PATHSEEKER

Mid-Term Report

Midterm Video Demonstration

https://drive.google.com/file/d/1fwHC675KBT7rcADq8sQ2pBVsuGBMmNx1/view?usp=sharing

Team Members:

- **Saruchi Sharma (300364537) - Team Lead**
- **Ajaypal Singh (300370907)**

Course and Section: CSIS 4495-002

Introduction

The job market is increasingly competitive, and many people have difficulties choosing a career that suits their skills, interest, and the marketplace. It is an innovative mobile application meant to evaluate if an individual's existing job is in harmony with their skills and aspirations. PathSeekers provides its users with a unique analysis of their matching abilities with the current job which allows users to understand possible career development pathways. Whether you want to change your roles or improve your current position, PathSeekers allows users to make decisions that will enhance their career development and job satisfaction. With AI (Artificial Intelligence) combined with real-time analysis of the labor market, the application seeks to solve the problem of connecting job seekers with available gaps.

Problem Statement

Many candidates do not understand how their personal attributes can translate to skills and potential jobs. Generic job boards do not offer targeted career advice and as such users are often drowned in options. This research aims to answers the questions below:

1. In what ways can user profiles be accurately created and matched to specific careers opportunities?
2. Which factors impact the quality and relevance of career suggestions made?
3. What is the impact of PathSeeker in terms of long-term career development?

Relevant Literature & Knowledge Gaps

Research indicates that machine learning and natural language processing are effective for personalized WI*-AI driven career guidance. However, most existing applications either do not integrate with the labor market in real-time or do not provide comprehensive upskilling recommendations. PathSeekrer solves these problems by integrating real-time monitoring of job market trends, AI analysis, and user profiling on the fly.

Initial Hypotheses and Assumptions

• Personalized guidance increases user satisfaction and improves decision-making.

• Real-time monitoring of the labor market improves the relevance of the recommendations.

• Providing additional resources for recommended upskilling increases career mobility.

Potential Benefits

• Users can make informed decisions regarding their profiles and chosen career pathways.

• Clear pathways for continuous upskilling and career advancement.

• Easy access to the required resources and available jobs.

Overview Of the First Steps Put Forward For The Project

The initial project sought to implement PathSeeker, an AI-driven mobile career guidance application that analyses users inputs, draws conclusions, and makes suggestions. Its objectives were parts of a larger scope, which were:

• Creating a mobile application that fits career guidance needs.

• Incorporating AI technologies in user analytic processes.

• Incorporating additional open questions for better profile specification.

• Supplying information on the job market and on the job growth opportunities.

Changes to the Proposal

Few changes have been made since the initial proposal to enhance **PathSeeker's** functionality, feasibility and ease.

Changes in Features & Technology Stack

Feature/Technology	**Initial Proposal**	**Updated Approach**	**Justification**
Data Storage	Firebase, MongoDB	Firebase only	Simplifies implementation & reduces complexity.
Frontend Framework	Flutter (Dart)/React Native	React Native only	React supports Javascript (Easy to code)
AI Algorithms	Random Forest, K-Nearest Neighbors	Hybrid Model (Collaborative Filtering & NLP)	Enhances personalized recommendations & accuracy.

User Input Method	General Questions	Questionnaire + Interactive Survey	More precise data collection.
Recommendations	No general recommendations	General Job Categories	Adding extra feature of recommending some general jobs in some categories

Timeline Adjustments

- UI/UX Development extended by 1 week to refine the user experience.
- Backend Integration extended by 2 weeks for better database structuring.
- Testing Phase shortened by 1 week due to improved early-stage debugging

Read Me File

is is an [Expo](https://expo.dev) project created with [`create-expo-app`](https://www.npmjs.com/package/create-expo-app).

Get started

1. Install dependencies

```bash
npm install
```

2. Start the app

```bash
npx expo start
```

In the output, you'll find options to open the app in a

- [development build](https://docs.expo.dev/develop/development-builds/introduction/)

- [Android emulator](https://docs.expo.dev/workflow/android-studio-emulator/)

- [Expo Go](https://expo.dev/go), a limited sandbox for trying out app development with Expo

You can start developing by editing the files inside the **app** directory. This project uses [file-based routing](https://docs.expo.dev/router/introduction).

Get a fresh project

When you're ready, run:

```bash

npm run reset-project

```

npm run android

This command will move the starter code to the **app-example** directory and create a blank **app** directory where you can start developing.

