VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"JNANA SANGAMA", BELAGAVI - 590 018

A MINI PROJECT REPORT

on

"CAREER GUIDANCE APPLICATION"

Submitted by

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In partial fulfillment of the requirements for the VI semester

MOBILE APPLICATION DEVELOPMENT

of

BACHELOR OF ENGINEERING

in

INFORMATION SCIENCE & ENGINEERING

Under the Guidance of

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at

SAHYADRI

College of Engineering & Management

An Autonomous Institution

MANGALURU

2022 - 23

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Department of Information Science & Engineering

CERTIFICATE

This is to certify that the **Mini Project** entitled **"Career Guidance Application"** has been carried out by **Shreya S Shetty (4SF20IS093)** and **Yashmitha B (4SF20IS117)**, the bonafide students of Sahyadri College of Engineering & Management in partial fulfillment of the requirements for the VI semester **Mobile Application Development (18ISMP68)** of **Bachelor of Engineering in Information Science & Engineering** of Visvesvaraya Technological University, Belagavi during the year 2022 - 23. It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The mini project report has been approved as it satisfies the academic requirements in respect of mini project work.

Mrs. Shwetha S Shetty	**Dr. Mustafa Basthikodi**
Assistant Professor	Professor & Head
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External Practical Examination:

Examiner's Name	Signature with Date
1.	.....
2.	.....

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DECLARATION

We hereby declare that the entire work embodied in this Mini Project Report titled **"Career Guidance Application"** has been carried out by us at Sahyadri College of Engineering and Management, Mangaluru under the supervision of **Mrs. Shwetha S Shetty** as the part of the VI semester **Mobile Application Development (18ISMP68)** of **Bachelor of Engineering** in **Information Science & Engineering**. This report has not been submitted to this or any other University.

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Abstract

The Career Guidance Application is a simple interface that contains information about various career option in today's ever-changing world, where there are countless career options and paths to choose from, it can be overwhelming to make decisions about your professional life. A Career Guidance Mobile Application can be a helpful tool for individuals seeking direction and guidance in their career paths. At this point there are students who already know which career path to choose and at the same time, there are students who are very confused about which career path to choose. Even though there are many resources online and they can even find a career counsellor who can help them. But still, a few of them hesitate to approach them. Hence for those users, the Career Guidance Application would be of great help. It is especially beneficial to students who have recently completed class 10 or 12, as the users can access them at any time and from anywhere, making it easier for them to navigate their career paths and achieve their professional goals.

Acknowledgement

It is with great satisfaction and euphoria that we are submitting the Mini Project Report on **"Career Guidance Application"**. We have completed it as a part of the VI semester **Mobile Application Development (18ISMP68)** of **Bachelor of Engineering** in **Information Science & Engineering** of Visvesvaraya Technological University, Belagavi.

We are profoundly indebted to our guide, **Mrs. Shwetha S Shetty**, Assistant Professor, Department of Information Science & Engineering for innumerable acts of timely advice, encouragement and We sincerely express our gratitude.

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Chapter 1

Introduction

Choosing a career path is always the most difficult and critical decision for anyone, especially for young people. According to the Oxford dictionary, career is "an occupation undertaken for a significant period of a person's life and with opportunities for progress". Presently, there are various types of jobs and occupations that people may find some difficulty choosing the best for their career that is suitable for them, especially for 12th grade and fresh-graduate students who sometimes find it very difficult to find out what is suitable according to their knowledge and skills. So, they require professional advice and consulting from someone to help them determine their career path. Thus, Career Guidance is an android application that will help people determine the best course and most suitable job for them in a convenient and effective way.The Career Guidance Application has been established to help students get useful and systematic guidance on careers open to them in their respective fields of study.

1.1 Overview

The Career Guidance Application is beneficial for students who have just cleared their class 10 or 12 and are searching for a good career path. So, the application shows the courses available after class 10 and even after class 12, which shows them what are the jobs that they can take up according to the courses they have chosen. This gives them a clear idea about the course, eligibility criteria, job roles and even higher studies. And a detailed roadmap consisting of the job role, skills required, internships, projects, etc is provided for the students who have specific goals.

1.2 Purpose

Developing this Application is to help students explore and make decisions about their career. It can be seen that there were two common types of users with diverse needs. One, unsure of whether they are suitable or not for the current major, they don't like it and don't know which field they should switch to, where to start or who to ask. Two, they find the fields they are interested in, but don't know how to get into them. Desire to get more knowledge and experience in other fields but lack educational qualifications. Users find enough information they need to choose a career.

