

**DTM PROJECT REPORT ON**

**WANDERLY**

*Submitted by*

**GROUP B3**

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*In partial fulfilment for the award of the degree of*

**BACHELOR OF TECHNOLOGY**

*Under the Supervision of*

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**Dr. Kishore**



**ALLIANCE COLLEGE OF ENGINEERING AND DESIGN**

**ALLIANCE UNIVERSITY, BENGALURU**

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## **CERTIFICATE**

This is to certify that the project work entitled “WANDERLY” is the bonafide work done by **Mr. Abhirath S Padman (20030141ECE024)**, **Mr. Eshwar V (20030141IT005)**, **Ms. Spandana Vinod (2003141AE013)** and **Mr. Sandeep J N (20030141CSE057)** submitted in partial fulfilment of the requirements for the award of the degree Bachelor of Technology during the year 2023-2024.

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## **DECLARATION**

This is to declare that the report titled “Wanderly” has been made for the partial fulfilment of the Course Bachelor of Technology in Engineering, under the guidance of Prof. Vijayalakshmi Bharathi K, Dr. Anoop Kumar Srivastava, and Dr. Kishore. We confirm that this report truly represents our work undertaken as a part of our DTM 003 project work. This work is not a replication of work done previously by any other person. We also confirm that the contents of the report and the views contained therein have been discussed and deliberated with the faculty guides.

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We avail this chance to express deep sense of gratitude and hearty thanks to the Management of Alliance University, for providing world class infrastructure, congenial atmosphere, and encouragement.

We express a deep sense of gratitude and because of the teaching and non-teaching staff at our department who stood with me during the project and helped me to make it a successful venture. And we place highest regards to parents, friends and well-wishers who helped plenty in making the report of this project.

**ABHIRATH S PADMAN  
ESHWAR V  
SPANDANA VINOD  
SANDEEP J N**

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## **ABSTRACT**

The Wanderly is a one stop address to all the challenges encountered by travelers during trip planning and execution. The app aims to improve the overall travel experience by providing answers to common pain points in a compassionate manner. The software includes features such as finding cheap hotels, selecting Restaurants, gathering reliable trip information, dealing with unplanned changes, and selecting activities and attractions. The development technique involved conducting literature surveys, customer/user surveys, and research paper questionnaires to gain insights and comprehend user wants. Using technology and user-centered design, the Wanderly aims to make trip planning easier and to provide memorable and stress-free travel experiences.

## **INTRODUCTION**

The Wanderly is an innovative tool developed to address the issues that travellers confront during trip planning and execution. Vacation planning has grown more accessible with the advancement of technology, but it still presents a number of challenges that might detract from the whole vacation experience. This software seeks to empower travellers by providing them with a complete platform that simplifies trip planning, provides trustworthy information, and improves their travel experience.

Extensive research and surveys have revealed that travellers frequently struggle to find reasonable hotels that fit their budget and tastes. Obtaining reliable and up-to-date information about destinations, activities, and local customs can often be difficult. Language obstacles, particularly in foreign places, impede communication and prevent seamless navigation and contact with natives. Budgeting and sticking to a budget for a trip can be difficult, resulting in financial stress. Unexpected changes in travel arrangements.

The Wanderly attempts to address these issues by providing a user-friendly and intuitive platform. The app becomes an important companion for travellers by including powerful features such as a huge database of economical hotels, trustworthy and up-to-date destination information, budgeting support, and real-time alerts on travel interruptions.

## LITERATURE SURVEY

The literature survey involved conducting an in-depth exploration of academic papers, industry reports, and user surveys related to travel planning and assistance. It aimed to gather valuable insights into the current state of travel planning apps, identify emerging trends, and understand the challenges faced by travellers. The literature survey helped in identifying gaps in existing solutions and potential areas for improvement. It also provided an understanding of the technologies, algorithms, and methodologies employed in the field of travel planning apps.

### 2.1.1 Customer / User Survey:

The customer/user survey was designed to directly engage with travellers and gather their feedback and experiences. The survey consisted of targeted questions that explored the challenges faced by travellers during trip planning, their preferences in terms of accommodations, transportation, and activities, and their satisfaction levels with existing travel planning tools and services. The survey responses provided valuable insights into the pain points of travellers and their specific needs, enabling the development team to tailor the travel Planner app to address those needs effectively.