To learn more about developing your project with Expo, look at the following resources:

- [Expo documentation](https://docs.expo.dev/): Learn fundamentals, or go into advanced topics with our [guides](https://docs.expo.dev/guides).

- [Expo on GitHub](https://github.com/expo/expo): View our open source platform and contribute.

- [Discord community](https://chat.expo.dev): Chat with Expo users and ask questions.

You need Android Emulator, VS Code, node.js and jdk libraries to run the project.

Feature : User Authentication (SignUp & SignIn)

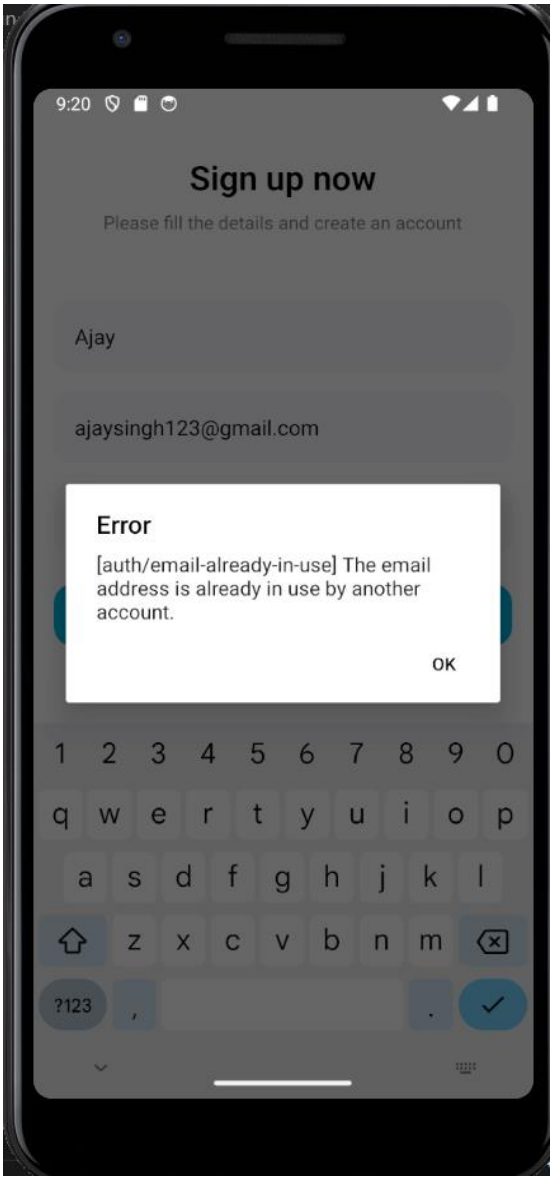
Overview

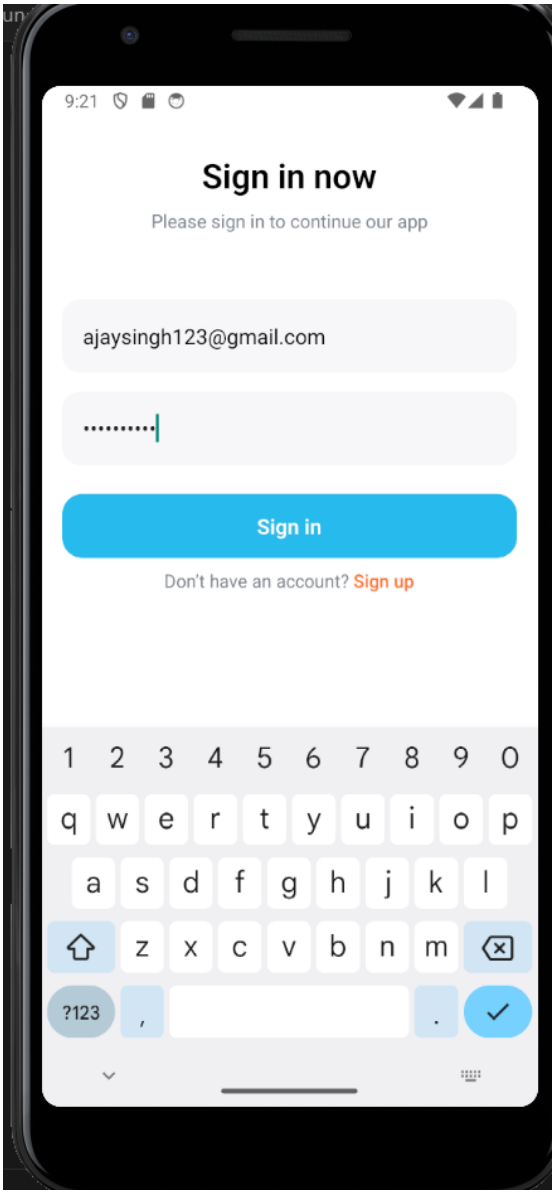
The authentication system allows users to sign up, log in, and manage their sessions securely. Firebase Authentication was integrated for user verification.