1.3 Scope

The Career Guidance Application is designed to help young people find the career that fits them and helps them know what to learn to get there. The user has two options to choose from: The goal-oriented are the one's who have already chosen their career. These users will be provided with a set of questions for a better understanding of their goal, and a detailed roadmap will be provided. The general are the ones who have not made their career choices, hence they will be provided with basic roadmaps of all careers to help them choose an appropriate one. It focuses on career planning by allowing users to explore themselves and all the information they need to make career choices.

Chapter 2

Requirements Specification

2.1 Hardware Specification

- Processor : 11th Gen Intel(R) Core(TM) i5-1135G7 @ 2.40GHz-2.42 GHz
- RAM : 8GB
- Hard Disk : 512GB
- Input Device : Standard Keyboard and Mouse
- Output Device : Monitor

2.2 Software Specification

- Programming Language :Java
- Markup Language :XML
- IDE :Android Studio 2022.1.1
- Database :Google Firebase SDK 12.3.0

Chapter 3

System Design

3.1 Architecture Diagram

The architecture diagram of the application is as shown in the below figure:

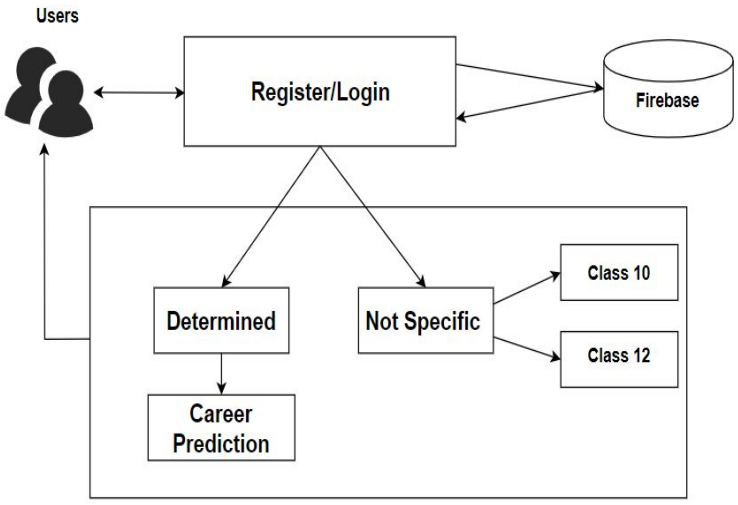

Figure 3.1: Architecture Diagram of Carrer Guidance Application

Users will interact with the system through the application server, by registering and logging in. This is authenticated using Firebase. Once the login is successful, the user is directed to the main page where they need to choose between two categories: determined and not specific.Determined category predicts a suitable career.Not Specific category consists of two sub-categories: class 10 and class 12, each of which contains a repository of courses .

3.2 Application Modules

- User registration and profile creation: Allow users to create an account and provide required information such as name, age, education level, skills, interests, etc. Generate a unique user ID to identify each user.
- Career Assessment: Provide users with a career assessment questionnaire to evaluate their skills, interests, personality traits, and values. Use the user's responses to create a list of potential career paths that match their preferences.
- Career Exploration: Provide comprehensive information about various occupations, including job descriptions, required education, salary ranges, job outlook, etc. Allow users to search and explore different career options based on their interests and skills.
- User feedback and support: Allow users to provide feedback on the application and suggest improvements.Provide a support system for users to ask questions and receive assistance in the career guidance process.

3.3 End Users

- High School Students: Students who are exploring potential career paths and need guidance in choosing the right educational path based on their interests, skills, and future goals.
- College Students: Students who are already enrolled in college and looking for guidance in selecting their majors or considering career options after graduation.
- Parents/Guardians: Parents or guardians who want to provide support and guidance to their children in making career decisions and understanding the educational and employment landscape.

3.4 Limitations

- Subjectivity of Assessments: Career assessments and questionnaires used in the project may rely on subjective responses from users. The accuracy and reliability of these assessments can be limited, as users' self-perceptions may not always align with their actual abilities or interests.

- Generalized Information: The project may provide general information about careers, job descriptions, and educational requirements. However, it may not consider regional or industry-specific variations, which can affect the accuracy and relevance of the guidance provided.