Here are the responses from the users:

1. How do you like to travel?

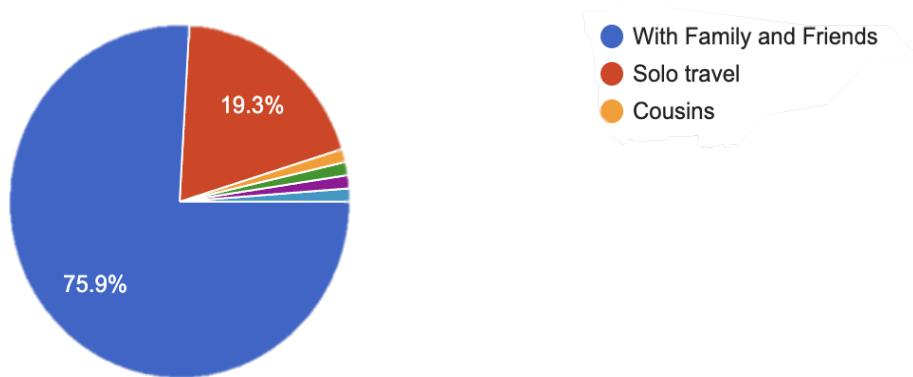


Figure 2.1: Pie chart showing the percentage of people who like to travel.

2. Age of the people who responded

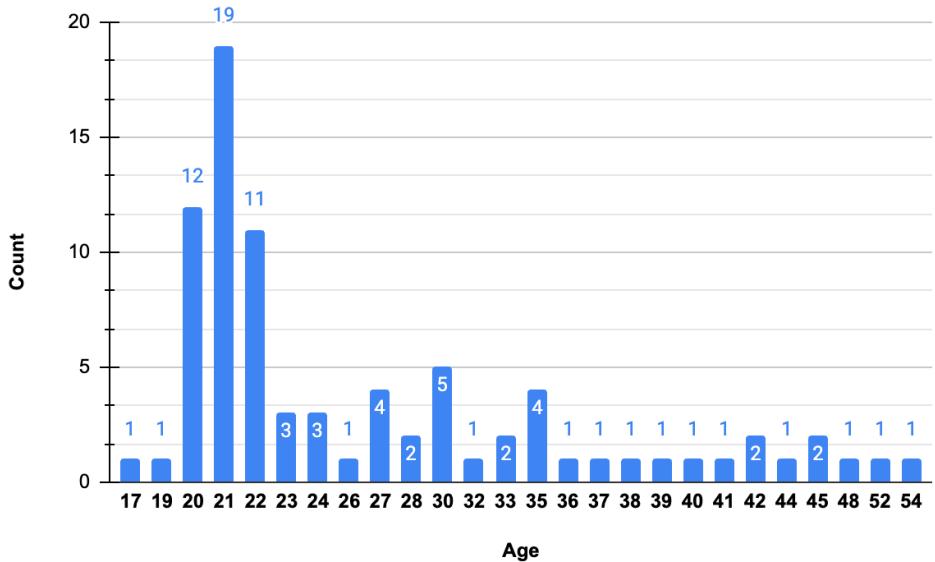


Figure 2.2: Bar chart showing the different age groups in the survey.

3. What kind of challenges did you face while planning your last trip?

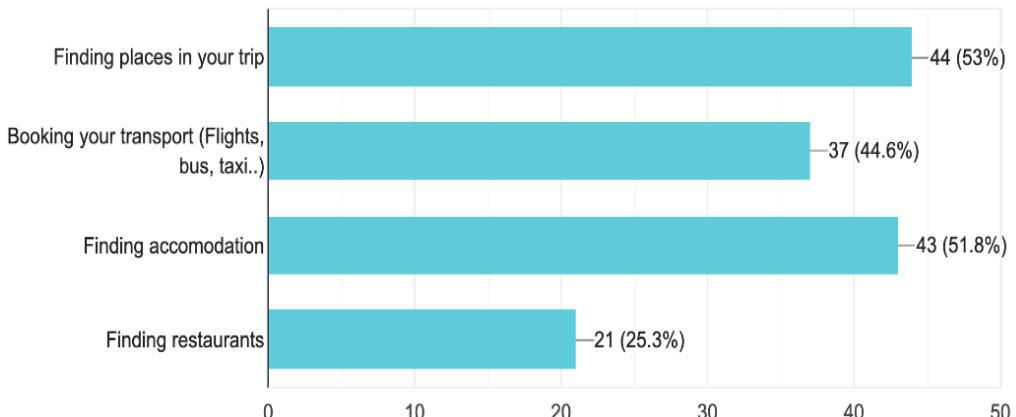


Figure 2.3: Bar chart showing the results of the kind of challenges faced while planning a trip.

