PlanMyTravel

Project Report
Presented to

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Chapter 1. Project Overview

Description

Efficient planning is the key to successful travel. Well organized travel reduces the risk of overstaying, overpaying and efforts to look out for places to see at the desired destination. Plan my Travel is a web-based application to build an itinerary. It will facilitate users with a ready to use travel plan as well as customized and flexible travel plan. There are several websites to plan trips, however, many of them lack in the flexibility and most travel concierge and agents take heavy commissions to plan a trip. In the proposed web application, users will select the destination for travel, start Date and duration of their stay. Based on the number of days, this web application will provide the information of top attractions, restaurants based on cuisine preference hotels to stay at, in that destination. Also, there will be an option for customizing the travel places in the destination as per user requirement. PlanMyTravel application will create a travel plan for users to make their travel experience hassle free travel plans.

Goals

To leverage the users with system generated travel plans along with customized plan options.

Deliverables

- Project Report with details of design, implementation, testing covering each of them
- extensively
- The link to the hosted website
- Working Code implemented
- Front end, middle tier, and backend code
- Database details and schema
- Test cases covering end to end testing.

Motivation

A great many things motivate a person to take a trip. On our website, we can carefully plan an expedition or a spontaneous idea to visit a particular place. We simply provide traveling from a rural town to a large city and even countries. We can change a person’s perspective and renew their spirits towards travelling. With a budget of a trip, which includes plane ticket, accommodation, car rentals, meals, and activities, a person is ready on his way to a travel adventure full of fresh sights.
In our busy schedule, we don't have time to plan the trip. So, we have a unique feature in our website which will suggest the best destination according to your requirements within

your budget and time.

Another motivation for this travel website is the urge to learn about a different place and its traditions. For example, an American traveling to India for the very first time will have easy experience in an entirely new environment. We will help them to learn new traditions through providing a guide beneficial to those who want to learn more about its history or view its treasures of architecture, and even translate the English language to any local language spoken with an unfamiliar accent. This traveling website is an effective way for planning any trips anywhere all over the world with your budget.

Though a trip can be an exciting undertaking, there are still some practical preparations involved. For instance, no matter what the destination is of a trip, obtaining travel insurance is a prudent idea. In addition, even if the trip springs from a spontaneous notion, it’s wise to let your family and friends know where you are going through our website. This will motivate other friends and families to travel using our website. Frequently, a dose of travel may be just what a person needs to reinvigorate their life at home.

Chapter 2. High Level System Design and Plan:

User Case Diagram

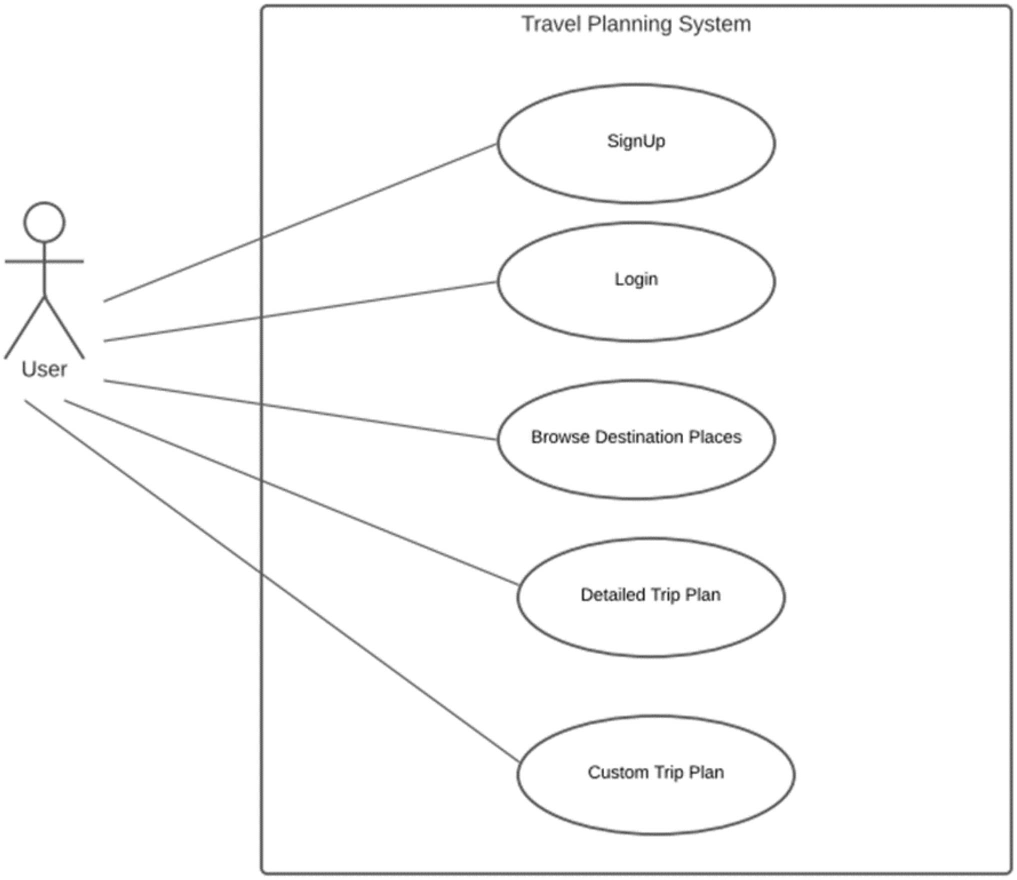


Figure 1: Use Case Diagram

Milestones

Intermediate Milestones:

1) Creating a Login and Signup Page.
2) Developing Forgot Password.
3) Developing Update User Profile and Contact page.
4) Developing a search page containing Destination.

Final Milestones:

1) Developing Plan by adding location, Restaurants, Hotels in Favorite List.
2) Generating Plan by selecting date from calendar and drag-dropping items from Favorite List
3) Displaying Plan
4) Printing Plan

Chapter 3. Data Model

Activity Diagram

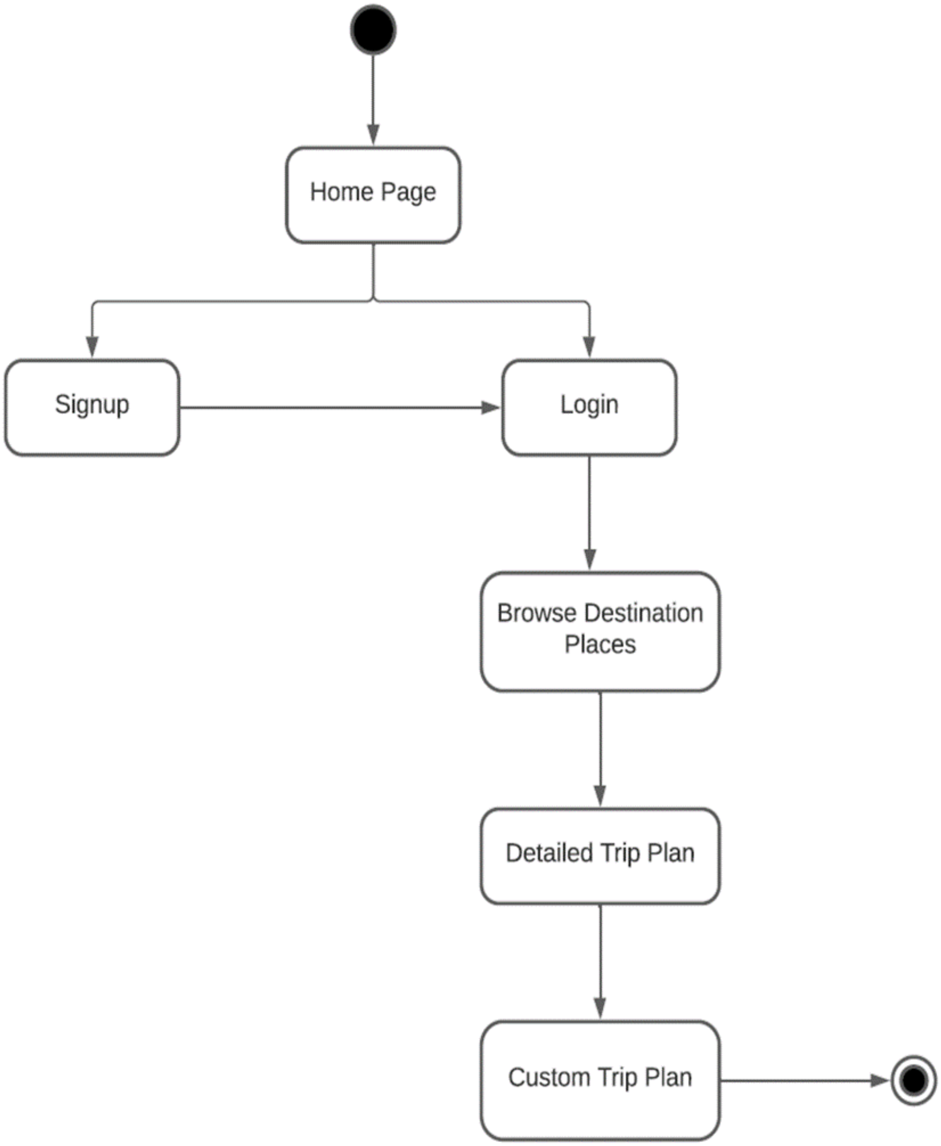


Figure 2: Activity Diagram

Sequence Diagram

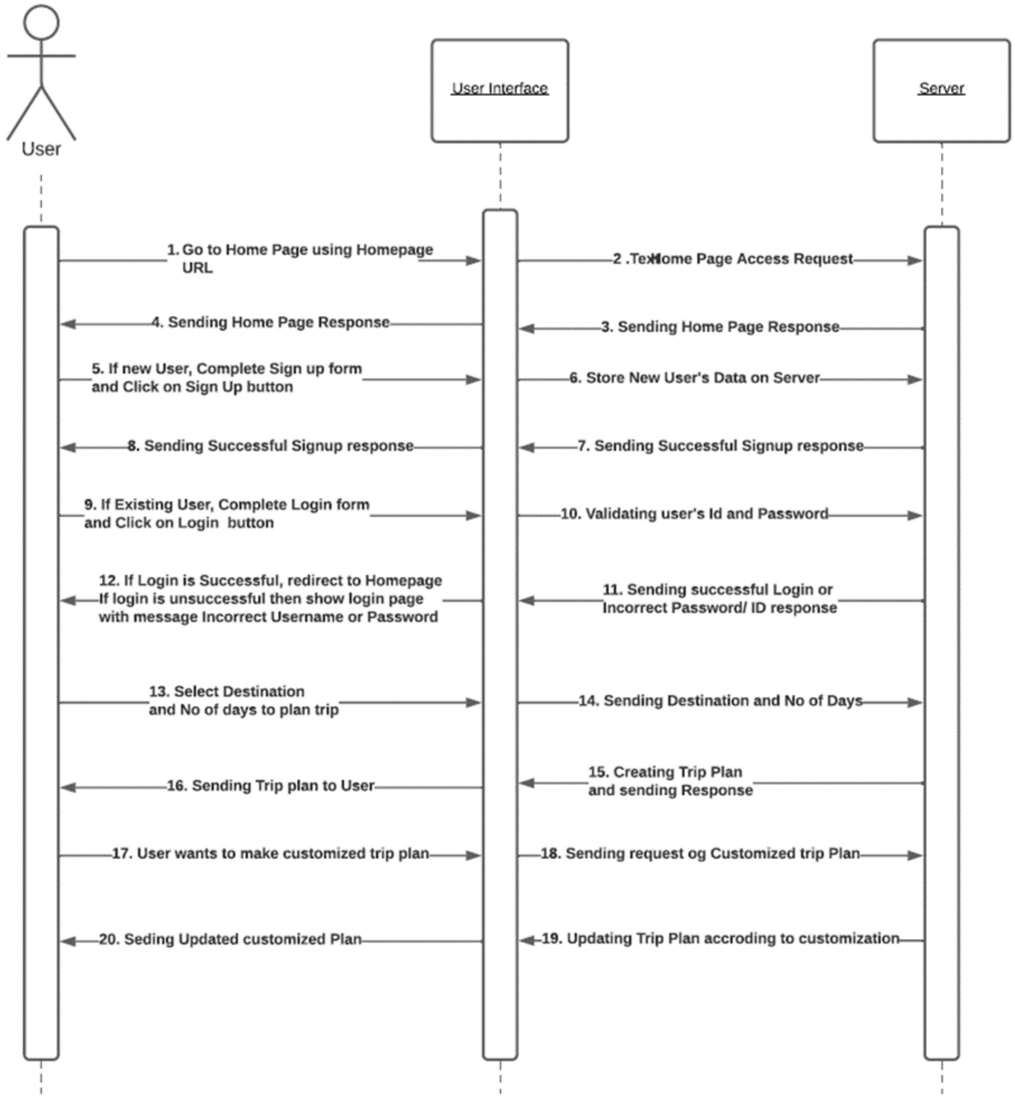

User
User Interface
Server
1. Go to Home Page using Homepage URL
2 .TexHome Page Access Request
3. Sending Home Page Response
4. Sending Home Page Response
5. If new User, Complete Sign up form and Click on Sign Up button
6. Store New User's Data on Server
7. Sending Successful Signup response
8. Sending Successful Signup response
9. If Existing User, Complete Login form and Click on Login button
10. Validating user's Id and Password
11. Sending successful Login or Incorrect Password/ ID response
12. If Login is Successful, redirect to Homepage If login is unsuccessful then show login page with message Incorrect Username or Password
13. Select Destination and No of days to plan trip
14. Sending Destination and No of Days
15. Creating Trip Plan and sending Response
16. Sending Trip plan to User
17. User wants to make customized trip plan
18. Sending request og Customized trip Plan
19. Updating Trip Plan accroding to customization
20. Seding Updated customized Plan