- Lack of Human Interaction: A mini project may lack the human touch and personalized support that can be provided by career counselors or mentors. Users may miss the opportunity for one-on-one conversations and guidance tailored to their specific situations.

- Limited Scope: Due to the nature of a mini project, it may not be able to cover all possible career paths or provide in-depth information on each career. Users may need to seek additional resources or guidance outside the project to explore specific industries or niche careers.

- Changing Technology: Technology and tools used in the project may become outdated over time, potentially affecting the functionality and user experience. Regular updates and maintenance are necessary to keep the project relevant and effective.

Chapter 4

Implementation

4.1 Overview

A career guidance application is a digital platform designed to provide individuals with the necessary tools and resources to make informed decisions about their career paths. Through user registration and profile creation, users can input their educational background, skills, interests, and career goals, allowing the project to offer personalized guidance. The project often includes a career assessment component that evaluates users' skills, interests, personality traits, and values to generate tailored recommendations for potential career paths. Users can explore various careers through a comprehensive database, gaining insights into job descriptions, required qualifications, salary ranges, and job prospects. The project may also offer tools for resume and cover letter building, job search functionality, interview preparation resources, and a library of career guidance articles. Additionally, user support and feedback channels ensure that users can seek assistance and provide valuable input, further enhancing the effectiveness of the career guidance application.

4.2 Languages Used

4.2.1 Java

Java is a well-liked programming language that is frequently used to create a wide range of programes, from straightforward desktop apps to intricate business systems.Because Java is an object-oriented language, it emphasises the development of reusable programe components known as objects. Because Java programes may run on any platform that

has a Java Virtual Machine (JVM), it adheres to the "Write Once, Run Anywhere" philosophy, making it very portable. The compilation of Java source code into bytecode, which can execute on any JVM, allows for this portability. Java is renowned for placing a high priority on robustness and security. It has built-in functionality for managing memory and handling exceptions, lowering the likelihood of crashes and vulnerabilities.

4.2.2 XML

XML, which stands for Extensible Markup Language, is a widely used markup language for storing and transporting structured data. It is a text-based format that uses tags to define elements and their hierarchical relationships, allowing for the representation of complex data structures. XML is designed to be both human-readable and machine-readable. It provides a standardized way to represent data that is independent of any specific programming language or platform. XML documents are plain text files that can be easily created, edited, and understood by humans, making them ideal for data exchange and storage.

4.3 Android studio

The official Integrated Development Environment (IDE) for Google's Android operating system is called Android Studio. It was created specifically for Android development using Jet Brains' IntelliJ IDEA software. It can be downloaded for use with Linux, macOS, and Windows operating systems. It serves as a replacement for Eclipse Android DevelopmentTools (ADT) as the main IDE for creating native Android apps.At the Google I/O conference on May 16, 2013, Android Studio was unveiled.At the Google I/O conference on May 16, 2013, Android Studio was unveiled. Beginning with version 0.1 in May 2013, it was in the early access preview stage. From version 0.8, which was released in June 2014, it moved into the beta stage. Starting with version 1.0, the first stable build was released in December 2014. the present stable version is 3.3, which was released in January 2019.

4.4 Google FireBase

Google offers Firebase, a complete mobile and web development platform. It provides a wide range of tools and services to aid developers in creating and maintaining feature-

rich, scalable applications. Cloud storage, real-time databases, authentication, hosting, analytics, and other features are all included in Firebase, making it an effective all-in-one solution.There are 18 products on the Firebase platform as of October 2018, and 1.5 million apps use them. A real-time database and backend are offered as a service by Firebase. The service offers APIs to application developers that enable synchronisation of application data between clients and cloud storage using Firebase. Regardless of the state of the network, Firebase Storage offers safe file uploads and downloads for Firebase apps. It can be utilised by the developer to store pictures, audio, video, or other user-generated content. Firebase Storage is backed by Google Cloud Storage.