Implementation Details

- **Technology Used:** React Native (Expo), Firebase Authentication
- **Key Functionalities:**
    - New users can register using email and password.
    - Existing users can log in with valid credentials.
    - No new user can login without signing up

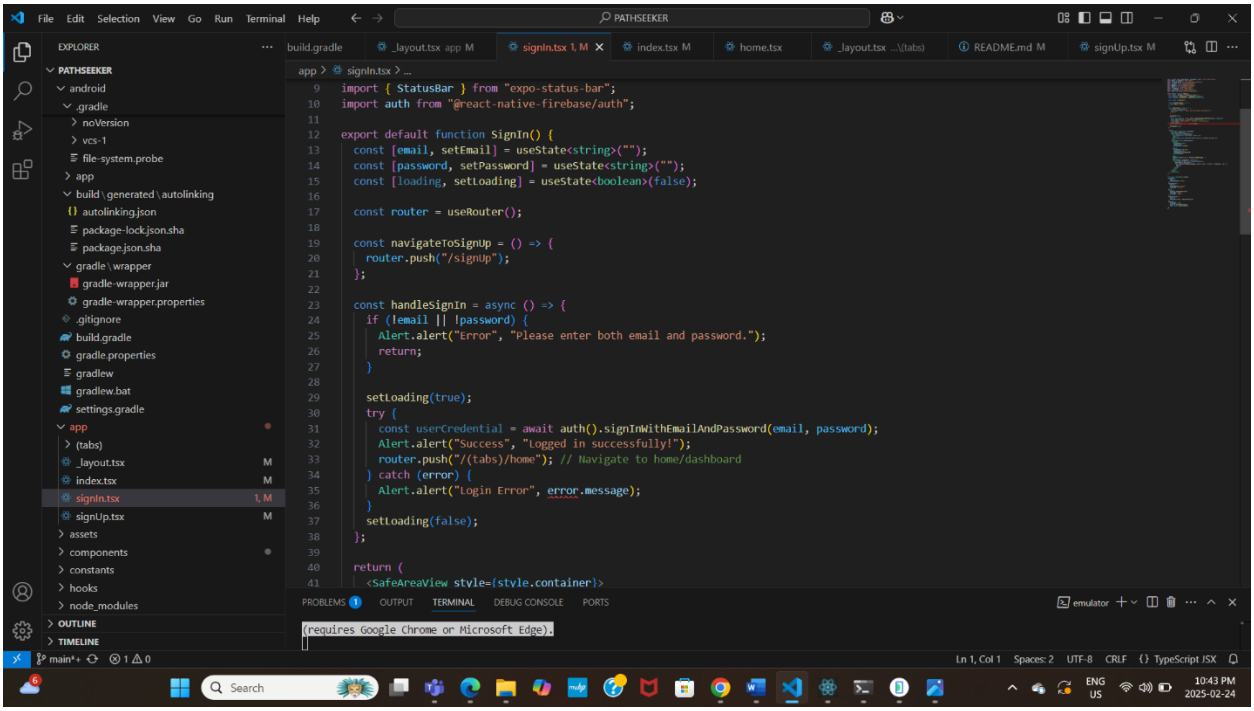
Screenshots of Signup and Sign In page:



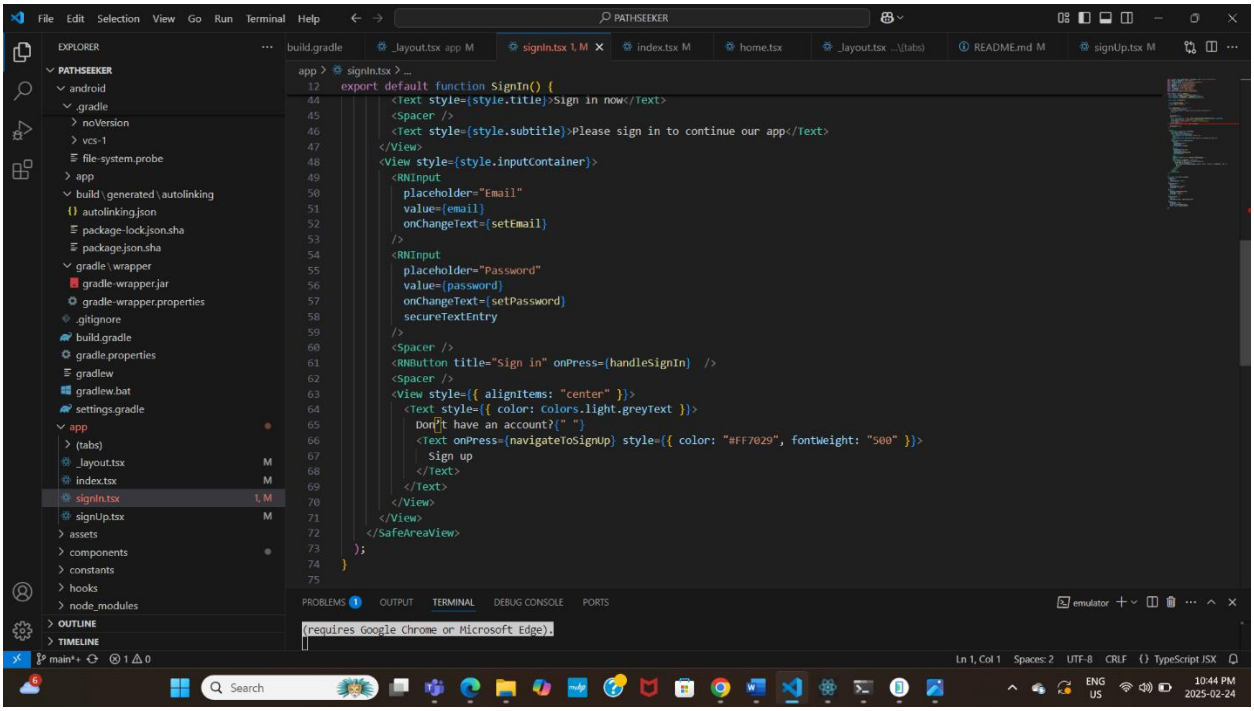


Code Snippet:

For SignIn

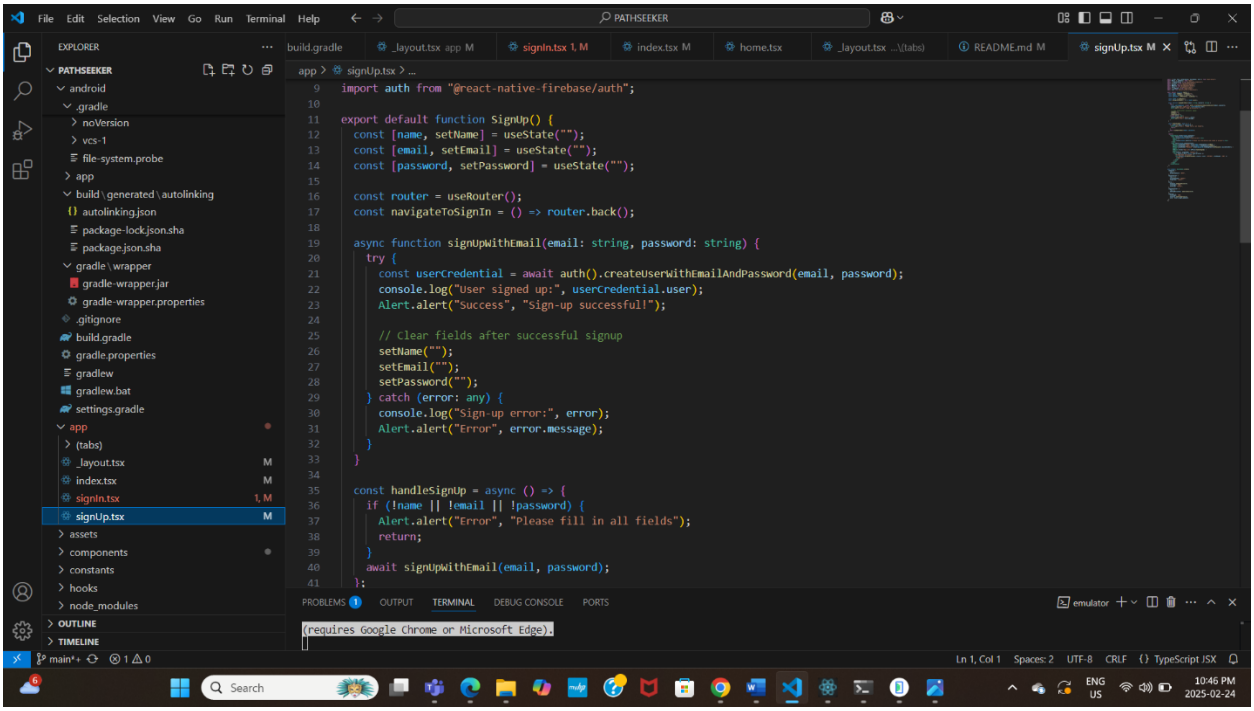


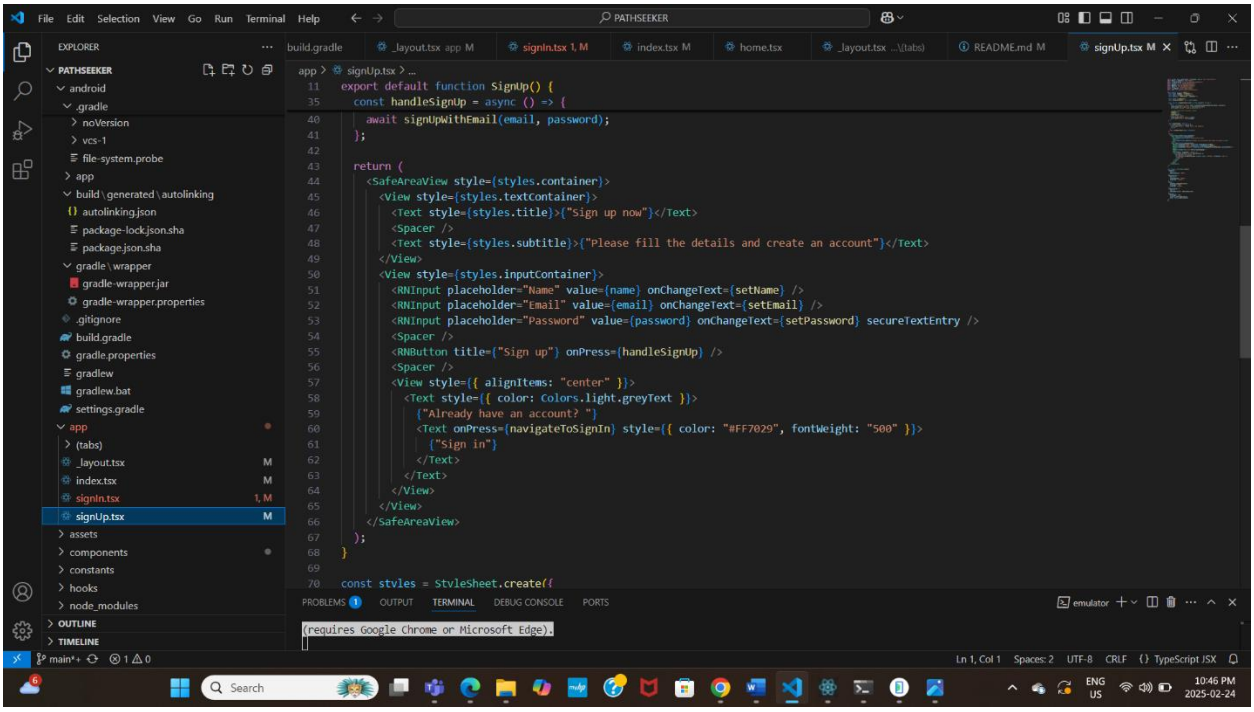
```
import { StatusBar } from "expo-status-bar";
import auth from "@react-native-firebase/auth";

export default function SignIn() {
  const [email, setEmail] = useState<string>("");
  const [password, setPassword] = useState<string>("");
  const [loading, setLoading] = useState<boolean>(false);

  const router = useRouter();

  const navigateToSignUp = () => {
    router.push("/signUp");
  };

  const handleSignIn = async () => {
    if (!email || !password) {
      Alert.alert("Error", "Please enter both email and password.");
      return;
    }

    setLoading(true);
    try {
      const userCredential = await auth().signInWithEmailAndPassword(email, password);
      Alert.alert("Success", "Logged in successfully!");
      router.push("/(tabs)/home"); // Navigate to home/dashboard
    } catch (error) {
      Alert.alert("Login Error", error.message);
    }
    setLoading(false);
  };

  return (
    <SafeAreaView style={style.container}>
```



```
export default function SignIn() {
          <Text style={style.title}>Sign in now</Text>
          <Spacer />
          <Text style={style.subtitle}>Please sign in to continue our app</Text>
        </View>
        <View style={style.inputContainer}>
          <RNInput
            placeholder="Email"
            value={email}
            onChangeText={setEmail}
          />
          <RNInput
            placeholder="Password"
            value={password}
            onChangeText={setPassword}
            secureTextEntry
          />
          <Spacer />
          <RNButton title="Sign in" onPress={handleSignIn}  />
          <Spacer />
          <View style={{ alignItems: "center" }}>
            <Text style={{ color: Colors.light.greyText }}>
              Don't have an account?{" "}
              <Text onPress={navigateToSignUp} style={{ color: "#FF7029", fontWeight: "500" }}>
                Sign up
              </Text>
            </Text>
          </View>
        </View>
      </SafeAreaView>
    );
  }
```