4. Have you ever had trouble finding affordable accommodation's during your trip planning?

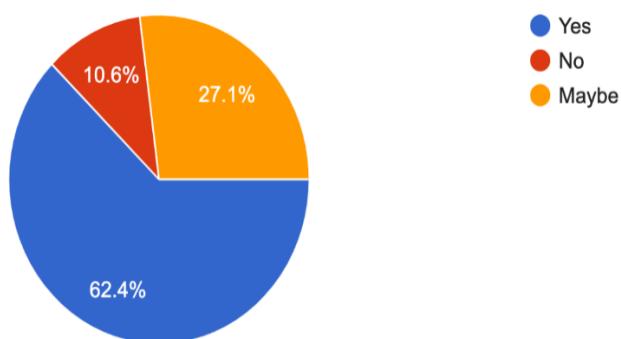


Figure 2.4: Pie chart showing the percentage of people who have trouble finding affordable accommodation.

5. How do you typically go about researching and booking flights for your trip?

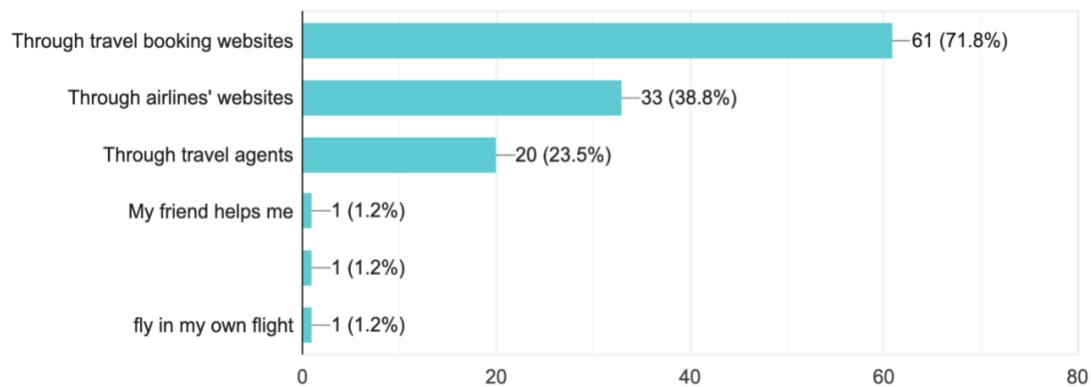


Figure 2.5: Bar chart showing the results of the poll to the questions about researching and booking flights for the trip.

6. Have you ever encountered language barriers while planning trip to a foreign country?

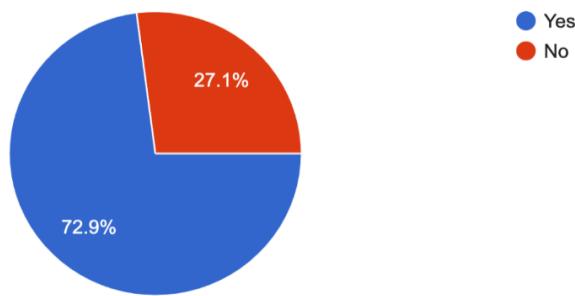


Figure 2.6: Pie chart showing the results of the poll.

7. How do you deal with unexpected changes in your travel places, such as flight cancellations or itinerary changes?

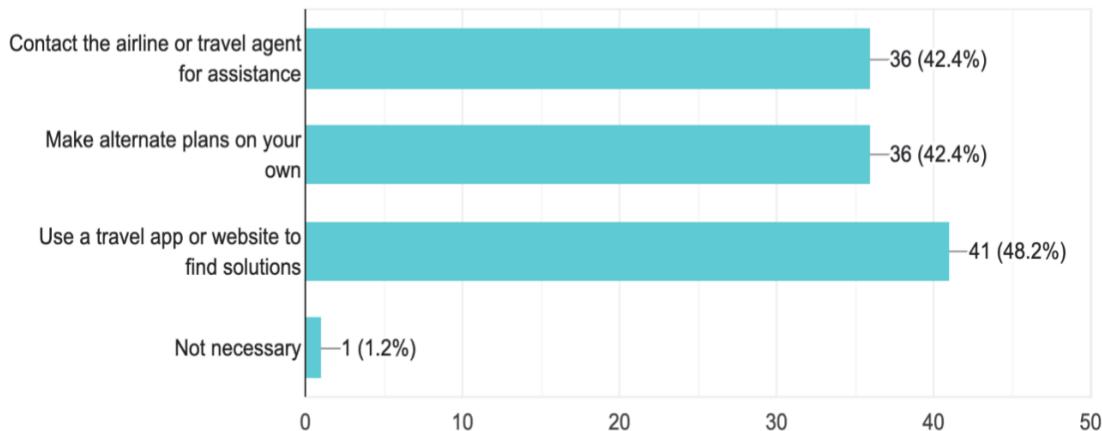


Figure 2.5: Poll results of how people deal with unexpected changes in your travel places, such as flight cancellations or itinerary changes