Figure 3: Sequence Diagram

Decomposition Diagram

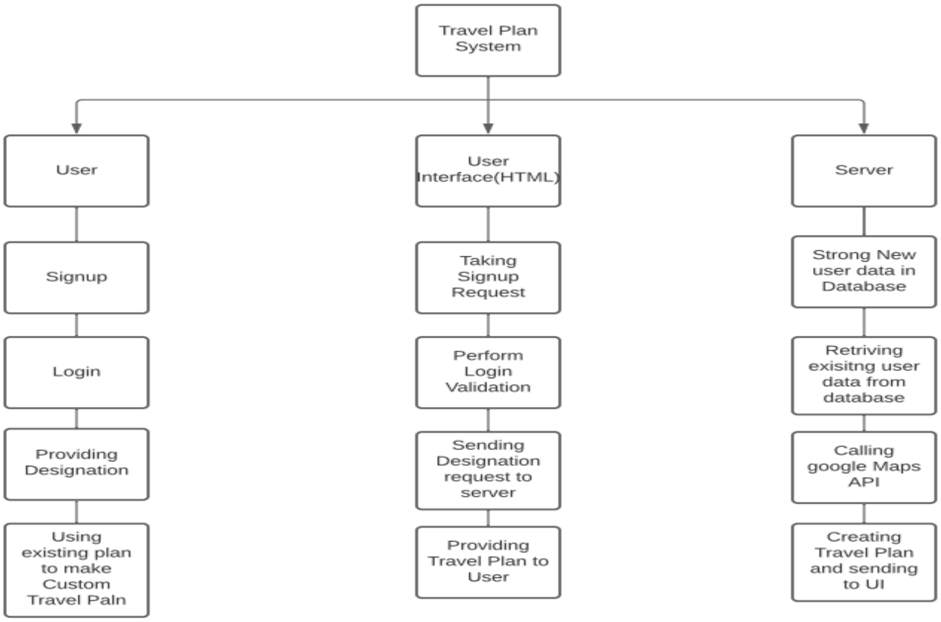

Travel Plan System
User
Signup
Login
Providing Designation
Using existing plan to make Custom Travel Paln
User Interface(HTML)
Taking Signup Request
Perform Login Validation
Sending Designation request to server
Providing Travel Plan to User
Server
Strong New user data in Database
Retriving exisitng user data from database
Calling google Maps API
Creating Travel Plan and sending to UI

Figure 4: Decomposition Diagram

Flow Diagram

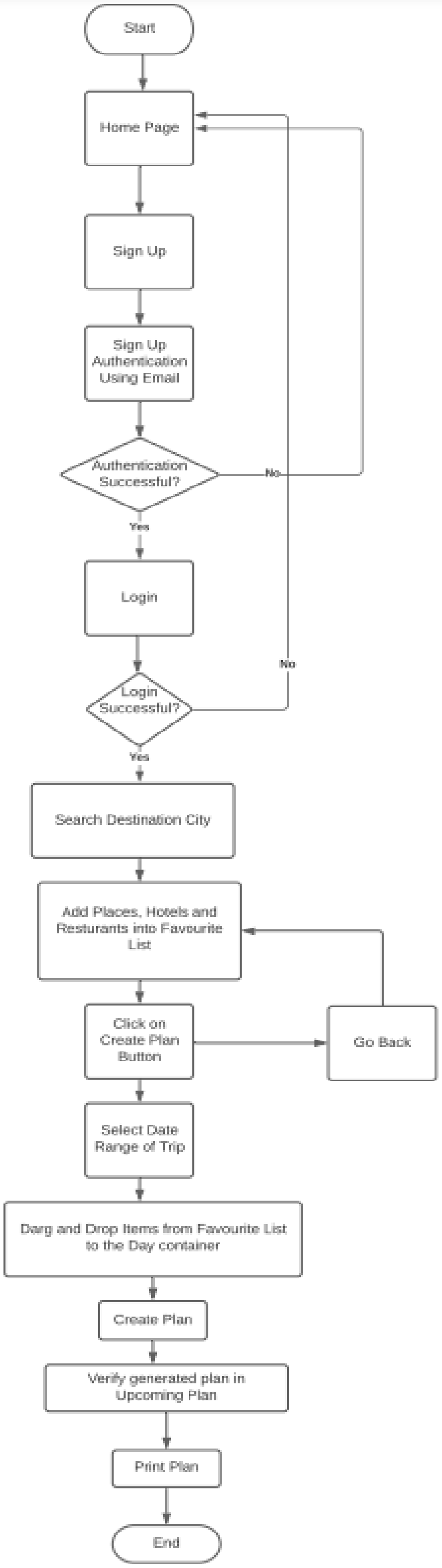
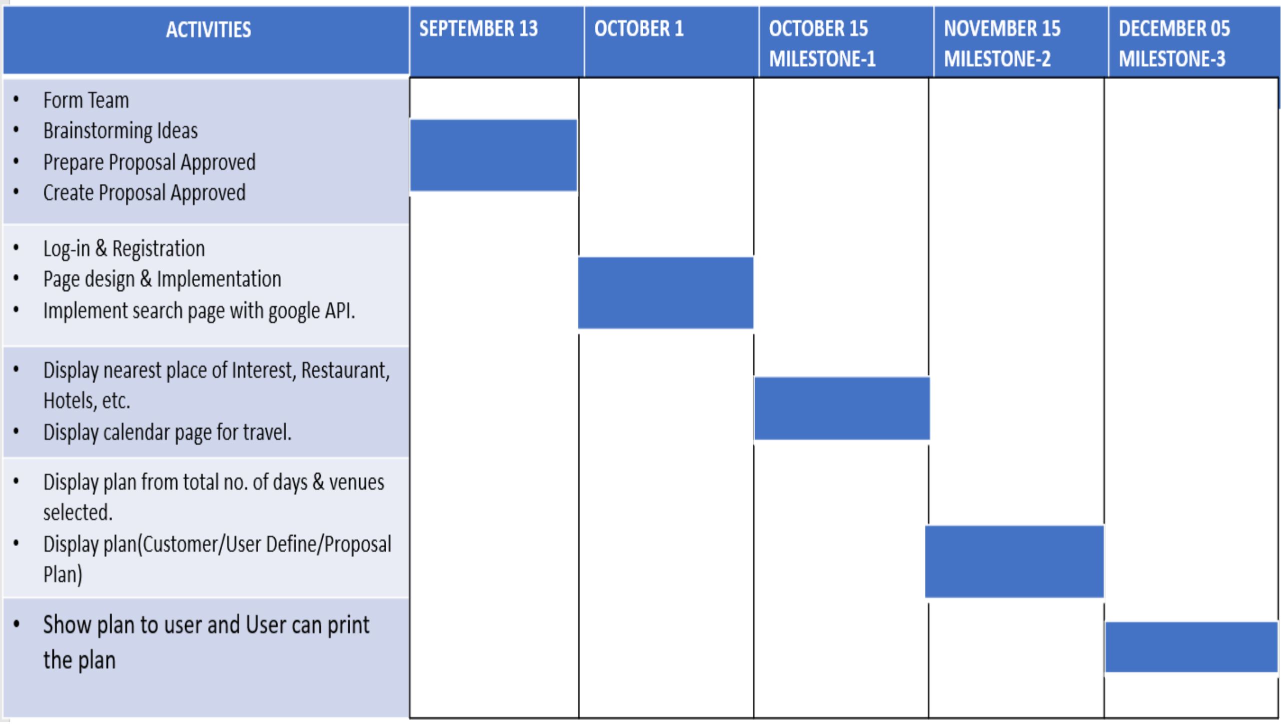

Start
Home Page
Sign Up
Sign Up Authentication Using Email
Authentication Successful?
No
Yes
Login
No
Login Successful?
Yes
Search Destination City
Add Places, Hotels and Resturants into Favourite List
Click on Create Plan Button
Go Back
Select Date Range of Trip
Darg and Drop Items from Favourite List to the Day container
Create Plan
Verify generated plan in Upcoming Plan
Print Plan
End

Figure 5: Flow Diagram

Gantt Chart



ACTIVITIES	SEPTEMBER 13	OCTOBER 1	OCTOBER 15 MILESTONE-1	NOVEMBER 15 MILESTONE-2	DECEMBER 05 MILESTONE-3
• Form Team • Brainstorming Ideas • Prepare Proposal Approved • Create Proposal Approved	■				
• Log-in & Registration • Page design & Implementation • Implement search page with google API.		■			
• Display nearest place of Interest, Restaurant, Hotels, etc. • Display calendar page for travel.			■		
• Display plan from total no. of days & venues selected. • Display plan(Customer/User Define/Proposal Plan)				■	
• Show plan to user and User can print the plan					■

Figure 6: Gantt Chart

Chapter 4. Team Member Responsibilities

Responsibilities

Sadhana: Responsive Home Page (Including Sign-in, Register, Forgot, Reset) and Database Connectivity (LoginTable).

Madhura: To implement nearby search functionality by fetching location (Google Maps, Places, Geolocation APIs) and location using search (Google Autocomplete API)

Apurva: Create Itinerary Plan and Implementing Planner and Displaying Plans. (PlannerTable).

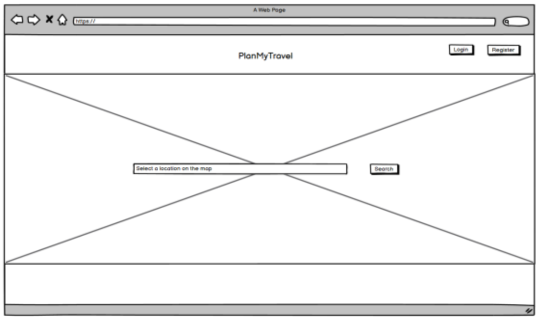
Chapter 5. System Implementation updates and Outstanding issues

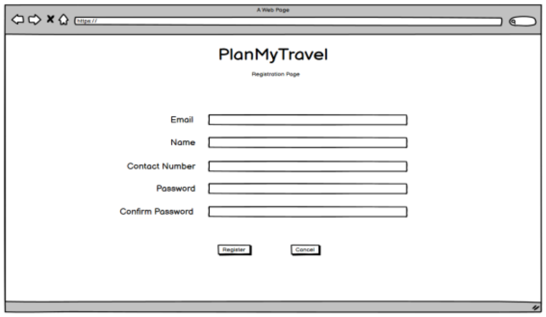
Technical Specifications

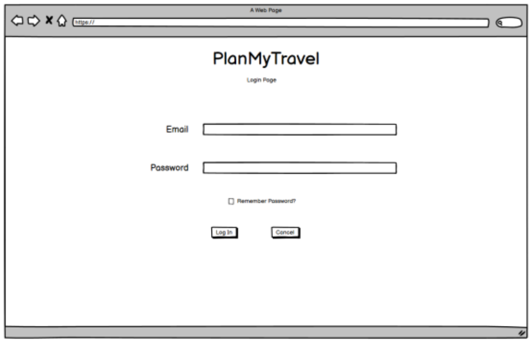
HTML 5	To create skeleton of entire application.
CSS 3	To style the application using custom CSS3 and Bootstrap 4.
JS	Vanilla and ECMA6 JavaScript to write google maps searching functionality and implementing and creating Travel Plans. Some of the UI components are also creating using DOM manipulation with JavaScript.
jQuery	jQuery to select apply CSS to various objects in entire application. Also used jQuery calendar component while generating travel plans.
php	PHP as server side to fetch the login and signup details and store in database. Also used to save generated plans to the database so user can access them at later stage.
MySQL	To create and implement database at initial stage using XAMP stack on localhost. Created logintable and plannertable to store login and plan details.
G Google Maps Platform	Google Maps API like Autocomplete for search, Places API to search nearby locations, Destinations API to get details.

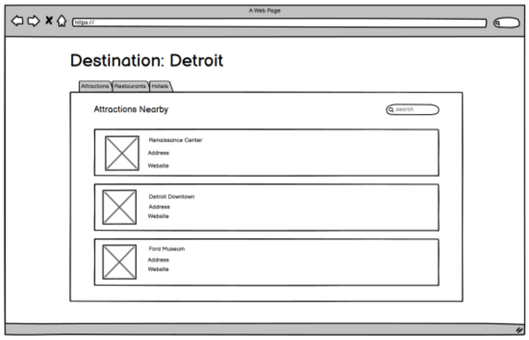
Table 1: Technical Specifications

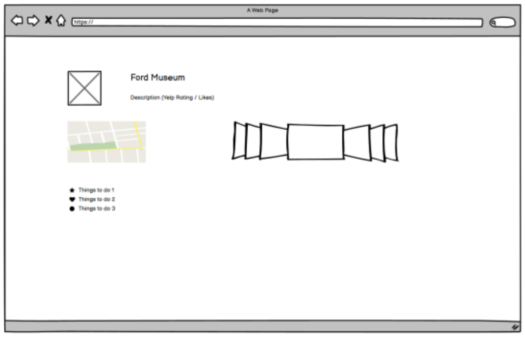
Wireframe mock-ups

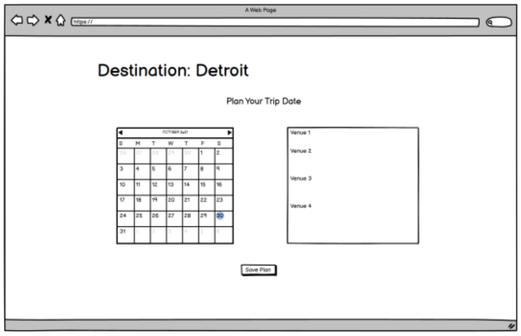


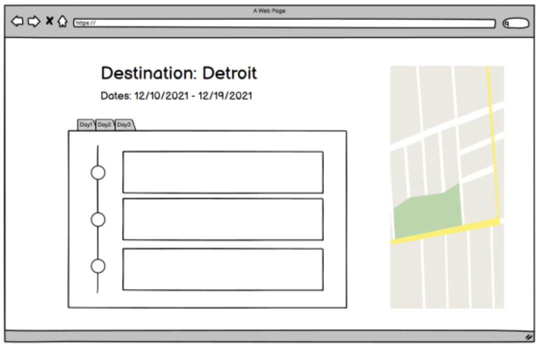












System Implementation

Key features of User Interface Design

1. Carousel: We have implemented the carousel to effectively show the sliding images. This functionality is added to the Homepage.

2. Animation using CSS: We have used CSS to show the Markers in the map. When the user enters the destination and clicks on search the system will navigate to the page where markers will be displayed in animated form.

3. Dynamically generated div elements: When the user selects a particular place, hotel, or restaurant there will be a different number of places, hotels and restaurants for the selected destination that is why we implemented the dynamic div generation using DOM manipulation.

4. Draggable element: We have implemented the draggable element using jQuery while creating the plan. Each draggable element has a date assigned to it so that the user can drag and drop his favorite location, hotels, and restaurants as per his choice of date. To implement drag and drop functionality, there is one draggable element in CSS. By setting this element true, the end user can drag items. There are parameters like DragStart, DragEnd and DragHover.