For SignUp:


File Edit Selection View Go Run Terminal Help
PATHSEEKER
EXPLORER
build.gradle
_layout.tsx app M
signIn.tsx 1, M
index.tsx M
home.tsx
_layout.tsx ...\(tabs)
README.md M
signUp.tsx M
app > signUp.tsx > ...
import auth from "@react-native-firebase/auth";
export default function SignUp() {
const [name, setName] = useState("");
const [email, setEmail] = useState("");
const [password, setPassword] = useState("");
const router = useRouter();
const navigateToSignIn = () => router.back();
async function signUpWithEmail(email: string, password: string) {
try {
const userCredential = await auth().createUserWithEmailAndPassword(email, password);
console.log("User signed up:", userCredential.user);
Alert.alert("Success", "Sign-up successful!");
// Clear fields after successful signup
setName("");
setEmail("");
setPassword("");
} catch (error: any) {
console.log("Sign-up error:", error);
Alert.alert("Error", error.message);
}
}
const handleSignUp = async () => {
if (!name || !email || !password) {
Alert.alert("Error", "Please fill in all fields");
return;
}
await signUpWithEmail(email, password);
};
PROBLEMS 1 OUTPUT TERMINAL DEBUG CONSOLE PORTS
emulator
(requires Google Chrome or Microsoft Edge).
Ln 1, Col 1 Spaces: 2 UTF-8 CRLF {} TypeScript JSX
Search
ENG US
10:46 PM 2025-02-24