8. Have you ever had trouble budgeting for a trip and sticking to your budget during your travels?

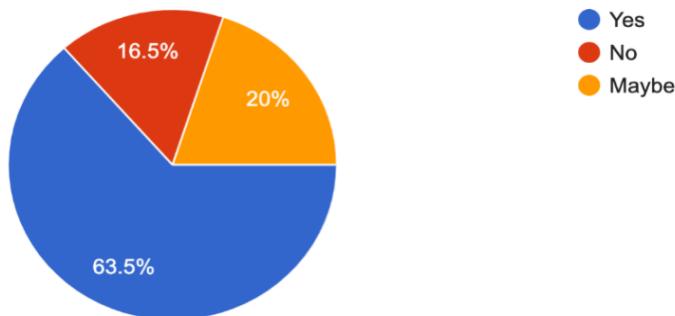


Figure 2.6: Pie chart showing the percentage of people who have trouble budgeting for a trip and sticking to your budget during your travels.

9. How do you decide on activities and attractions you want to do during your trip?

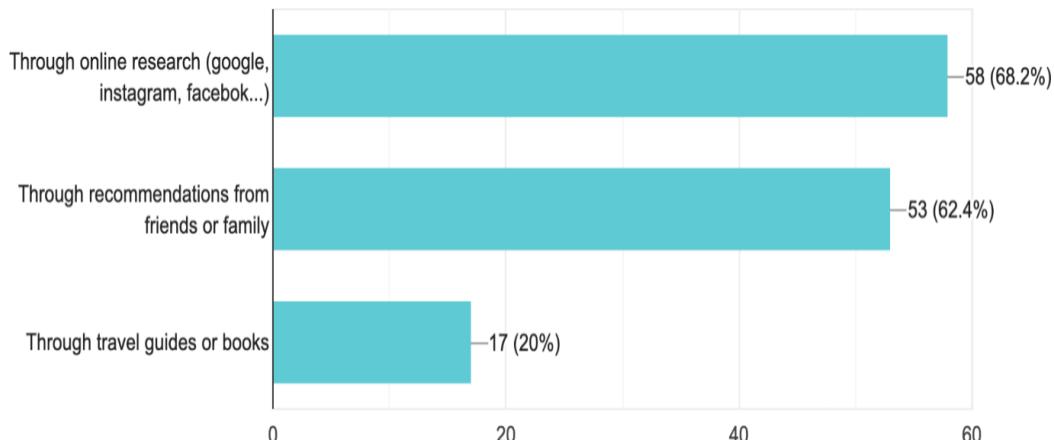


Figure 2.7: Bar chart showing the result of how people decide on activities and attractions to do during your trip

### 2.1.2 Research Paper Survey

The research paper survey involved reviewing relevant academic papers that explored various aspects of travel planning apps. In the context of travel planning, these research projects examined subjects such as recommendation algorithms, machine learning approaches, user behaviour analysis, data mining, and user experience design. The review of research papers aided in the identification of cutting-edge approaches, algorithms, and best practices that could be used in the development of the Trip Planner app. It guaranteed that the app integrated the most recent breakthroughs in the area and benefited from research information and insights.

## **IDENTIFYING THE PROBLEM**

1. Difficulty in obtaining economical accommodations: Travellers frequently struggle to find hotels that meet their budget without sacrificing quality or comfort. With fluctuating costs, limited availability, and a large selection of housing types to consider, the process of looking for economical solutions can be time-consuming and overwhelming.
2. Lack of dependable destination information: To properly plan their itineraries, travellers rely on precise and up-to-date information on their destinations. Finding credible information, on the other hand, might be difficult because the available sources may be old, inconsistent, or biased. Travellers require reliable information about attractions, local customs, transportation options, safety precautions, and other important factors.
3. Budgeting and sticking to a budget: Managing spending when travelling might be difficult. Travellers may incur unexpected fees, overspend on attractions, or have difficulty keeping track of their expenses. Budgeting can be difficult, affecting the overall vacation experience and incurring financial stress.

## **OBJECTIVES OF THE THESIS**

The Wanderly offers to a wide range of passengers, including those with varying travel interests and budgets. The software may be modified to match the demands of budget travellers seeking for low-cost options, adventure enthusiasts looking for one-of-a-kind experiences, and family vacationers looking for kid-friendly hotels and activities.