The proposed system consists of following modules

1. Authentication
2. Nearby Search using various Google API
3. Create travel plan

Authentication

Authentication is the crucial part in the web application due to the security and privacy threats caused by hackers. In the proposed system we have implemented MD5 (hash function) or MD5 Message-Digest Algorithm for password verification to implement a robust system which can be sustained when attacked. Using MD5 (hash function) we have encrypted the password so even when the database is accessed the password will show in the form of hash values or encrypted values.

To encrypt the password, we used the following piece of code:

```
password_hash($_POST['loginPassword'], PASSWORD_BCRYPT)
```

password_hash is the function that converts the user entered password from the POST call and uses the provided encryption algorithm.

To make the system more robust and secure we have also provided the facility to authenticate by sending confirmation email to users to verify the signed-up user is legit or not. To send email to users we have used PHPmailer library in PHP.

The website has also provided the update profile functionality if a user wants to update his email, phone number or address.

Nearby Search using Google API

To implement the nearby search module, we have used around four Google APIs.

1. Google Autocomplete API
2. Google Geolocation API
3. Google maps API
4. Google Places API

Brief about Google API:

Google API is used to fetch the live location data. To embed Google API, we must generate the google API key using the Google Cloud Platform. We have provided the key while implementing the google API. Key generation is mandatory.

Google Autocomplete API: To search the nearby places to the destination, the user must enter the destination name in the search box. When a user enters the name in the search box, the dropdown list with suggested autocompleting names will be displayed and the user will select the desired destination from the dropdown list. This functionality to autocomplete the name is incorporated using the autocomplete google API. In our application this autocomplete API will provide the information for cities only as per the system implementation requirement.

The following snippet is used to do autocomplete:

```
var options = {
                     types: ['(cities)']
                };
                var autocomplete = new
google.maps.places.Autocomplete(input, options);


                google.maps.event.addListener(autocomplete,
'place_changed',
                     function() {
```

In this snippet the options object is passed as an argument to the API call to the google Autocomplete API. We have passed “Cities” to filter according to cities. Place is stored in local storage which is grabbed from place changed event call for autocomplete.

Google Geolocation API: This is used to fetch all geographical details of the current location like longitude, latitude, and type of the placement.

Google maps API: This is used to load the google map for the desired location. It will get the latitude, longitude information and will plot the google map on the website. We have used this API to show the google map once the user enters destination and click on the search. Using this API, we have also fixed the position of map and zoom size of the map to highlight the selected search

Map object is defined and fetched using google maps API with the following code:

```
new google.maps.Map(document.getElementById('categorySideMap'), {
            center: pos,
            zoom: 13
        });
```

DOM object “categorySideMap” is passed as argument. Along with zoom size of map and the center position (or whatever is searched by user). Pos variable here is created which consists of Latitude and Longitude of the location.

Google Places API: This is used to get detailed information about places, hotels, and restaurants. To implement this API to get information of a particular type of place, we just must pass the parameter type in the URL as JSON format i.e., key and value format. It also provides the different parameters like reviews, photos of places. We have fetched the photos and reviews of places, hotels and restaurants using this API.

Following is the snippet of how to make the Places API call:

```
new google.maps.places.PlacesService(map);
```

“map” along with its location bounds is passed as an argument to the places API call.

Favorites are stored in local storage to minimize the load on the server. The user can go back and search for the same place again. This increases additional API calls but keeps the server from bogging down due to continuous checks for past user searches. However, this functionality can be added in future scope to implement searched Locations table in the database.

Plan creation: In plan creation, when application gets directed to the calendar is implemented using the Date picker jQuery container. Once Start date and end date is selected, no of days are calculated using subtract arithmetic operators of End date and Start Date. Individual Date container is implemented using Dynamic elements where there is a main Planner list as parent div. Daily containers are the child div of Planner list div. Favorite items in the Daily container after dragging are sub-child which contain parameters like PlaceID, PlaceType, name and so on. Items added in the Favorite list can be added using CloneMode and deleted using RemoveMode. Once the final plan is created, those details get stored into a plannertable in the Plan Traveldb database.

Plan creation mainly uses DOM manipulation to dynamically hide and show elements based on what is selected. Calendar objects are used from jQuery Date picker component to display. Plans are created using “Draggable” class elements to drag and drop different divs. Plans details are passed to MySQL database using Ajax POST call.

The following snippet shows the AJAX call where user location details as well as created custom plan details is sent to MySQL in a JSON format.

```
$.ajax({
    type:'POST',
    headers: { 'Content-Type': 'application/json' },
    url: "edit_plan.php",
    data: JSON.stringify(tripObj.trip),
    success:function(data){

         console.log("success");
    },
    error: function (data) {

         console.log("error");
     }
 });
```

Here the trip details are stored inside tripObj.trip and the PHP insert calls are made inside the edit_plan.php page.

After plans are saved in MySQL using INSERT query. My plans page fetches all plans that matches the current user. To navigate users’ ids and details efficiently, we have made use of $_SESSION variables to store user details in a session.

Outstanding Issues

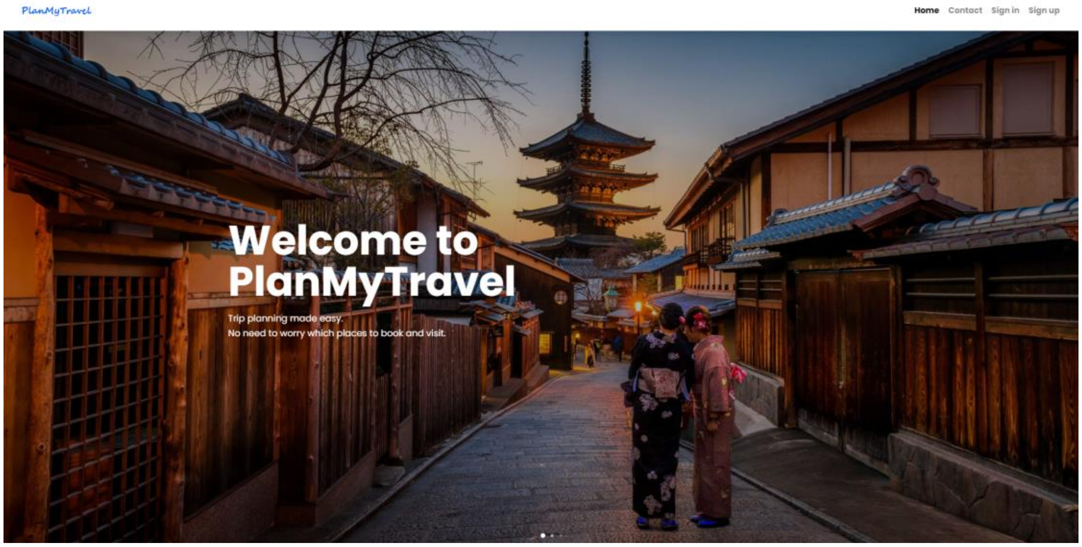
- System implementation is done prominently using Google API. The Google API was free to use before 2018. This means for using Google Maps, whether straight up or integrated in a plugin, is now being charged, regardless of their purpose of use, i.e., commercial, personal, or non-profit. However, users can get $200 credit each month for free which can accommodate approximately 28000 requests per month. This was the biggest challenge we have faced during the development as we must track the number of requests to Google API and optimize the use of it to get advantage of the free requests.

- The other challenge was to optimize the requests to Google API. We were planning to fetch the information obtained from Google API which is in JSON format into the database and at a later point of time we were planning to access this information from the database. However, this is not possible due to the terms and conditions mentioned while using google API. Please refer to the link below to get in detailed information regarding preservation of fields. See, 10.5 c & d for the detailed answer. (*https://developers.google.com/maps/terms-20180207*)

Chapter 6. Results of System Evaluation

Project Workflow

PlanMyTravel is a User-Friendly website. Left-hand side there is the logo of the website. Here is a smart, intuitive homepage with simple navigation with menus on Right hand side i.e., Home, Contact, Sign-in, Sign-up that are easily identifiable and visually separated by color and contrast. For making the Homepage more attractive we have added some carousels for images. A great homepage design will allow visitors to move with ease between pages and screens, always communicating to the user where they are while keeping them engaged to continue exploring for that we have used sliding images.

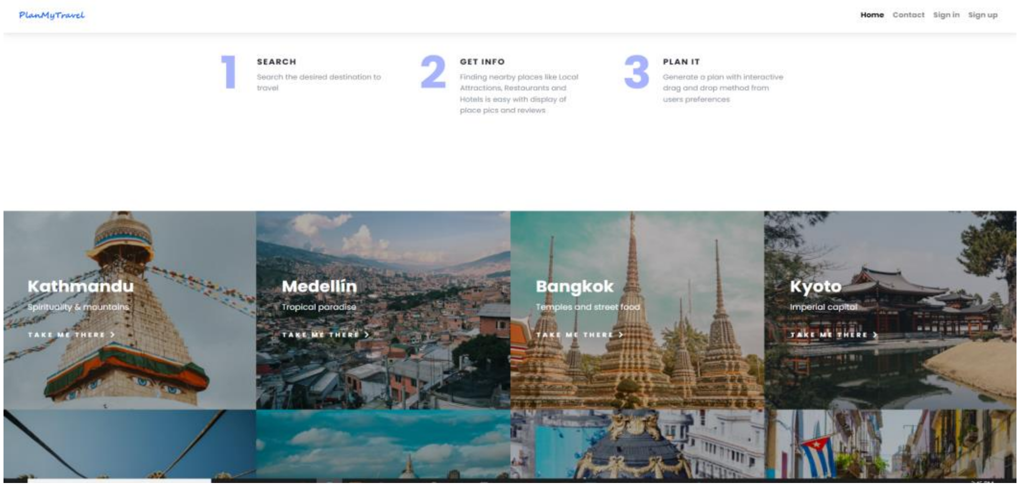


Welcome to PlanMyTravel

Trip planning made easy.
No need to worry which places to book and visit.

Figure 7: Home Page

The Homepage shows the image grids with different suggested places to visit. Also, some information provided to motivate users to travel.



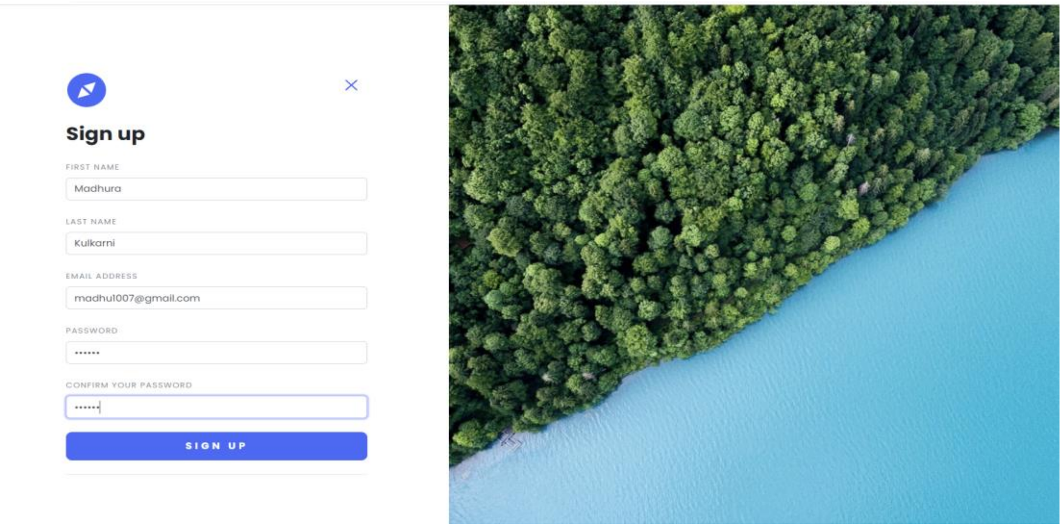
1 SEARCH
Search the desired destination to travel

2 GET INFO
Finding nearby places like Local Attractions, Restaurants and Hotels is easy with display of place pics and reviews

3 PLAN IT
Generate a plan with interactive drag and drop method from users preferences

Figure 8: Home Page (Cont.)

A signup page (also known as a registration page) enables users and organizations to independently register and gain access to your system. Below you can see the Signup page with first name, last name, email, and password. For authentication purposes we have used email confirmation using the PHPMailer function which will send a confirmation to registered mail ID. Passwords which the user will put in the database will get encrypted so future security.



Sign up

FIRST NAME: Madhura

LAST NAME: Kulkarni

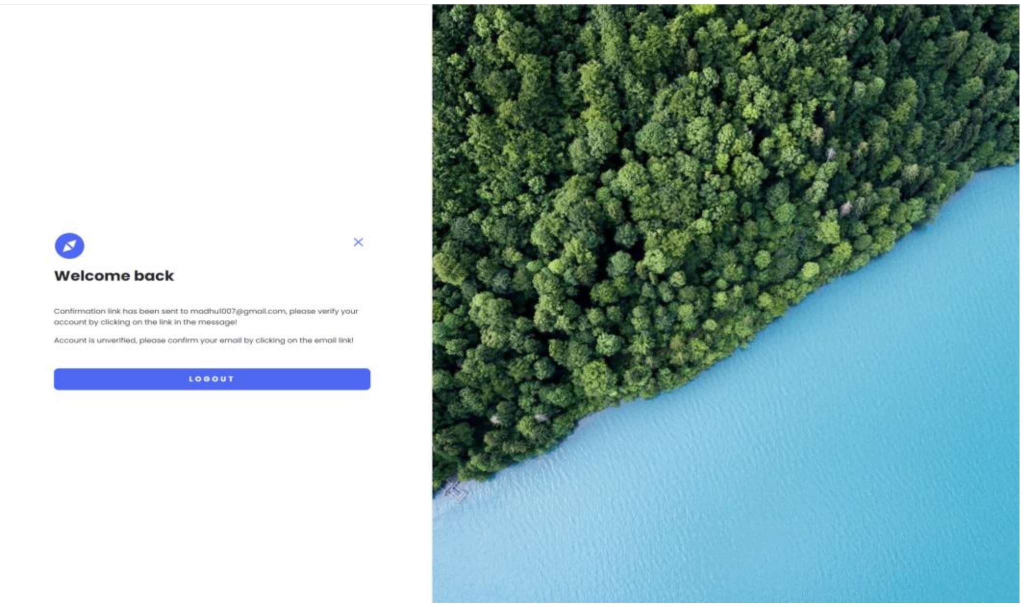
EMAIL ADDRESS: madhu1007@gmail.com

PASSWORD: ••••••

CONFIRM YOUR PASSWORD: ••••••

Figure 9: Sign Up Page

Email sent for User Authentication: Here you can see the Email confirmation is sent to the user. Email-Id and confirmation window will pop-up.



