will contain at least 5 job occupations.

The text files will follow a comma-separated value (CSV) format. This will separate the job title, related industry, related program/s, location, expected salary, and work setup.

Milestone 2: Implement User Registration

The first page that users will see is the login page. Here, users have the option to create a new account or attempt to sign in. To keep it simple, the usernames and passwords will be stored in another CSV text file that stores every account information. Every time a user creates an account, the text file must be updated by appending the user’s information.

When attempting to sign in, the program will first ask the user to input String values for the username and password. Then, it will iterate through all lines of the text file and search an instance for a corresponding username-password pair. Once login is successful, the program will finally display the main menu page.

Milestone 3: Design and Create User Interfaces

All pages will be extending the GCanvas from ACM Graphics and set to 1280x720 pixels. It will use MouseListener and buttons to identify what the program must do depending on what the user clicks. The buttons will be a combination of shapes and GLabels from the same package for its design. There are a total of # pages: Log-in, Edit User Information, Menu, and Job Offers

Milestone 4: Develop Edit User Information Method

Once the user is able to log in, they may edit their user information. The program creates a new text file named after the current user's username. Instead of following the CSV format, the data is instead separated by line. The user information includes Name, email, age, contact information, university/college attended, degree program, and the industry the user is interested in.

Milestone 5: Develop Interest Matching Algorithm

Firstly, if the user's information is not found in the text file, the program suggests the user to go back to the menu and edit their user information. Otherwise, using the industry the user is interested in from the user's information, the program displays all the job objects stored inside the Industry class. These job objects are stored using an ArrayList of Job class objects.

Milestone 6: Conduct Comprehensive Testing

The final phase of the project is responsible for testing all the implementation of the methods of the program, checking the interface and buttons, and any other little details. During this stage, the group will get rid of any bugs and logical errors to finalize the source code.

III. Project Description

Provide an overview of the proposed architecture or design of your project. Describe

the major components and relevant diagrams (IPO, flowchart and uml).

Input

- Username
- Name
- Industry Interested
- University Attended
- Degree Program

Process

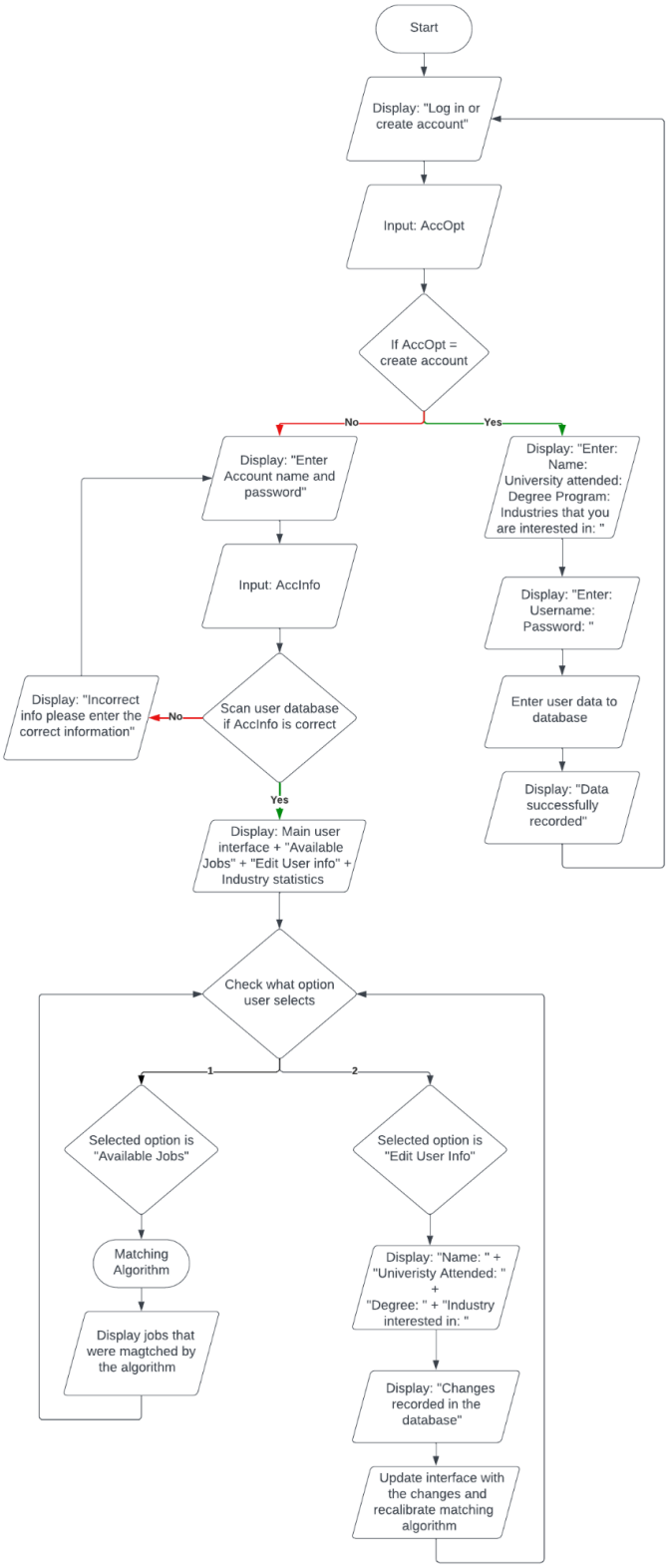
- Algorithm will take all the information and match jobs that the user can apply to
- The program will store user information to be displayed to the employers in the database
- The program will show top industries in the database