### **Features and Functionality**

#### **1. Trip Planning Assistance:**

The app provides recommendations, articles, and user-generated content to assist users in overcoming typical travel planning issues. Users can find low-cost lodging by researching budget hotels, hostels, vacation rentals, and local guesthouses.

#### **2. Destination Information:**

The app aggregates verified information from reliable sources and provides detailed information on famous tourist destinations. Users can learn about local cultures and local transportation. User reviews and ratings provide useful information on destinations, allowing other travellers to make more educated decisions.

#### **3. Activity and Attraction Selection:**

By offering personalised recommendations, the app supports users in deciding on activities and attractions to visit throughout their trip. Users can save or bookmark favourite activities for quick access and planning.

## Food &amp; Dining around you

Type  
Restaurants ▾ Rating ▾



## Mama Miso

★★★★★ 103 reviews  
Price \$\$\$\$  
Ranking #1 of 21 Restaurants in Cansaulim  
Asian Korean Burmese Central Asian  
Japanese Fusion Sushi Japanese

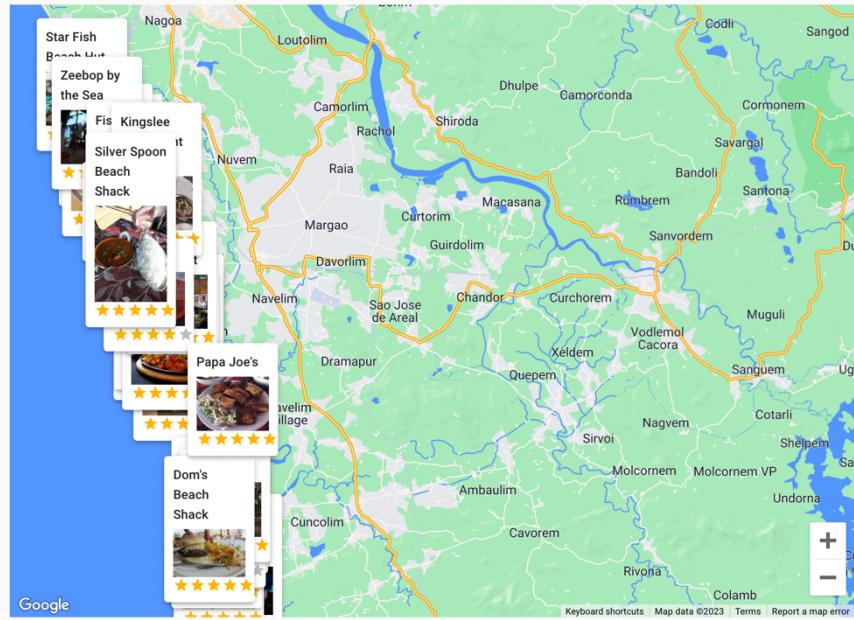


Figure 5.1 – Restaurants of near-by-places in Wanderly.

## Food &amp; Dining around you

Type Attractions ▾ Rating Above 3.0 ▾



## Colva Beach

★★★★★ 1967 reviews  
Price  
Ranking #2 of 17 things to do in Colva  
Colva 403708 India

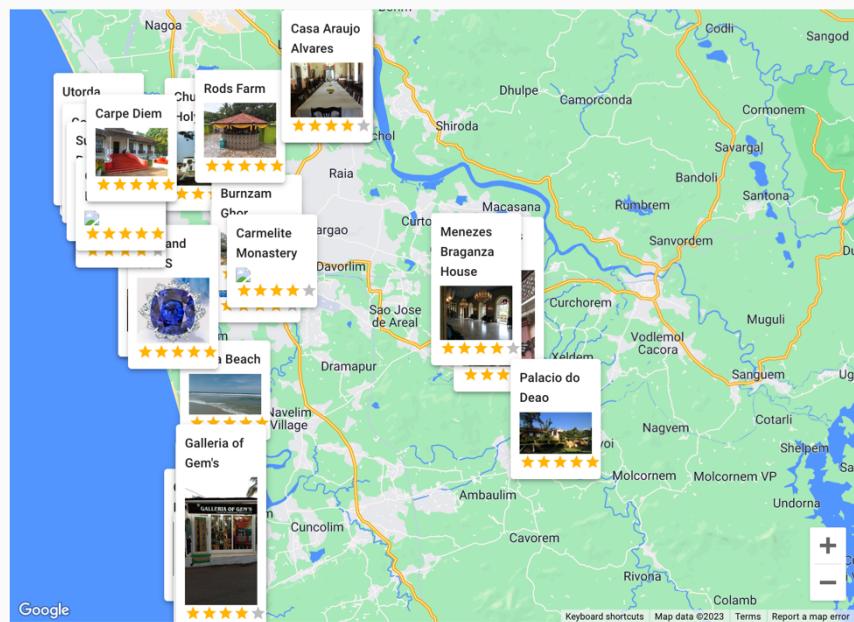


Figure 5.2 – Attractions of near-by-places in Wanderly.