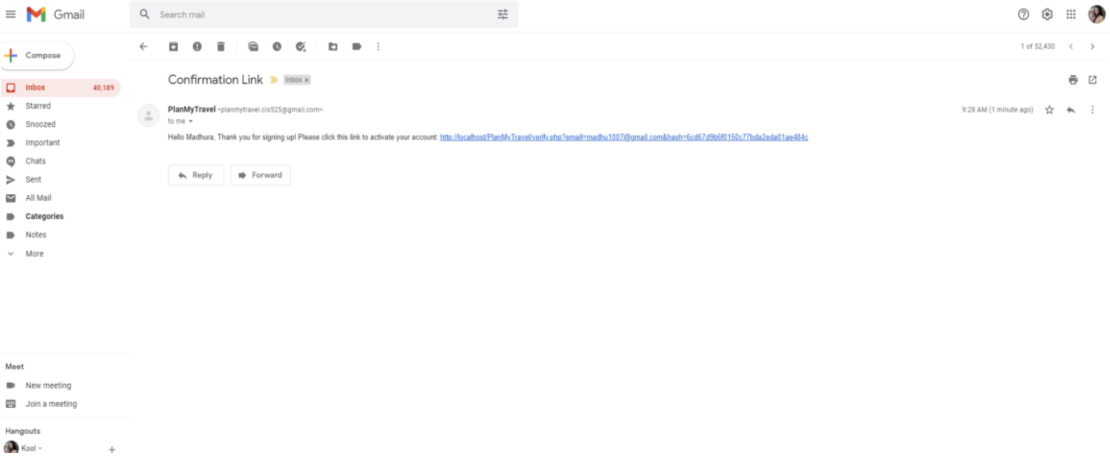
Welcome back

Confirmation link has been sent to madhu1007@gmail.com, please verify your account by clicking on the link in the message!

Account is unverified, please confirm your email by clicking on the email link!

Figure 10:Confirmation Required Page

Confirmation Link sent to email: Here below you can see the Authentication is done by sending an Email to the user email-id. User must click on the link, and he will redirect to the next page with a log-in successful registration message.



Confirmation Link

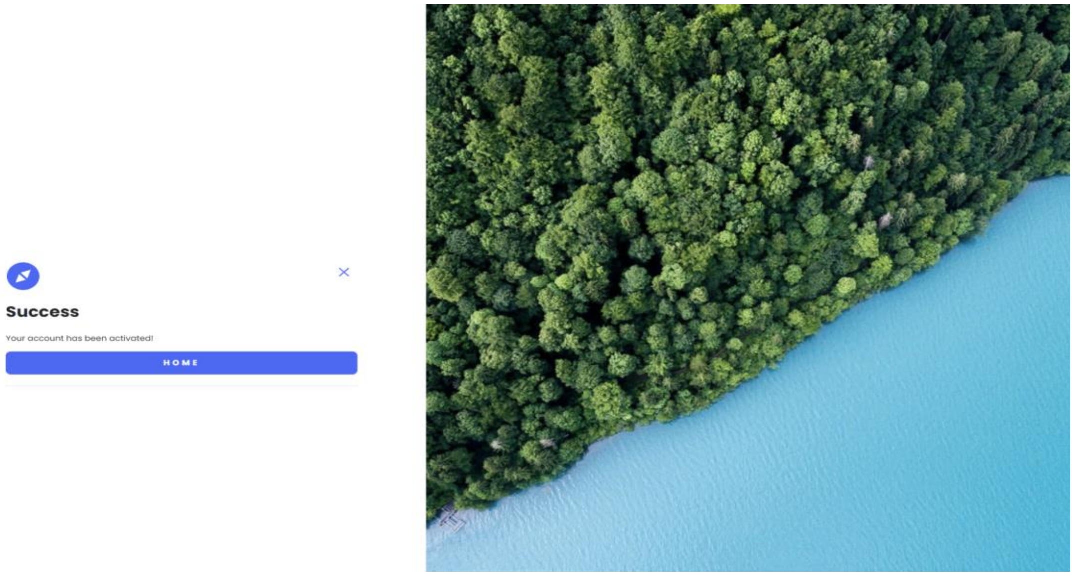
PlanMyTravel <planmytravel.cis525@gmail.com>
to me

9:28 AM (1 minute ago)

Hello Madhura, Thank you for signing up! Please click this link to activate your account: http://localhost/PlanMyTravel/verify.php?email=madhu1007@gmail.com&hash=6cd67d9b6f0150c77bda2eda01ae484c

Figure 11: Registration Activation Email in Gmail

User Confirmed: The user is authenticated and will get the activation successful message.

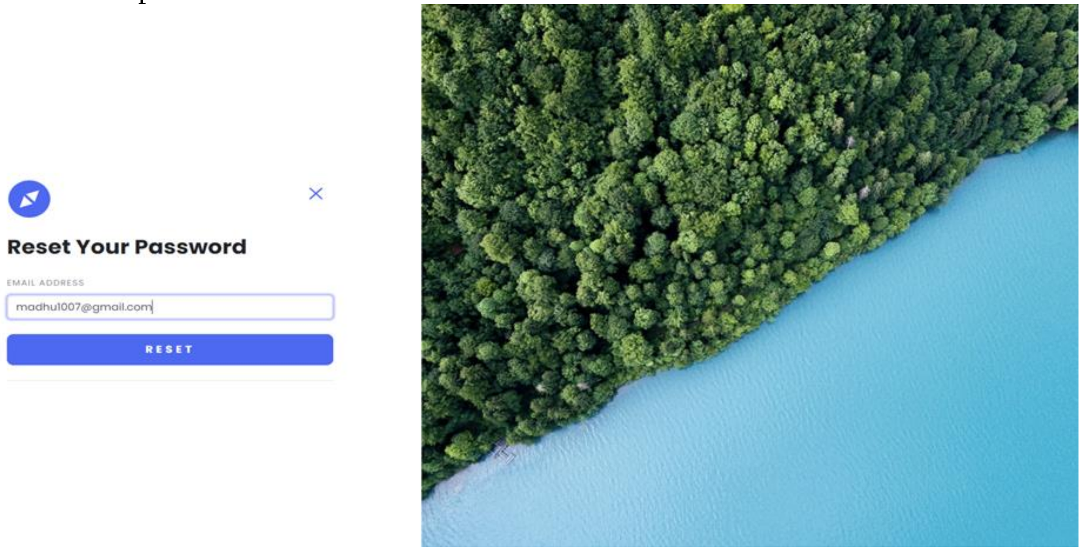


Success

Your account has been activated!

Figure 12: Success Page for Registration

Forget Password: For next time if the user forgets the password, there will be an option of forgot password. If the user clicks on the forget password it will take the user on the window below. Users must type the registered email, so that he can get the confirmation link to reset the password.



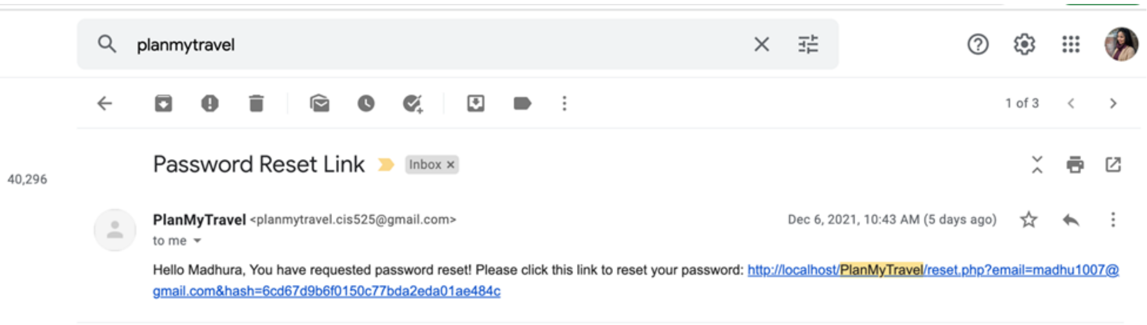
Reset Your Password

EMAIL ADDRESS

madhu1007@gmail.com

Figure 13: Reset Password Page

Reset password confirmation link: Password confirmation link is sent to the user.



Password Reset Link

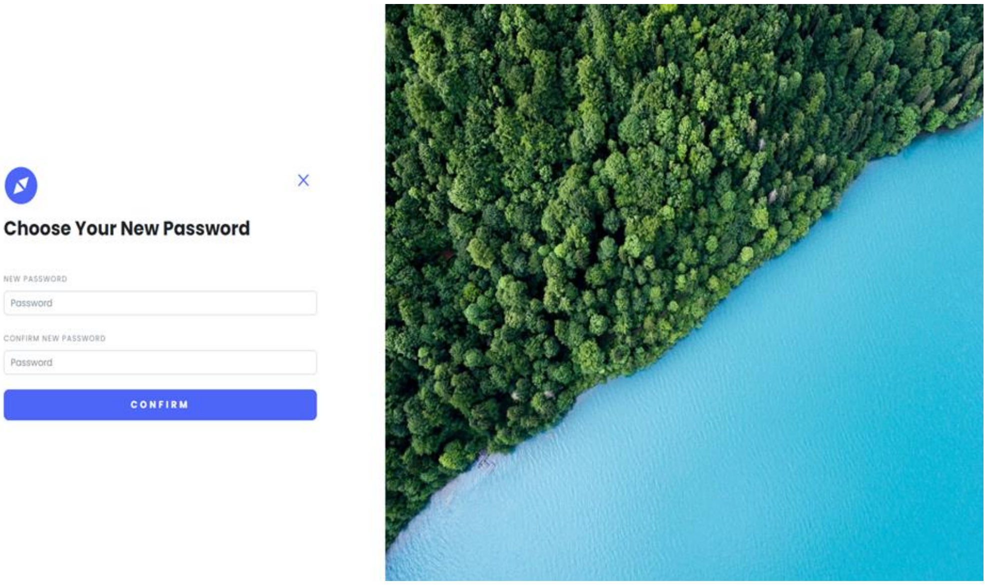
PlanMyTravel <planmytravel.cis525@gmail.com>
to me

Dec 6, 2021, 10:43 AM (5 days ago)

Hello Madhura, You have requested password reset! Please click this link to reset your password: http://localhost/PlanMyTravel/reset.php?email=madhu1007@gmail.com&hash=6cd67d9b6f0150c77bda2eda01ae484c

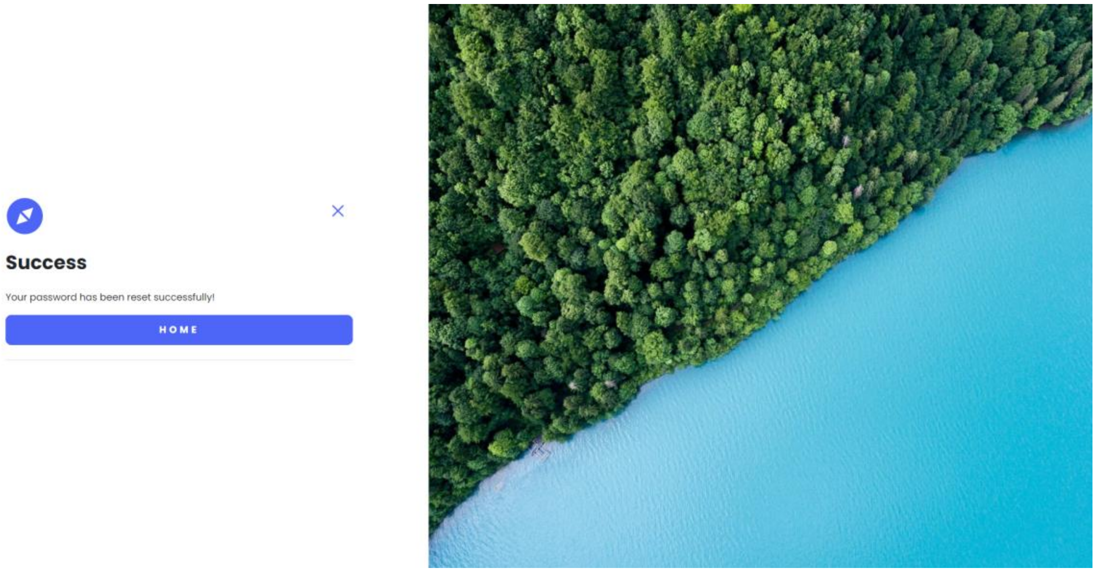
Figure 14: Password Reset mail

The window you can see which user will get after clicking on the forgot password. Now users must choose a new password. Users must click a new password and confirm the password.



Choose Your New Password

Figure 15: New Password Page

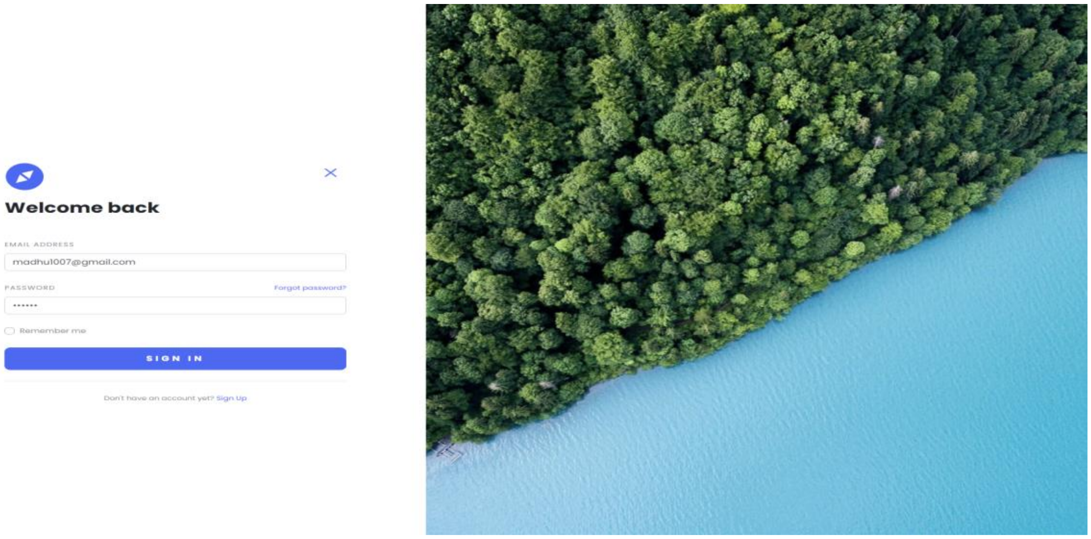


Success

Your password has been reset successfully!