Output

- Jobs that the user can apply too based from the matching algorithm

- Interface will show user information
- Show a bar graph that shows the top industries

Flowchart

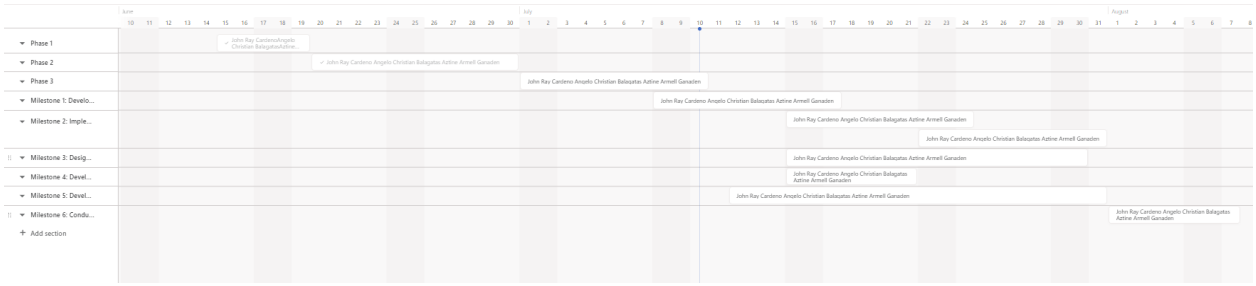

Start
Display: "Log in or create account"
Input: AccOpt
If AccOpt = create account
No
Yes
Display: "Enter Account name and password"
Input: AccInfo
Scan user database if AccInfo is correct
Display: "Incorrect info please enter the correct information"
No
Yes
Display: Main user interface + "Available Jobs" + "Edit User info" + Industry statistics
Check what option user selects
1
2
Selected option is "Available Jobs"
Matching Algorithm
Display jobs that were magtched by the algorithm
Display: "Enter: Name: University attended: Degree Program: Industries that you are interested in: "
Display: "Enter: Username: Password: "
Enter user data to database
Display: "Data successfully recorded"
Selected option is "Edit User Info"
Display: "Name: " + "Univeristy Attended: " + "Degree: " + "Industry interested in: "
Display: "Changes recorded in the database"
Update interface with the changes and recalibrate matching algorithm

IV. Deliverables

Present a Gantt chart of your deliverables. Indicate who does what and when the deliverables will be accomplished.

Describe the document that you plan to provide together with your project, such as

user manual, technical document, or API documentation.



V. Evaluation

To assess the performance and effectiveness of the program, the System Usability Scale by Brooke (1995) will be adapted with minor modifications. This evaluation method is a quick 10-item questionnaire to assess a system's usability in terms of the user experience in general. The System Usability Scale will be changed by removing the option to be neutral to improve the data and force the evaluator in choosing whether or not to agree to each statement. The questionnaire will be answered through a Google Forms link to easily track the results.

VI. Conclusion

The JobFit Explorer project addresses the need for personalized career guidance by matching users' academic backgrounds and interests with relevant industries and job roles. It helps individuals navigate the job market, make informed career choices, and contribute to economic growth. The project aims to provide a user-friendly application that offers tailored recommendations and insights, empowering individuals to find suitable job opportunities based on their skills and interests. Evaluation will ensure the effectiveness of the application, leading to continuous improvements and enhanced user experience.

VII. References

Brooke, J. (1995). SUS: A quick and dirty usability scale. *ResearchGate*. https://www.researchgate.net/publication/228593520_SUS_A_quick_and_dirty_usability_scale

Bibliographic listing of reference and sources of materials for the project.

I will highly appreciate your comments and suggestions to improve this material.

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