## METHODOLOGY

In the digital age, travel planning has become increasingly intricate, demanding a user-friendly platform that simplifies the process while ensuring a comprehensive travel experience. Wanderly, an innovative travel planning application, has emerged as a transformative solution for globetrotters seeking hassle-free travel arrangements and comprehensive travel information. Leveraging an intricate coding structure, Wanderly embodies a seamless amalgamation of React, and JavaScript to deliver a sophisticated user interface and an unparalleled travel planning experience.

React, a dynamic JavaScript library, serves as the cornerstone of Wanderly's intricate coding architecture. Its exceptional capabilities in building user interfaces ensure that the app offers a seamless, responsive, and engaging experience across various devices and screen sizes. By harnessing React, Wanderly can deliver real-time updates, interactive features, and personalized recommendations, enhancing the overall user engagement and satisfaction. The incorporation of React empowers Wanderly to offer a dynamic and responsive platform that caters to the evolving needs and preferences of modern-day travelers.

JavaScript, the quintessential programming language for web development, enriches Wanderly's functionality and interactivity. By leveraging the power of JavaScript, Wanderly enables users to conduct comprehensive research, book flights, access reliable destination information, and manage budgets effortlessly. The integration of JavaScript not only enhances the app's functionality but also facilitates seamless communication between users and the app's database, ensuring a smooth and efficient travel planning process. Wanderly's use of JavaScript reinforces its commitment to delivering a comprehensive and user-centric platform that caters to the diverse requirements of travelers worldwide.

Through the strategic integration of React, and JavaScript, Wanderly has redefined the landscape of travel planning, offering a comprehensive suite of features that cater to every aspect of a traveler's journey. With its simplified trip planning, trustworthy information, improved travel experience, affordable accommodations, flight booking capabilities, reliable destination insights, language barrier solutions, and budget management tools, Wanderly has emerged as the go-to platform for travelers seeking a seamless and hassle-free trip planning experience. As technology continues to evolve, Wanderly remains committed to leveraging cutting-edge coding languages to further enhance its features and redefine the future of travel planning.

## Source Code

### App.js

```
import React, { useState, useEffect } from 'react';
import { CssBaseline, Grid } from '@material-ui/core';

import { getPlacesData, getWeatherData } from './api/travelAdvisorAPI';
import Header from './components/Header/Header';
import List from './components/List>List';
import Map from './components/Map/Map';
import PlaceDetails from './components/PlaceDetails/PlaceDetails';
import { WidgetsTwoTone } from '@material-ui/icons';

const App = () => {
  const [type, setType] = useState('restaurants');
  const [rating, setRating] = useState("");

  const [coords, setCoords] = useState({}); 
  const [bounds, setBounds] = useState(null);

  const [weatherData, setWeatherData] = useState([]);
  const [filteredPlaces, setFilteredPlaces] = useState([]);
  const [places, setPlaces] = useState([]);

  const [autocomplete, setAutocomplete] = useState(null);
  const [childClicked, setChildClicked] = useState(null);
  const [isLoading, setIsLoading] = useState(false);

  useEffect(() => {
    navigator.geolocation.getCurrentPosition(({ coords: { latitude, longitude } }) => {
      setCoords({ lat: latitude, lng: longitude });
    });
  }, []);
  useEffect(() => {
    const filtered = places.filter((place) => Number(place.rating) > rating);

    setFilteredPlaces(filtered);
  }, [rating]);

  useEffect(() => {
    if (bounds) {
      setIsLoading(true);

      getWeatherData(coords.lat, coords.lng)
        .then((data) => setWeatherData(data));

      getPlacesData(type, bounds.sw, bounds.ne)
        .then((data) => {
          setPlaces(data.filter((place) => place.name && place.num_reviews > 0));
          setFilteredPlaces([]);
          setRating("");
        });
    }
  }, [bounds]);
}

export default App;
```

```

        setIsLoading(false);
    });
},
}, [bounds, type]);

const onLoad = (autoC) => setAutocomplete(autoC);

const onPlaceChanged = () => {
    const lat = autocomplete.getPlace().geometry.location.lat();
    const lng = autocomplete.getPlace().geometry.location.lng();

    setCoords({ lat, lng });
};

return (
    <>
    <CssBaseline/>
    <Header/>
    <Grid container spacing={3} style={{ width: '100%' }}>
        <Grid item xs={12} md={4}>
            <List
                isLoading={isLoading}
                childClicked={childClicked}
                places={filteredPlaces.length ? filteredPlaces : places}
                type={type}
                setType={setType}
                rating={rating}
                setRating={setRating}
            />
        </Grid>
        <Grid item xs={12} md={8}>
            <Map
                setChildClicked={setChildClicked}
                setBounds={setBounds}
                setCoords={setCoords}
                coords={coords}
                places={filteredPlaces.length ? filteredPlaces : places}
                weatherData={weatherData}
            />
        </Grid>
    </Grid>
    </>
);
};

export default App;