Figure 16: Password Reset Success Page

The Password is reset successfully. The Success window shows that the password is successfully reset. The Sign-In window shows that the authentication is completed successfully. Now the user must put his Email and password. There is also a remember me option so that the user will remember for future log-in.



Welcome back

EMAIL ADDRESS
madhu1007@gmail.com

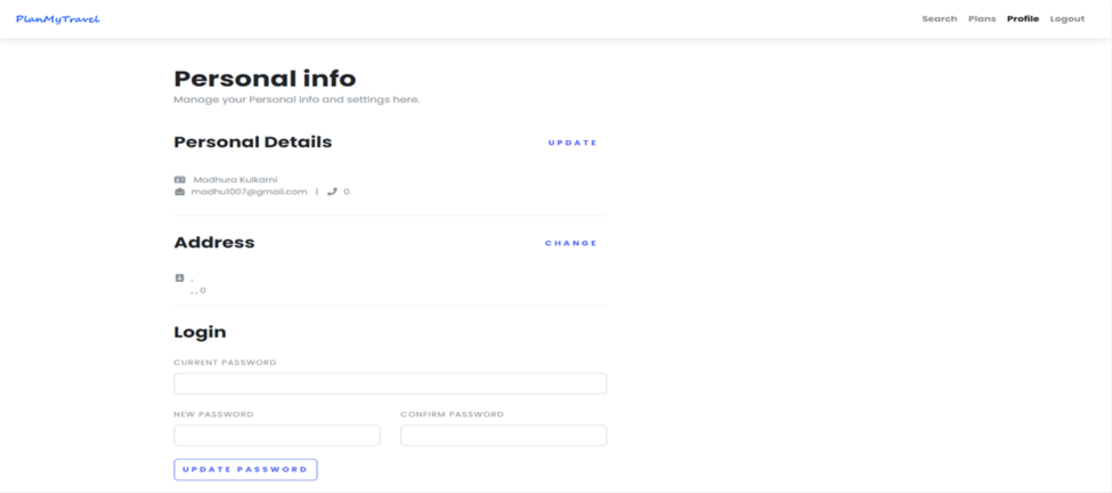
PASSWORD
••••••

□ Remember me

Don't have an account yet? Sign Up

Figure 17: Login Page

Update user profile: If a user wants to update the information, the update profile is available. Users can change personal information, change address, and password.



Personal info

Manage your Personal info and settings here.

Personal Details

Madhura Kulkarni

madhul007@gmail.com | 0

Address

,

,, 0

Login

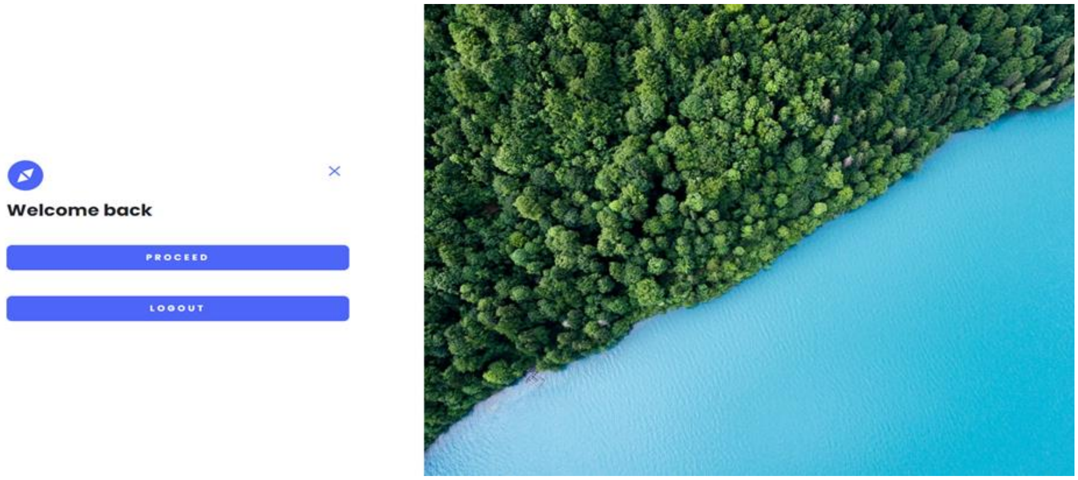
CURRENT PASSWORD

NEW PASSWORD

CONFIRM PASSWORD

Figure 18: Users Profile Page

Entering the application: After the sign-in page there will be a successful registration and users can see the welcome page. There are options to proceed or logout. If the user proceeds it will take to the next window i.e., Search window or logout from the website.



Welcome back

Figure 19: Proceed to application Page

Search Nearby Places and Best Plan: In the below screenshot we can see the search bar to enter the location of desired destination. Below the search bar there are ready to use best plans for some famous places. We have provided these best plans so that users will not need to follow the process of creating travel plans for the below mentioned places and can use these best plans.

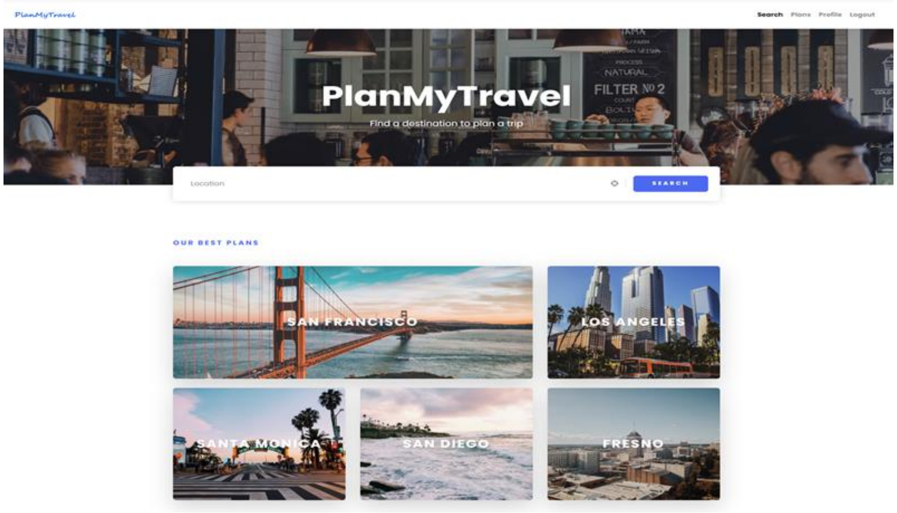
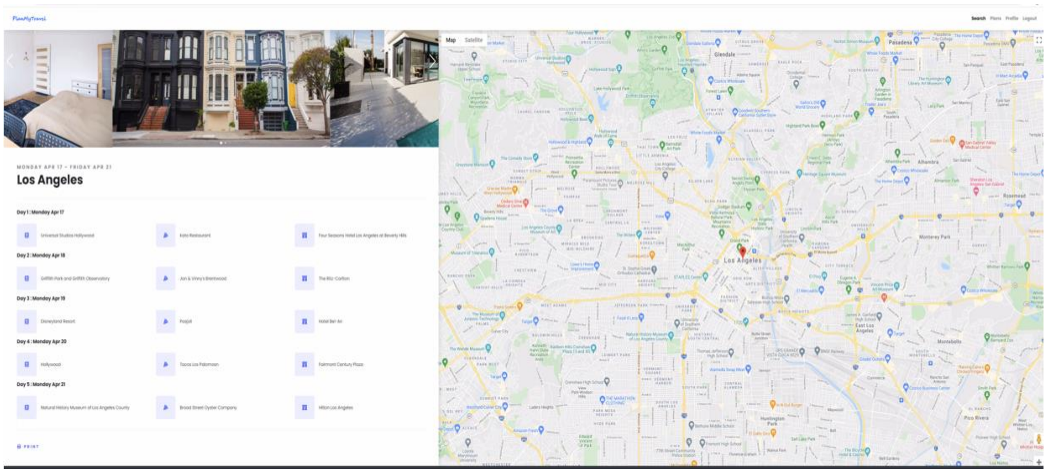


Figure 20: Location Search Landing Page



MONDAY APR 17 - FRIDAY APR 21

Los Angeles

Day 1 : Monday Apr 17

Universal Studios Hollywood | Kato Restaurant | Four Seasons Hotel Los Angeles at Beverly Hills

Day 2 : Monday Apr 18

Griffith Park and Griffith Observatory | Jon & Vinny's Brentwood | The Ritz-Carlton

Day 3 : Monday Apr 19

Disneyland Resort | Pasjoli | Hotel Bel-Air

Day 4 : Monday Apr 20

Hollywood | Tacos Los Palomos | Fairmont Century Plaza

Day 5 : Monday Apr 21

Natural History Museum of Los Angeles County | Broad Street Oyster Company | Hilton Los Angeles

Figure 21: Best Plans Details

AutoComplete Feature: The developed web application has autocompleted keyword functionality to suggest the spelling search for places only. If a user types anything other than places or cities this autocomplete functionality will not work as the system is intended to show only places or geolocation.

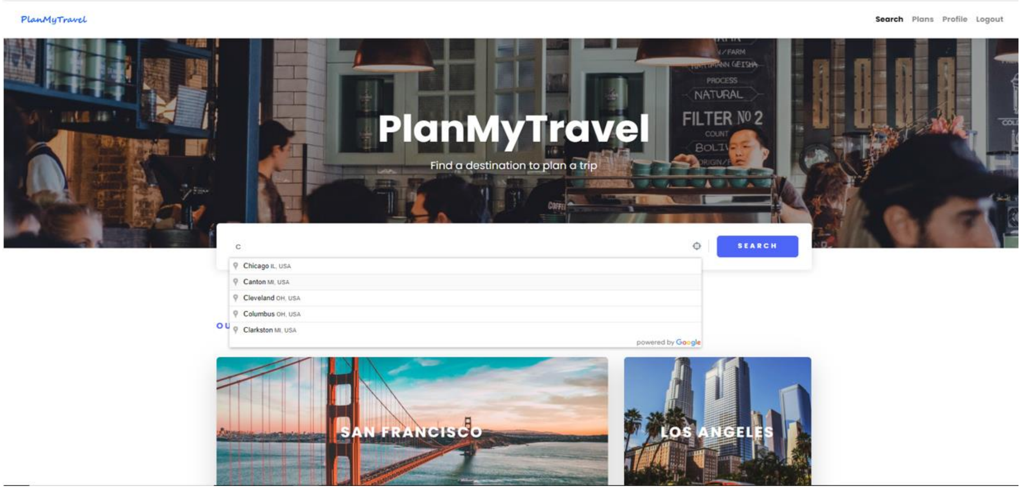
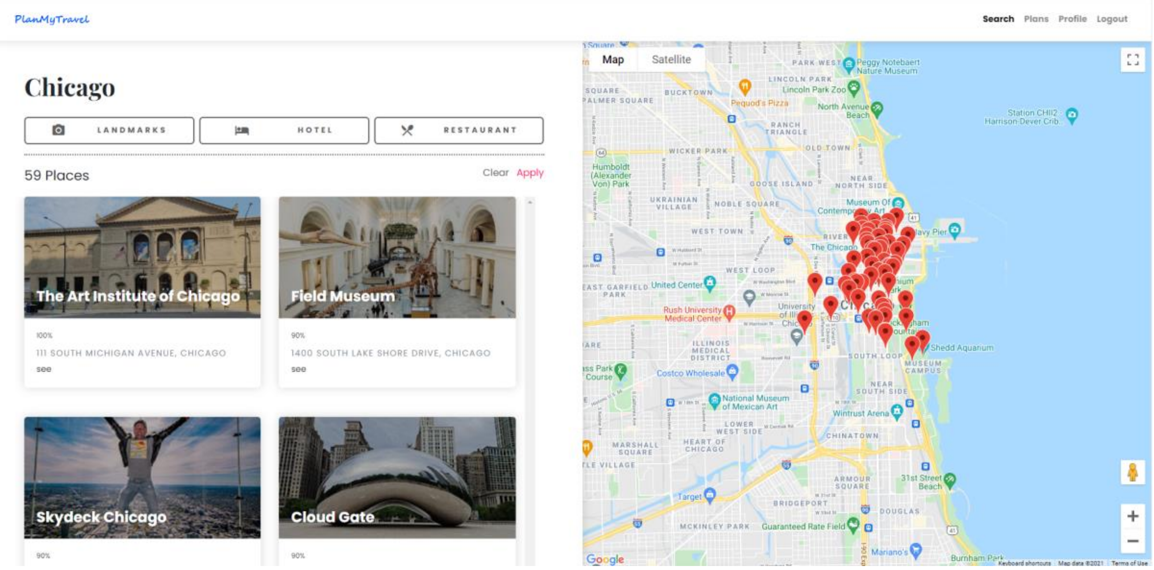


Figure 22: Search Auto Complete Result

Once City is selected, click on the Search button. It shows Landmarks, Hotels and Restaurants and fetches google maps showing all these points.