4.5 Pseudo code

Login

The below code snippet of the login page retrieves the email and password from the user and compares them with the list of emails and passwords in the database. FirebaseAuth is a class which is used to authenticate users using email and passwords.

```
mAuth = FirebaseAuth.getInstance();
btn3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {


        String Email = et1.getText().toString();
        String Password =et2.getText().toString();

        if(TextUtils.isEmpty(Email)) {
            et1.setError("E-mail is required");
        }
        if(TextUtils.isEmpty(Password)) {
            et2.setError("Password is required");
        }
        if(Password.length()<8){
            et2.setError("Password must >= 8 characters!");
        }
        pb1.setVisibility(View.VISIBLE);

        mAuth.signInWithEmailAndPassword(Email,Password).addOnCompleteListener(new OnCompleteListener<AuthResult>() {
            @Override
            public void onComplete(@NonNull Task<AuthResult> task) {
                if(task.isSuccessful()){
                    Toast.makeText( context: login.this,  text: "Logged in successfully:) ", Toast.LENGTH_SHORT).show();
                    Intent i=new Intent( packageContext: login.this,homepage.class);
                    startActivity(i);
                }
                else {
                    Toast.makeText( context: login.this,  text: "Error occurred" + task.getException().getMessage(),Toast.LENGTH_SHORT).show();
                    pb1.setVisibility(View.GONE);
```

Figure 4.1: Pseudo code for Login

Determined

The below code snippet is for users who already know which category they excelled in,and the best career is chosen for them as a result.

```
btn7 = (Button) findViewById(R.id.btn7);


btn7.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {

        if(flag==1){
            Intent i=new Intent( packageContext: specific.this,soft.class);
            startActivity(i);
        }
        if(flag==2){
            Intent i=new Intent( packageContext: specific.this,fashion.class);
            startActivity(i);

        }
        if(flag==3){
            Intent i=new Intent( packageContext: specific.this,prjct.class);
            startActivity(i);

        }
        if(flag==4){
            Intent i=new Intent( packageContext: specific.this,ias.class);
            startActivity(i);

        }
        if(flag==5){
            Intent i=new Intent( packageContext: specific.this,journ.class);
            startActivity(i);

        }
```

Figure 4.2: Pseudo code for Determined

Not Specific

The below code snippet is for users who are not specific which category to choose.

```
5 usages                                                                    ⚠4
public class general extends AppCompatActivity {
    2 usages
    public Button btn53;
    2 usages
    public Button btn54;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_general);
        btn53=(Button) findViewById(R.id.btn53);
        btn54=(Button) findViewById(R.id.btn54);

        btn53.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i=new Intent( packageContext: general.this,class10.class);
                startActivity(i);
            }
        });

        btn54.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i=new Intent( packageContext: general.this,class12.class);
                startActivity(i);
            }
        });
    }
```

Figure 4.3: Pseudo code for Not Specific

Chapter 5

Results and Disscussion

Login Page

The below figure is the login page where the user logs into their account by giving his/her email and password. The user can also register by clicking the register button.

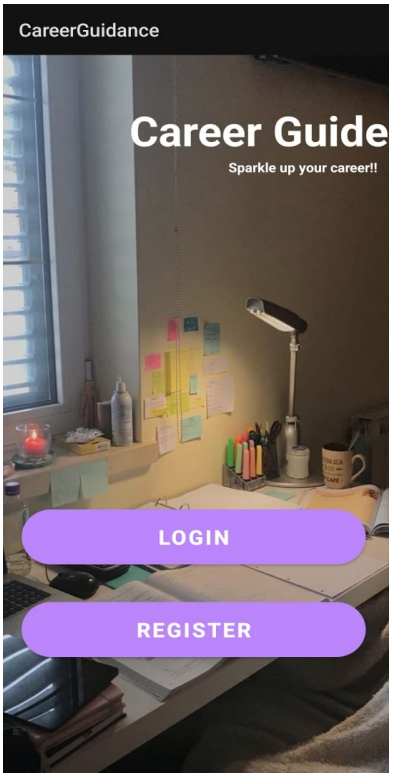

Figure 5.1: Login Page

Main Page

The below figure is the main page of the application, containing two categories: Determined and Not specific. A Determined category is for users who know which skills they excelled in, while a Not specific category is for users who want to explore their career options.