```

## Map.jsx

```

import React from 'react';
import GoogleMapReact from 'google-map-react';
import { Paper, Typography, useMediaQuery } from '@material-ui/core';
import LocationOnOutlinedIcon from '@material-ui/icons/LocationOnOutlined';
import Rating from '@material-ui/lab/Rating';

```

```

import mapStyles from '../mapStyles';
import useStyles from './styles.js';

const Map = ({ coords, places, setCoords, setBounds, setChildClicked, weatherData }) => {
  const matches = useMediaQuery('min-width:600px');
  const classes = useStyles();

  return (
    <div className={classes.mapContainer}>
      <GoogleMapReact
        bootstrapURLKeys={{ key: process.env.REACT_APP_GOOGLE_MAP_API_KEY }}
        defaultCenter={coords}
        center={coords}
        defaultZoom={14}
        margin={[50, 50, 50, 50]}
        options={{ disableDefaultUI: true, zoomControl: true, styles: mapStyles }}
        onChange={(e) => {
          setCoords({ lat: e.center.lat, lng: e.center.lng });
          setBounds({ ne: e.marginBounds.ne, sw: e.marginBounds.sw });
        }}
        onChildClick={(child) => setChildClicked(child)}
      >
        {places.length && places.map((place, i) => (
          <div
            className={classes.markerContainer}
            lat={Number(place.latitude)}
            lng={Number(place.longitude)}
            key={i}
          >
            {!matches
              ? <LocationOnOutlinedIcon color="primary" fontSize="large" />
              : (
                <Paper elevation={3} className={classes.paper}>
                  <Typography className={classes.typography} variant="subtitle2" gutterBottom>
                    {place.name}</Typography>
                  <img
                    className={classes.pointer}
                    src={place.photo ? place.photo.images.large.url :
                      'https://www.foodserviceandhospitality.com/wp-content/uploads/2016/09/Restaurant-Placeholder-001.jpg'}
                  />
                  <Rating name="read-only" size="small" value={Number(place.rating)} readOnly />
                </Paper>
              )
            }
          </div>
        ))}
        {weatherData?.list?.length && weatherData.list.map((data, i) => (
          <div key={i} lat={data.coord.lat} lng={data.coord.lon}>
            <img src={'http://openweathermap.org/img/w/${data.weather[0].icon}.png`} height="70px" />
          </div>
        ))}
      </GoogleMapReact>
    </div>
  );
};

export default Map;

```

## List.jsx

```
import React, { useState, useEffect, createRef } from 'react';
import { CircularProgress, Grid, Typography, InputLabel, MenuItem, FormControl, Select } from '@material-ui/core';

import PlaceDetails from '../PlaceDetails/PlaceDetails';
import useStyles from './styles.js';

const List = ({ places, type, setType, rating, setRating, childClicked, isLoading }) => {
  const [elRefs, setElRefs] = useState([]);
  const classes = useStyles();

  useEffect(() => {
    setElRefs((refs) => Array(places.length).fill().map((_, i) => refs[i] || createRef()));
  }, [places]);

  return (
    <div className={classes.container}>
      <Typography variant="h4">Food & Dining around you</Typography>
      {isLoading ? (
        <div className={classes.loading}>
          <CircularProgress size="5rem" />
        </div>
      ) : (
        <>
          <FormControl className={classes.formControl}>
            <InputLabel id="type">Type</InputLabel>
            <Select id="type" value={type} onChange={(e) => setType(e.target.value)}>
              <MenuItem value="restaurants">Restaurants</MenuItem>
              <MenuItem value="hotels">Hotels</MenuItem>
              <MenuItem value="attractions">Attractions</MenuItem>
            </Select>
          </FormControl>
          <FormControl className={classes.formControl}>
            <InputLabel id="rating">Rating</InputLabel>
            <Select id="rating" value={rating} onChange={(e) => setRating(e.target.value)}>
              <MenuItem value="">All</MenuItem>
              <MenuItem value="3">Above 3.0</MenuItem>
              <MenuItem value="4">Above 4.0</MenuItem>
              <MenuItem value="4.5">Above 4.5</MenuItem>
            </Select>
          </FormControl>
          <Grid container spacing={3} className={classes.list}>
            {places?.map((place, i) => (
              <Grid ref={elRefs[i]} key={i} item xs={12}>
                <PlaceDetails selected={Number(childClicked) === i} refProp={elRefs[i]} place={place} />
              </Grid>
            )));
          </Grid>
        </>
      )}
    </div>
  );
}
```

```
};

export default List;
```