Chicago

LANDMARKS | HOTEL | RESTAURANT

59 Places Clear Apply

The Art Institute of Chicago
100%
111 SOUTH MICHIGAN AVENUE, CHICAGO
see

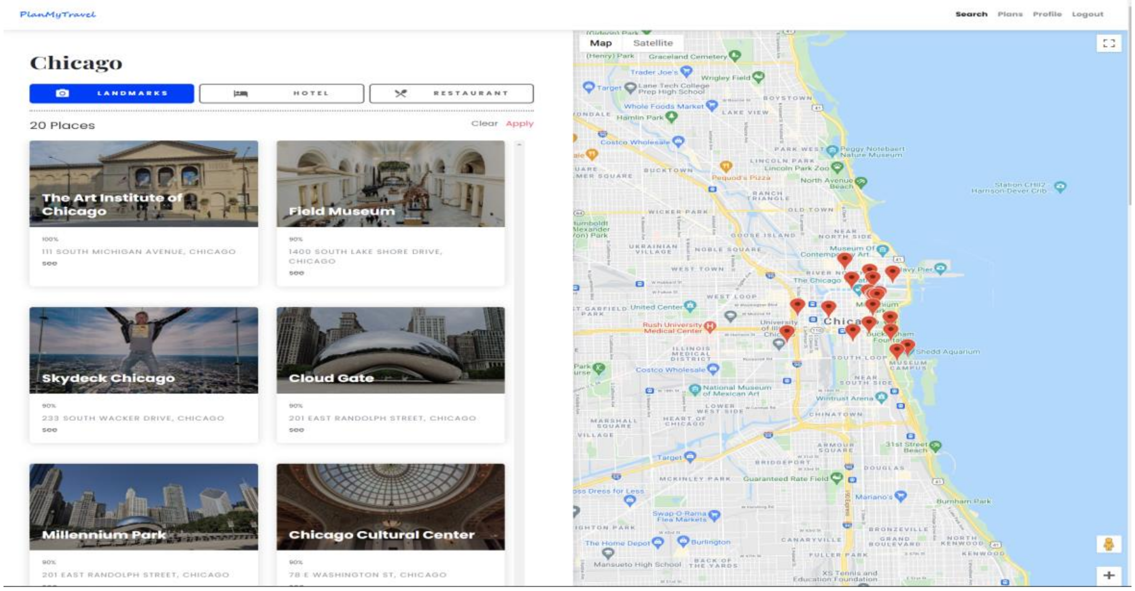
Field Museum
90%
1400 SOUTH LAKE SHORE DRIVE, CHICAGO
see

Skydeck Chicago
90%

Cloud Gate
90%

Figure 23: Nearby Search Page

Landmarks near searched destinations: When the user enters the destination the user will lead to the page below in the screenshot. When user selects landmarks, the website will fetch the nearby places for the entered location, in this case it is fetching nearby places in Chicago. On the right side it will show a google map with the markers on it to highlight the places on the map.



Chicago

20 Places

The Art Institute of Chicago
100%
111 SOUTH MICHIGAN AVENUE, CHICAGO
see

Field Museum
90%
1400 SOUTH LAKE SHORE DRIVE, CHICAGO
see

Skydeck Chicago
90%
233 SOUTH WACKER DRIVE, CHICAGO
see

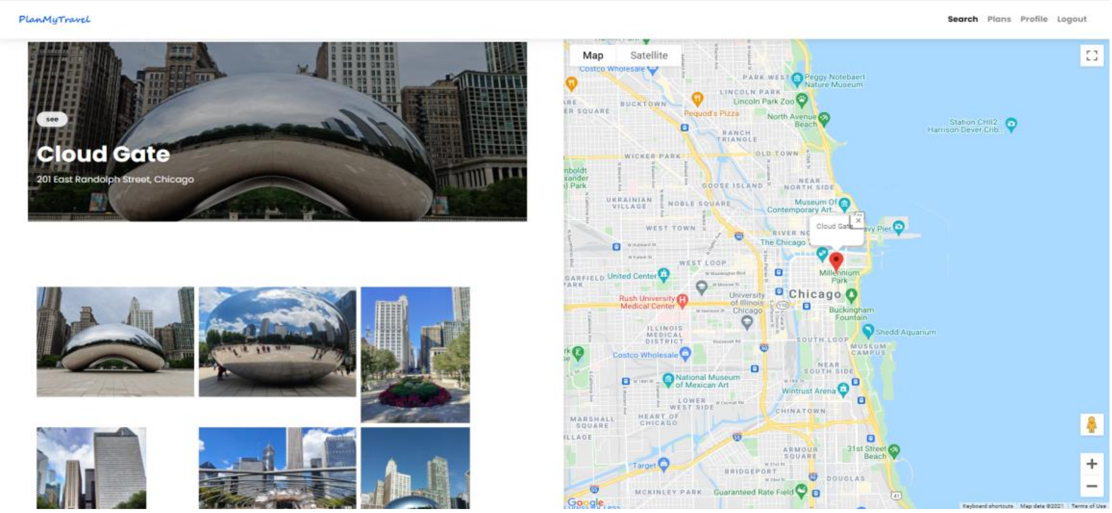
Cloud Gate
90%
201 EAST RANDOLPH STREET, CHICAGO
see

Millennium Park
90%
201 EAST RANDOLPH STREET, CHICAGO

Chicago Cultural Center
90%
78 E WASHINGTON ST, CHICAGO

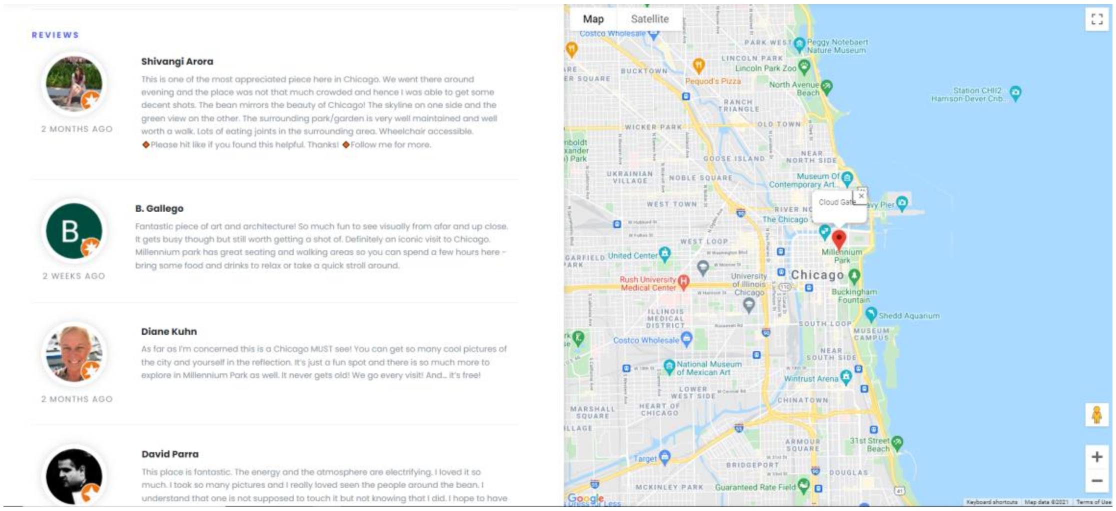
Figure 24: Nearby Landmarks Tab and Filtered Locations

The screenshot below shows details of places we click on the above web page. When the user clicks Cloud Gate in the Landmarks, the detailed information about the cloud gate which include photos, google reviews.



Cloud Gate
201 East Randolph Street, Chicago

Figure 25: Landmark Details Page with Google Photos



REVIEWS

Shivangi Arora
This is one of the most appreciated piece here in Chicago. We went there around evening and the place was not that much crowded and hence I was able to get some decent shots. The bean mirrors the beauty of Chicago! The skyline on one side and the green view on the other. The surrounding park/garden is very well maintained and well worth a walk. Lots of eating joints in the surrounding area. Wheelchair accessible. ◆Please hit like if you found this helpful. Thanks! ◆Follow me for more.
2 MONTHS AGO

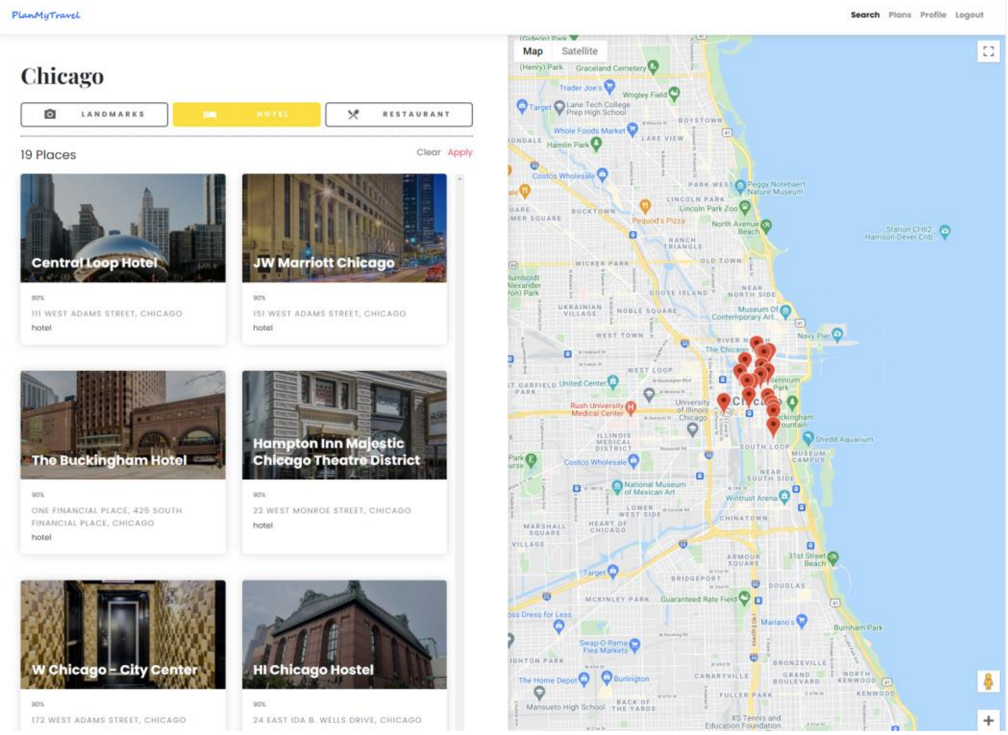
B. Gallego
Fantastic piece of art and architecture! So much fun to see visually from afar and up close. It gets busy though but still worth getting a shot of. Definitely an iconic visit to Chicago. Millennium park has great seating and walking areas so you can spend a few hours here - bring some food and drinks to relax or take a quick stroll around.
2 WEEKS AGO

Diane Kuhn
As far as I'm concerned this is a Chicago MUST see! You can get so many cool pictures of the city and yourself in the reflection. It's just a fun spot and there is so much more to explore in Millennium Park as well. It never gets old! We go every visit! And… it's free!
2 MONTHS AGO

David Parra
This place is fantastic. The energy and the atmosphere are electrifying. I loved it so much. I took so many pictures and I really loved seen the people around the bean. I understand that one is not supposed to touch it but not knowing that I did. I hope to have

Figure 26: Landmark details google reviews

Hotels near destination: When the user selects Hotel, the website will fetch the nearby hotels for the entered location, in this case it is fetching nearby hotels in Chicago. On the right side it will show a google map with the markers on it to highlight the hotels on the map.



Chicago

19 Places

Central Loop Hotel
80%
111 WEST ADAMS STREET, CHICAGO
hotel

JW Marriott Chicago
90%
151 WEST ADAMS STREET, CHICAGO
hotel

The Buckingham Hotel
90%
ONE FINANCIAL PLACE, 425 SOUTH FINANCIAL PLACE, CHICAGO
hotel

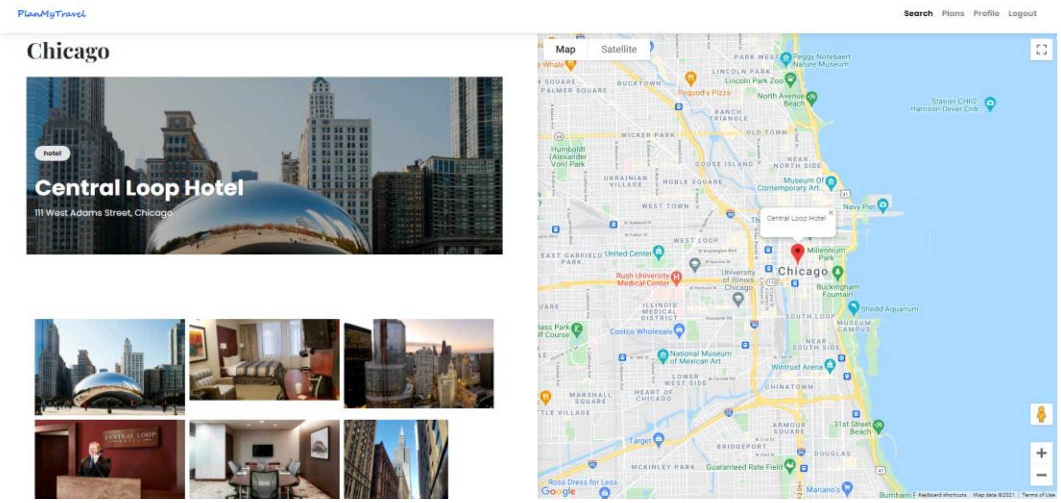
Hampton Inn Majestic Chicago Theatre District
90%
22 WEST MONROE STREET, CHICAGO
hotel

W Chicago – City Center
80%
172 WEST ADAMS STREET, CHICAGO

HI Chicago Hostel
90%
24 EAST IDA B. WELLS DRIVE, CHICAGO

Figure 27: Nearby Hotels result

The screenshot below shows details of hotels when a user clicks on the above web page. When the user clicks Central Loop hotel in the Landmarks, the detailed information about the cloud gate hotel which includes photos, google reviews.



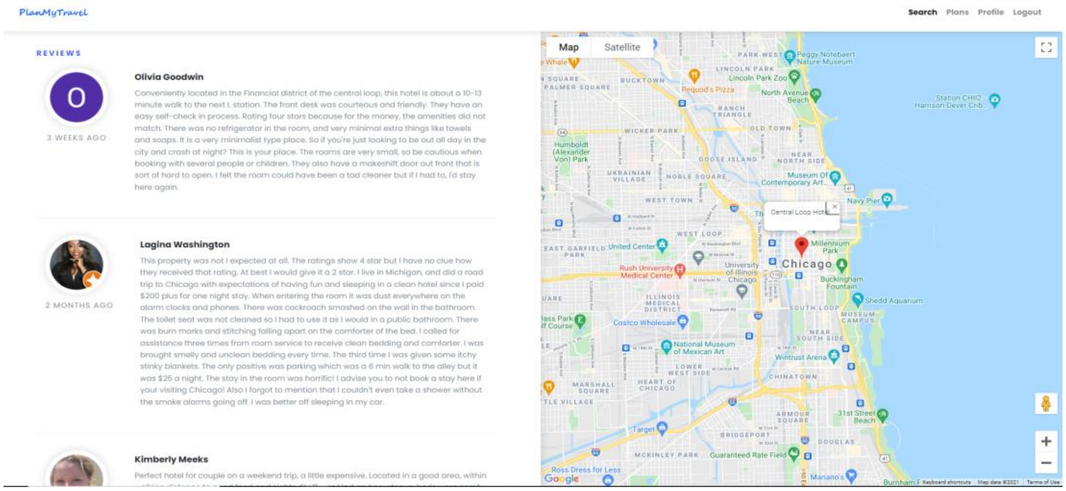
Chicago

hotel

Central Loop Hotel

111 West Adams Street, Chicago

Figure 28: Hotel location and details on map with its photos



REVIEWS

Olivia Goodwin

3 WEEKS AGO

Conveniently located in the Financial district of the central loop, this hotel is about a 10-13 minute walk to the next L station. The front desk was courteous and friendly. They have an easy self-check in process. Rating four stars because for the money, the amenities did not match. There was no refrigerator in the room, and very minimal extra things like towels and soaps. It is a very minimalist type place. So if you're just looking to be out all day in the city and crash at night? This is your place. The rooms are very small, so be cautious when booking with several people or children. They also have a makeshift door out front that is sort of hard to open. I felt the room could have been a tad cleaner but if I had to, I'd stay here again.