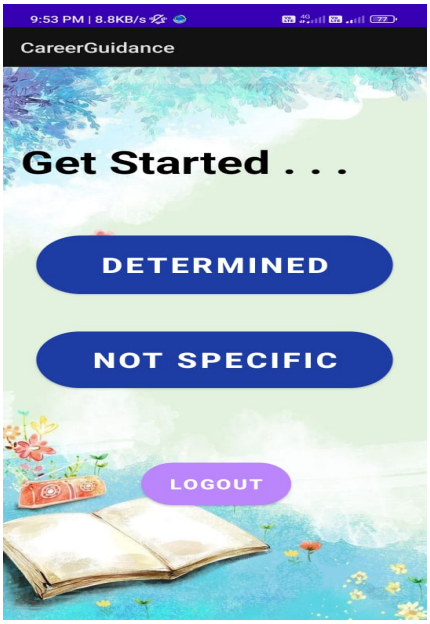

Figure 5.2: Main Page

Determined Page

The below figure is for the Determined category of users where they have to select one option which describes them accordingly.

Figure 5.3: Determined Page

Not Specific Page

The below figure appears for Not Specific users who have not made their career choices. They are allowed to look into the different courses available, which provide the basic roadmaps of all careers to help them choose the appropriate one.

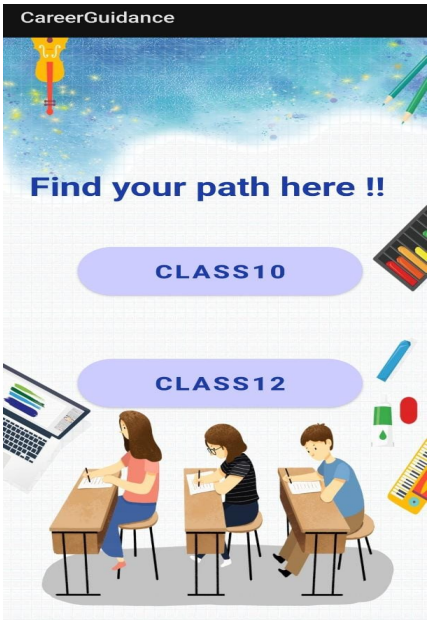

Figure 5.4: Not Specific Page

Class 10

The below figure shows the various courses that the user can browse through and select to enroll in for PUC. Similarly, it is applied to all other courses.

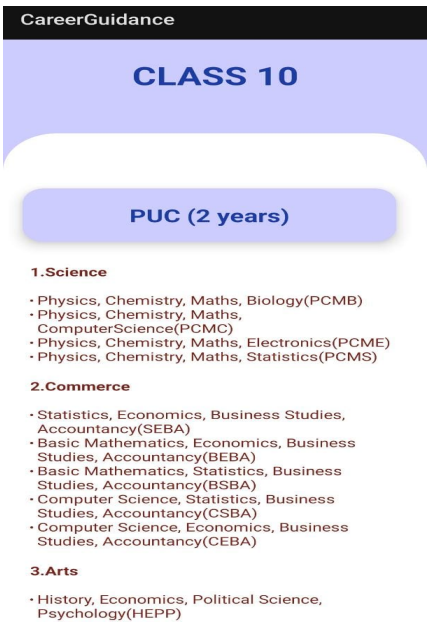

Figure 5.5: Class 10 Page

Class 12

The below figure shows the different streams that the user can look into if they have taken science in PUC. Similarly, it is applied to all other branches.

Figure 5.6: Class 12 Page

Chapter 6

Conclusion and Future work

Choosing a career is not always an easy task for students, especially since the choice should be based on several criteria and at a relatively early age. This important decision not only affects the academic and professional life of the student but also they end up in choosing a wrong career. The main aim of the project is to make students understand the various courses available in the current educational system. The students can explore more about the particular career option from our application. Also, it will help them to follow their interest. This system lends a helping hand to 10th as well as 12th standard students. 10th and 12th standard students can select suitable fields of their choice by looking after the different course option available in the application. The students get a complete list of courses which will reduce their time and efforts.

References

[1] Google Developer Training, "Android Developer Fundamentals Course-Concept Reference", Google Developer Training Team, 2017. https://www.gitbook.com/book/googledeveloper-training/android-developer-fundamentals-course-concepts/details.

[2] Erik Hellman, "Android Programming-Pushing the limits", 1st Edition, Wiley India Pvt Ltd, 2014. ISBN-13: 978-8126547197.

[3] Dawn Griffiths and David Griffiths, "Head First Android Development", 1st SPD Publishers, 2015. ISBN-13: 978-9352131341.

[4] Bill Phillips, Chris Stewart and Kristin Marsicano, "Android Programming: The Big Berd Ranch Guide", 3rd Edition, Big Nerd Ranch Guides, 2017. ISBN-13: 978-0134706054.