File Edit Selection View Go Run Terminal Help
PATHSEEKER
EXPLORER
build.gradle
_layout.tsx app M
signIn.tsx 1, M
index.tsx M
home.tsx
_layout.tsx ...\(tabs)
README.md M
signUp.tsx M
app > signUp.tsx > ...
export default function SignUp() {
const handleSignUp = async () => {
await signUpWithEmail(email, password);
};
return (
<SafeAreaView style={styles.container}>
<View style={styles.textContainer}>
<Text style={styles.title}>{"Sign up now"}</Text>
<Spacer />
<Text style={styles.subtitle}>{"Please fill the details and create an account"}</Text>
</View>
<View style={styles.inputContainer}>
<RNInput placeholder="Name" value={name} onChangeText={setName} />
<RNInput placeholder="Email" value={email} onChangeText={setEmail} />
<RNInput placeholder="Password" value={password} onChangeText={setPassword} secureTextEntry />
<Spacer />
<RNButton title={"Sign up"} onPress={handleSignUp} />
<Spacer />
<View style={{ alignItems: "center" }}>
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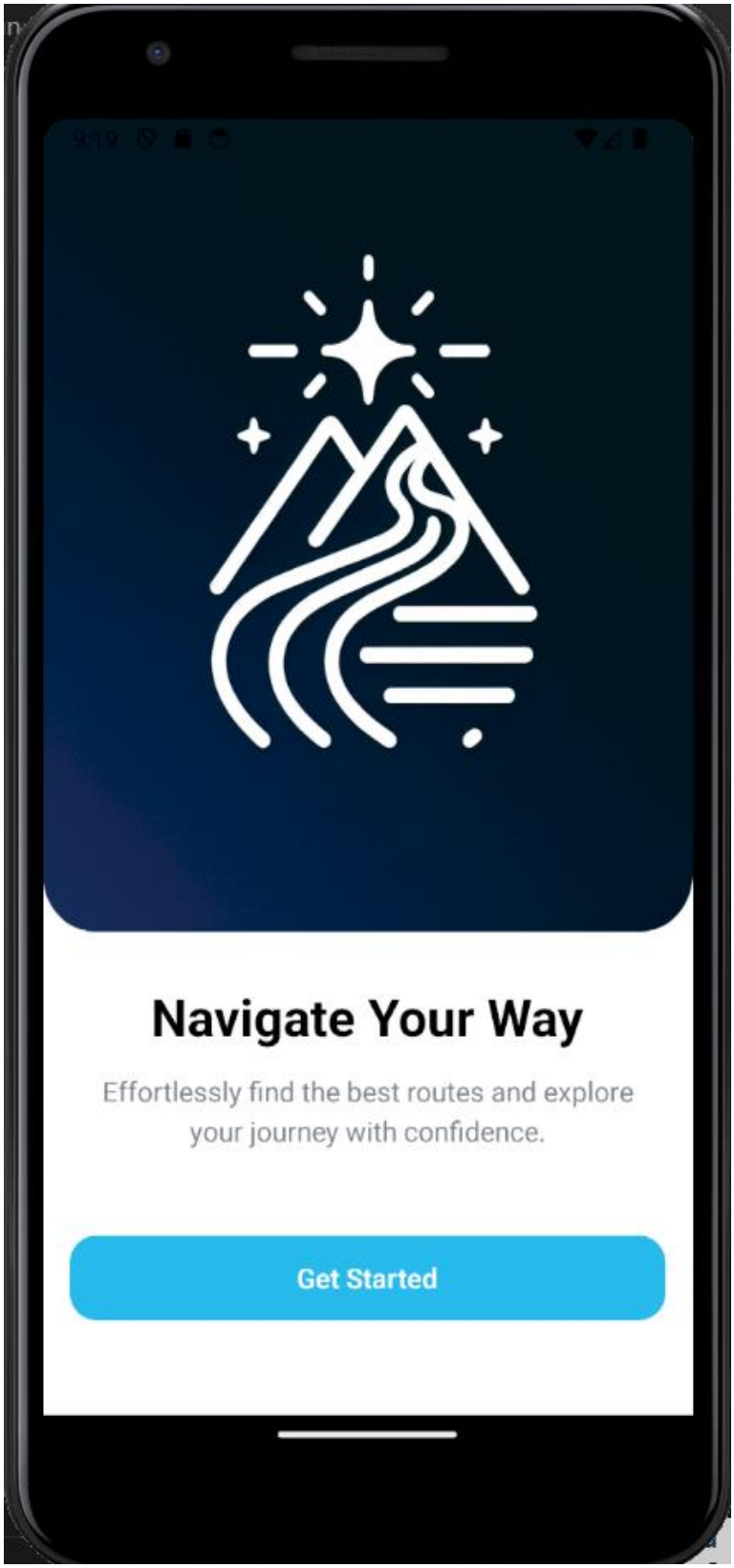
{"Already have an account? "}
<Text onPress={navigateToSignIn} style={{ color: "#FF7029", fontWeight: "500" }}>
{"Sign in"}
</Text>
</Text>
</View>
</View>
</SafeAreaView>
);
}
const styles = StyleSheet.create({
PROBLEMS 1 OUTPUT TERMINAL DEBUG CONSOLE PORTS
emulator
(requires Google Chrome or Microsoft Edge).
Ln 1, Col 1 Spaces: 2 UTF-8 CRLF {} TypeScript JSX
Search
ENG US
10:46 PM 2025-02-24

Get Started Page:



Home Page:


Hello User !
Categories
See all
Computer Science 2k job
Computer Science 2k job
Job Recommendation
See all
UI/UX Designer
AirBnb
United States
Full Time
Software Engineer
Google
California, USA
Full Time
Data Scientist
Facebook
New York, USA
Full Time
Product Manager
Amazon
Seattle, USA
Full Time
Graphic Designer
Adobe
San Francisco, USA
Part Time
Home
Profile