Lagina Washington

2 MONTHS AGO

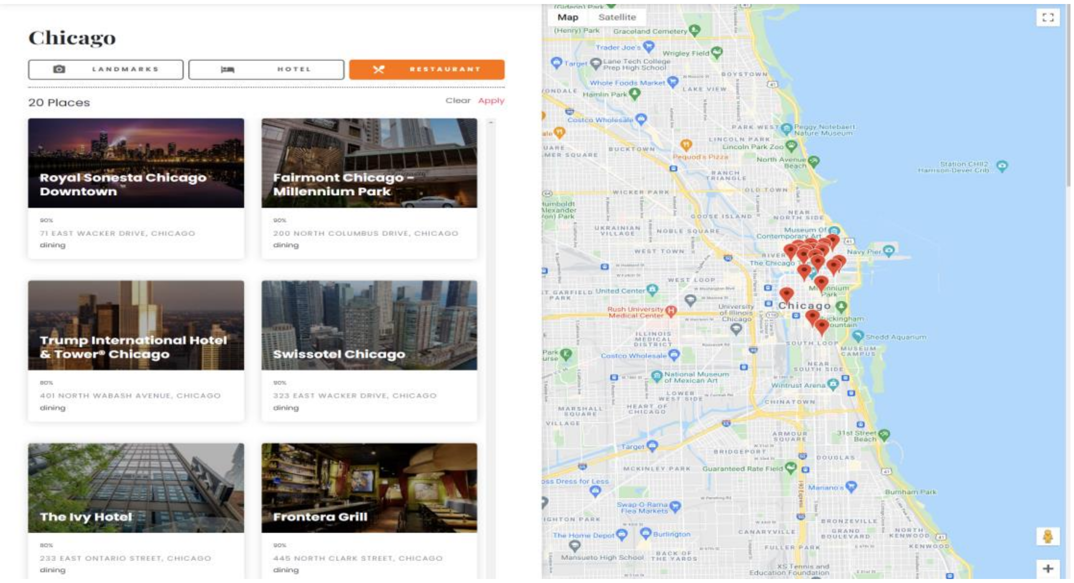
This property was not I expected at all. The ratings show 4 star but I have no clue how they received that rating. At best I would give it a 2 star. I live in Michigan, and did a road trip to Chicago with expectations of having fun and sleeping in a clean hotel since I paid $200 plus for one night stay. When entering the room it was dust everywhere on the alarm clocks and phones. There was cockroach smashed on the wall in the bathroom. The toilet seat was not cleaned so I had to use it as I would in a public bathroom. There was burn marks and stitching falling apart on the comforter of the bed. I called for assistance three times from room service to receive clean bedding and comforter. I was brought smelly and unclean bedding every time. The third time I was given some itchy stinky blankets. The only positive was parking which was a 6 min walk to the alley but it was $25 a night. The stay in the room was horrific! I advise you to not book a stay here if your visiting Chicago! Also I forgot to mention that I couldn't even take a shower without the smoke alarms going off. I was better off sleeping in my car.

Kimberly Meeks

Perfect hotel for couple on a weekend trip, a little expensive. Located in a good area, within

Figure 29: Google Reviews fetched for the hotel

Restaurants for searched Destination: When the user selects Restaurant, the website will fetch the nearby Restaurant for the entered location, in this case it is fetching nearby restaurants in Chicago. On the right side it will show a google map with the markers on it to highlight the restaurants on the map.



Chicago

LANDMARKS | HOTEL | RESTAURANT

20 Places

Clear Apply

Royal Sonesta Chicago Downtown
90%
71 EAST WACKER DRIVE, CHICAGO
dining

Fairmont Chicago – Millennium Park
90%
200 NORTH COLUMBUS DRIVE, CHICAGO
dining

Trump International Hotel & Tower® Chicago
80%
401 NORTH WABASH AVENUE, CHICAGO
dining

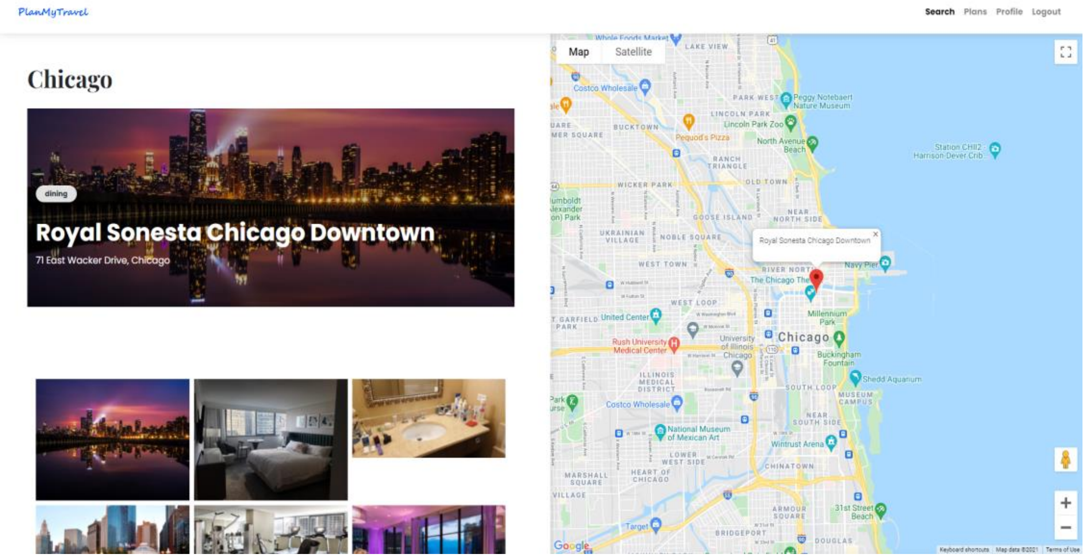
Swissotel Chicago
90%
323 EAST WACKER DRIVE, CHICAGO
dining

The Ivy Hotel
80%
233 EAST ONTARIO STREET, CHICAGO
dining

Frontera Grill
90%
445 NORTH CLARK STREET, CHICAGO
dining

Figure 30: Restaurants fetched and displayed on map

The screenshot below shows details of restaurants when a user clicks on the above web page. When the user clicks Royal Sonesta Chicago Downtown in the Landmarks, the detailed information about the restaurants which includes photos, google reviews.



PlanMyTravel

Search Plans Profile Logout

Chicago

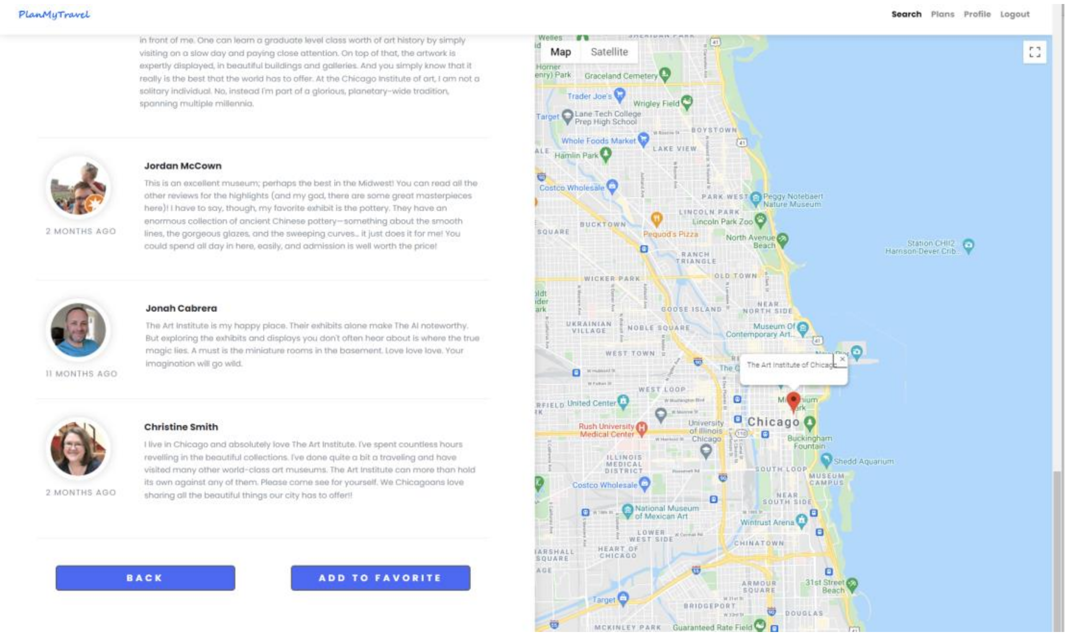
dining

Royal Sonesta Chicago Downtown

71 East Wacker Drive, Chicago

Figure 31: Restaurant Details

Add to favorites: Users must add places, hotels, and restaurants to the favorites to create a plan for a trip to their desired destination.



in front of me. One can learn a graduate level class worth of art history by simply visiting on a slow day and paying close attention. On top of that, the artwork is expertly displayed, in beautiful buildings and galleries. And you simply know that it really is the best that the world has to offer. At the Chicago Institute of art, I am not a solitary individual. No, instead I'm part of a glorious, planetary-wide tradition, spanning multiple millennia.

Jordan McCown

2 MONTHS AGO

This is an excellent museum; perhaps the best in the Midwest! You can read all the other reviews for the highlights (and my god, there are some great masterpieces here)! I have to say, though, my favorite exhibit is the pottery. They have an enormous collection of ancient Chinese pottery—something about the smooth lines, the gorgeous glazes, and the sweeping curves… it just does it for me! You could spend all day in here, easily, and admission is well worth the price!

Jonah Cabrera

11 MONTHS AGO

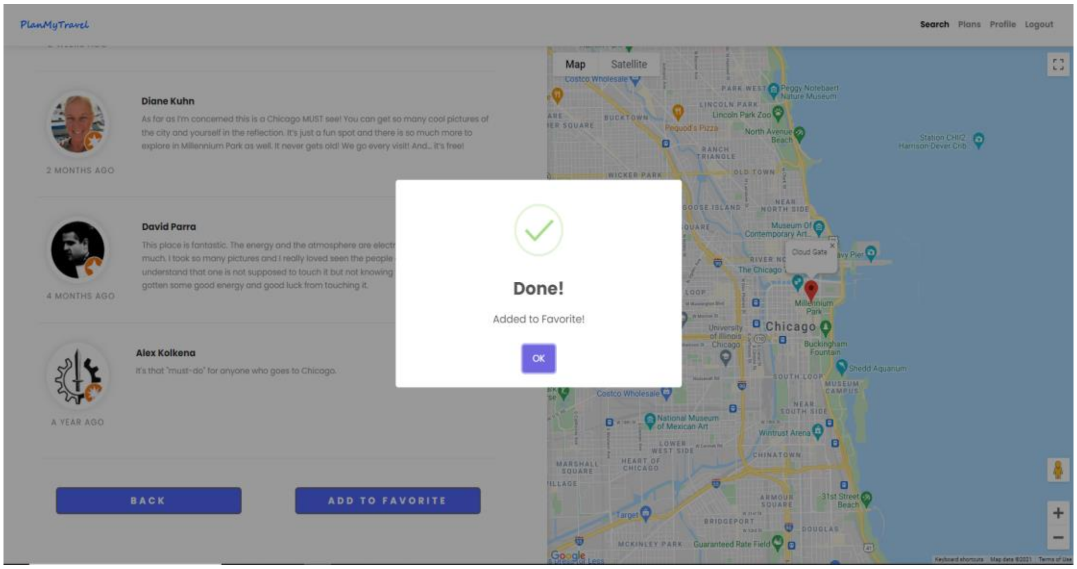
The Art Institute is my happy place. Their exhibits alone make The AI noteworthy. But exploring the exhibits and displays you don't often hear about is where the true magic lies. A must is the miniature rooms in the basement. Love love love. Your imagination will go wild.

Christine Smith

2 MONTHS AGO

I live in Chicago and absolutely love The Art Institute. I've spent countless hours revelling in the beautiful collections. I've done quite a bit a traveling and have visited many other world-class art museums. The Art Institute can more than hold its own against any of them. Please come see for yourself. We Chicagoans love sharing all the beautiful things our city has to offer!!

Figure 32: Restaurant Reviews with Add to Favorite Button & Back Button



Diane Kuhn

2 MONTHS AGO

As far as I'm concerned this is a Chicago MUST see! You can get so many cool pictures of the city and yourself in the reflection. It's just a fun spot and there is so much more to explore in Millennium Park as well. It never gets old! We go every visit! And… it's free!

David Parra

4 MONTHS AGO

This place is fantastic. The energy and the atmosphere are electr much. I took so many pictures and I really loved seen the people understand that one is not supposed to touch it but not knowing gotten some good energy and good luck from touching it.

Alex Kolkena

A YEAR AGO

It's that "must-do" for anyone who goes to Chicago.

Done!

Added to Favorite!

Figure 33: Favorite Added

Generate Plan: Once the user adds places, hotels, and restaurants to favorites and clicks on the generated plan, the website will lead the user to another webpage where he can select the dates for his travel.