## PlaceDetails.jsx

```
import React from 'react';
import { Autocomplete } from '@react-google-maps/api';
import { AppBar, Toolbar, Typography, InputBase, Box } from '@material-ui/core';
import SearchIcon from '@material-ui/icons/Search';

import useStyles from './styles.js';

const Header = ({ onPlaceChanged, onLoad }) => {
  const classes = useStyles();

  return (
    <AppBar position="static">
      <Toolbar className={classes.toolbar}>
        <Typography variant="h5" className={classes.title}>
          Travel Advisor
        </Typography>
        <Box display="flex">
          <Typography variant="h6" className={classes.title}>
            Explore new places
          </Typography>
          <Autocomplete onLoad={onLoad} onPlaceChanged={onPlaceChanged}>
            <div className={classes.search}>
              <div className={classes.searchIcon}>
                <SearchIcon />
              </div>
              <InputBase placeholder="Search..." classes={{ root: classes.inputRoot, input: classes.inputInput }} />
            </div>
          </Autocomplete>
        </Box>
      </Toolbar>
    </AppBar>
  );
};

export default Header;
```

The screenshot shows the VS Code interface with the following details:

- Explorer View:** Shows the project structure under "WANDERLY".
- Editor View:** Displays the contents of the "App.js" file.
- Bottom Status Bar:** Shows file statistics (0 0 6 1), a link to "api.openai.com - verify authentication", and tabs for "NORMAL" and "Babel JavaScript".

```
import React, { useState, useEffect } from 'react';
import { CssBaseline, Grid } from '@material-ui/core';
import { getPlacesData, getWeatherData } from './api/WanderlyAPI';
import Header from './components/Header/Header';
import List from './components/List/List';
import Map from './components/Map/Map';
import PlaceDetails from './components/PlaceDetails/PlaceDetails';
import { WidgetsTwoTone } from '@material-ui/icons';

const App = () => {
  const [type, setType] = useState('restaurants');
  const [rating, setRating] = useState('');
  const [coords, setCoords] = useState({});
  const [bounds, setBounds] = useState(null);
  const [weatherData, setWeatherData] = useState([]);
  const [filteredPlaces, setFilteredPlaces] = useState([]);
  const [places, setPlaces] = useState([]);

  const [autocomplete, setAutocomplete] = useState(null);
  const [childClicked, setChildClicked] = useState(null);
  const [isLoading, setIsLoading] = useState(false);

  useEffect(() => {
    navigator.geolocation.getCurrentPosition(({ coords: { latitude, longitude } }) => {
      setCoords({ lat: latitude, lng: longitude });
    }, []);
  }, []);
  useEffect(() => {
    const filtered = places.filter((place) => Number(place.rating) > rating);
    setFilteredPlaces(filtered);
  }, [rating]);
  useEffect(() => {
    if (bounds) {
      setIsLoading(true);
      getWeatherData(coords.lat, coords.lng)
        .then((data) => setWeatherData(data));
    }
  }, [bounds]);
}

export default App;
```

Figure 6.1 – App.js File of Wanderly in VS code.

## **CONCLUSION**

Wanderly stands out as a groundbreaking travel planning app that has redefined the way people organize their trips. By offering simplified trip planning, complete and trustworthy information, and an improved travel experience, Wanderly has become an essential tool for modern travelers. The app's ability to provide affordable accommodations, assist in researching and booking flights, obtaining reliable destination information, overcoming language barriers, and managing budgets has made it a go-to solution for individuals seeking seamless and stress-free travel experiences. With its comprehensive features and user-friendly interface, Wanderly has successfully addressed the complexities of trip planning, making it a must-have companion for all adventure-seekers and explorers.

## **SCOPE OF FUTURE WORK**

The Wanderly's future objectives include incorporating additional travel services, improving personalization through machine learning, incorporating social features for community engagement, providing real-time updates, investigating augmented reality integration, and continuously gathering user feedback for ongoing improvements. These updates seek to provide a more thorough and personalised travel planning experience, ensuring that the app remains a useful tool for travellers in the future.

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