Work Date/Hours Logs:

Saruchi's Log:

Date	Number of Hours	Description of Work Done
Jan 15, 2025	3	Spent time to think on the ideas we can work on
Jan 17, 2025	2	Discussed our final project ideas and required applications
Jan 18, 2025	2	Looked at other projects and basic functionalities
Jan 20, 2025	1.5	Tried to implement UI mock-ups.
Jan 22, 2025	1	Planned out the structure of the project.
Jan 23, 2025	3	Designed initial wireframe for PathSeeker UI/UX using Figma. Spent initial time in finding and trying different tools like Canva, Luicdchart and Balsamiq. Then spent some time in learning Figma and then designed Splash screen
Jan 24, 2025	2	Continued working on the wireframe designs, designed profile page, sign in, sign up and forgot password
Jan 27, 2025	1.5	Still working on the wireframe, designed another chat page, generate opt page
Jan 30, 2025	1	Reviewed the old pages
Feb 1, 2025	1	Worked on home page and background questionnaire page in Figma

Feb 2, 2025	1.5	Fixed UI alignment issues.
Feb 8, 2025	1	Generated GitHub repo and generated the progress report
Feb 11,2025	3	Did some research on React Native, discovered the benefits of using Expo Framework
Feb 12,2025	2	Coordinated with Ajay with the research for the first half hour and then spent another 1.5 hour watching YouTube videos on React Native
Feb 13,2025	4	Learnt basic React to start working from a former teacher in India, named Gaurav Verma
Feb 14,2025	1	Created a new application in Android Studio, which I already have install+ ed, started with designing the Splash screen and exporting the icons and other things from Figma
Feb 17,2025	4	Worked further on designing the pages and to ease out things made the components to use them in the code wherever needed.
Feb 18,2025	2	Designed the rest of the pages, fixed the issues side by side, home page, sign-in, sign-up, onboarding page
Feb 19,2025	1.5	Coordinated with Ajay for further suggestions and features
Feb 20,2025	3	Integrated all the work so far with Ajay and debugged all the errors arising from the integration
Feb 24,2025	4	Met Ajay at college to create the video of the project made some final changes to the work so far, tried to fix the splash screen, facing some issues with the screen, created the Mid term report, uploaded the video on the Google drive and inserted the link.

Work Date/Hours Logs

Ajaypal Singh after Progress Report 1

Date	Number of Hours	Description of Work Done
Feb 11,2025	3	Read documentation of Firebase thoroughly Made account on firebase and created a project with name PATHSEEKER and tried to setup credentials.
Jan 12,2025	2	Discussion with team member and finalized React Native and learned some concepts of react native using expo framework.
Feb 14,2025	1.5	Did some correctness in repo of GitHub in class under your supervision and added firebase Jason files into project.
Feb 16,2025	3	Started implementation on pages of signup and sign in which needs firebase authentication to login and signup
Feb 17,2025	2 .5	Debugging on credentials of sign in page as It was getting error to match the firebase data and successfully did that.
Feb 19,2025	1.5	Discussion with team member for further Requirements in project and features.
Feb 20,2025	2	Faced errors in combining both front end and backend in 1 system due to different Gradle build but somehow managed to do it by changing build.gradle file
Feb 24,2025	4	Meeting with team member and created video presentation and completed midterm report

and made some changes in Project styles.

Project Planning and Timeline

Milestone	Description	Deadline
Feature Enhancement	Will add some more features	02/03/25
Testing Phase	Usability and performance testing	20/03/25
Deployment Phase	Launch and feedback collection	04/04/25

Responsibilities

• Saruchi: UI/UX design and usability

• Ajaypal: Backend and Firebase Integration

References:

https://youtu.be/TQnThietOgk?si=pCPK6S4yFwO5FWJi

https://reactnative.dev/docs/environment-setup

https://www.figma.com/design/8apTpS3UaiLxjgFl42fKTQ/Travenor---Travelling-App-(Community)?node-id=2002-342&t=VSqGvC0IAEUqMwyP-1

https://rnfirebase.io/

https://www.geeksforgeeks.org/react-native/

We express our gratitude to **Professor Padam Priya** for guidance and constructive feedback throughout this project, and to Gaurav Verma for teaching the basics of React Native