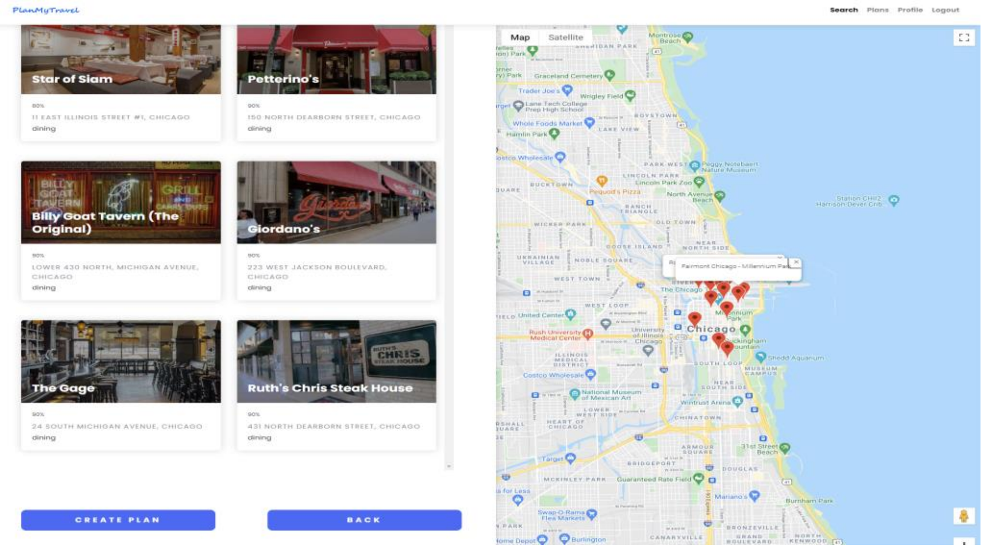

PlanMyTravel
Search
Plans
Profile
Logout
Star of Siam
11 EAST ILLINOIS STREET #1, CHICAGO
dining
Petterino's
150 NORTH DEARBORN STREET, CHICAGO
dining
Billy Goat Tavern (The Original)
LOWER 430 NORTH, MICHIGAN AVENUE, CHICAGO
dining
Giordano's
223 WEST JACKSON BOULEVARD, CHICAGO
dining
The Gage
24 SOUTH MICHIGAN AVENUE, CHICAGO
dining
Ruth's Chris Steak House
431 NORTH DEARBORN STREET, CHICAGO
dining
CREATE PLAN
BACK
Map
Satellite
Fairmont Chicago - Millennium Park
Chicago

Figure 34: Create Plan and Back Buttons

Select Dates: Once Plan is generated, application gets redirected to Select date page where end user must select date range of trip.

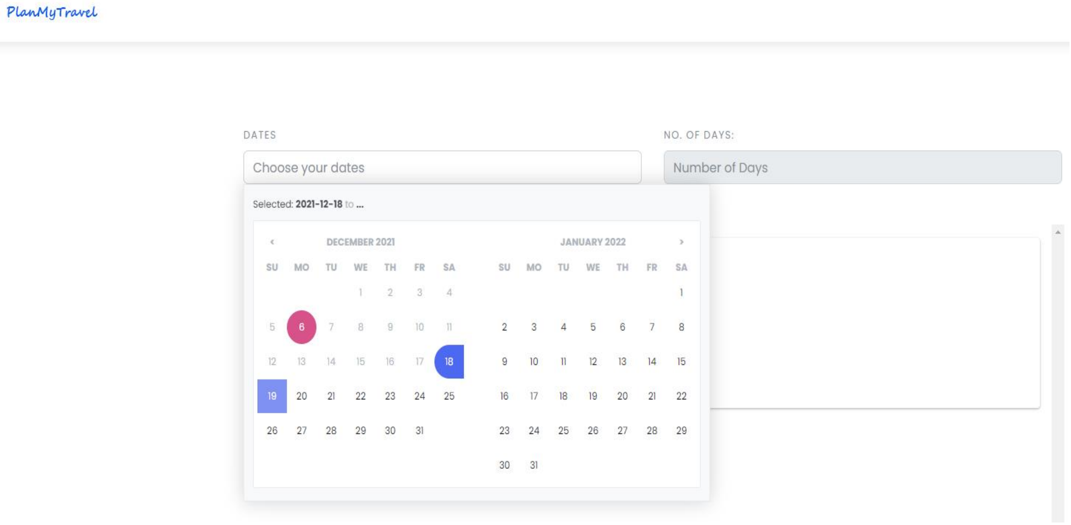
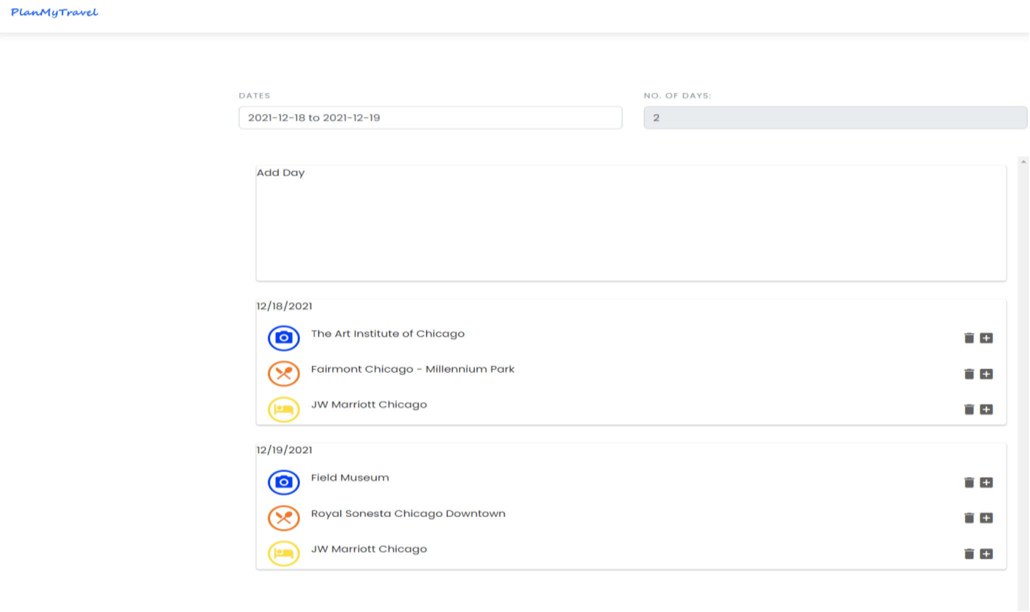


Figure 35: Create Plan Calendar Component

Creating Plan: Once a plan is created, the end user must drag items from favorite list to respective day container.



DATES 2021-12-18 to 2021-12-19

NO. OF DAYS: 2

12/18/2021

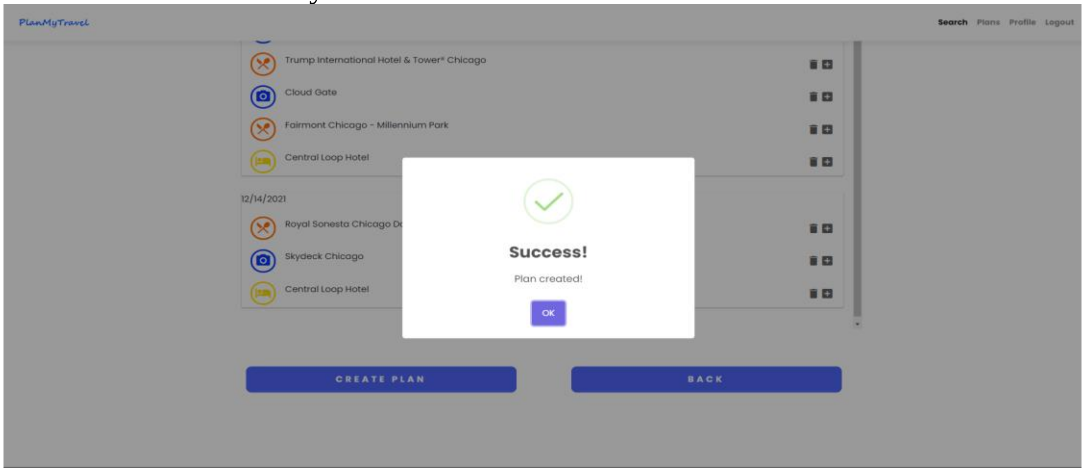
- The Art Institute of Chicago
- Fairmont Chicago - Millennium Park
- JW Marriott Chicago

12/19/2021

- Field Museum
- Royal Sonesta Chicago Downtown
- JW Marriott Chicago

Figure 36: Custom Plan for user's favorite locations saved

Once the end user clicks on the "Create Plan" button, this Success message popup that Plan created successfully.



- Trump International Hotel & Tower® Chicago
- Cloud Gate
- Fairmont Chicago - Millennium Park
- Central Loop Hotel

12/14/2021

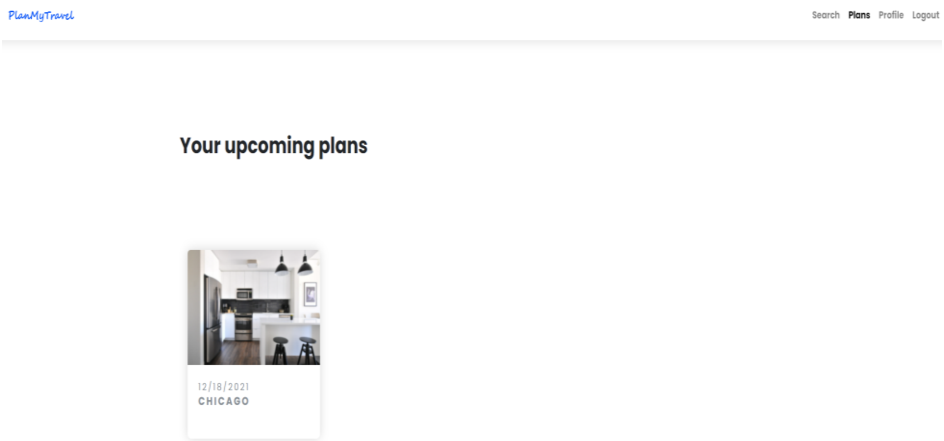
- Royal Sonesta Chicago D
- Skydeck Chicago
- Central Loop Hotel

Success!

Plan created!

Figure 37: Travel Plan Created

Click on Plans in the Navigation bar to see the upcoming plan: Once a plan is generated, by going to the Plan option on the Navigation bar, the developed plan gets reflected in the upcoming plan.


PlanMyTravel

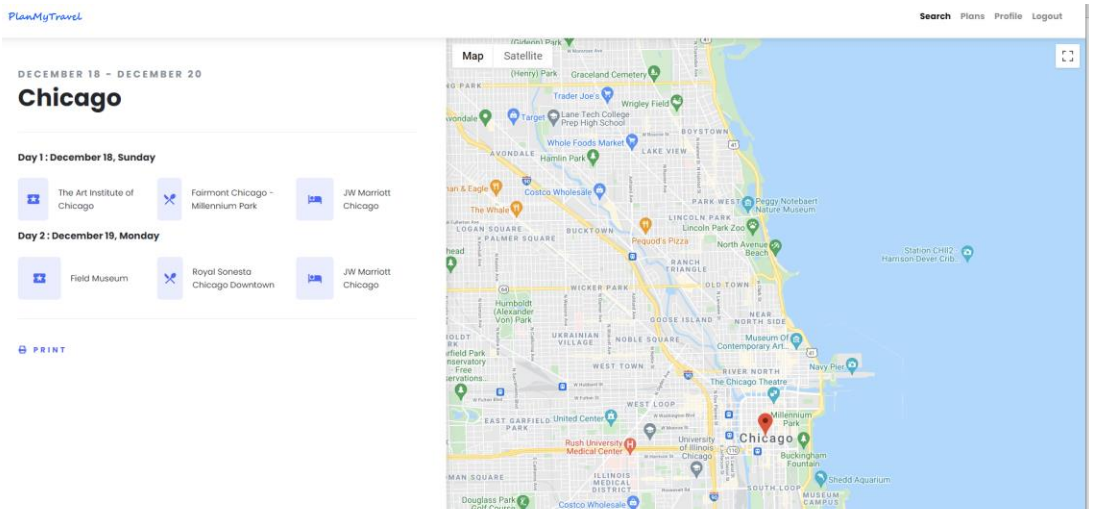
Search Plans Profile Logout

Your upcoming plans

12/18/2021
CHICAGO

Figure 38: My Plans Page

See Generated plan: When the end user clicks on the generated plan, all the details about the plan are reflected in this page.


PlanMyTravel

Search Plans Profile Logout

DECEMBER 18 - DECEMBER 20

Chicago

Day 1 : December 18, Sunday

The Art Institute of Chicago

Fairmont Chicago - Millennium Park

JW Marriott Chicago

Day 2 : December 19, Monday

Field Museum

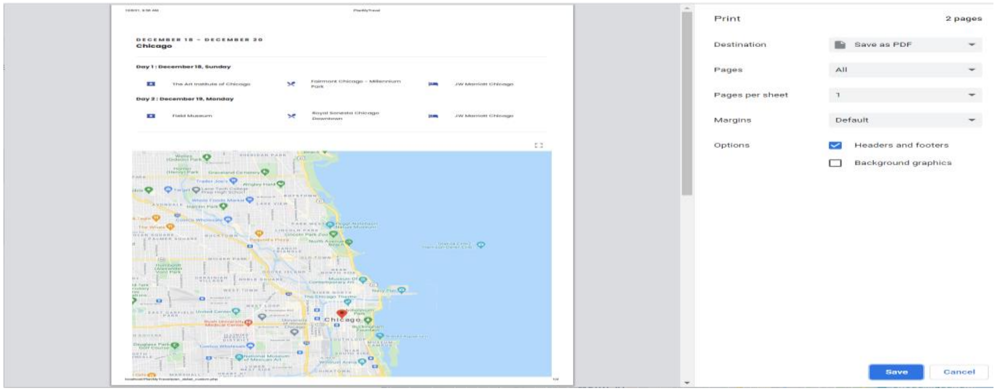
Royal Sonesta Chicago Downtown

JW Marriott Chicago

PRINT

Figure 39: Custom Plan Details Page

Print Plan: If the end user wants to print the plan, then there is an option to print the plan. Print functionality is implemented using the window.print function in JavaScript.



DECEMBER 18 – DECEMBER 20
Chicago

Day 1 : December 18, Sunday

The Art Institute of Chicago — Fairmont Chicago - Millennium Park — JW Marriott Chicago

Day 2 : December 19, Monday

Field Museum — Royal Sonesta Chicago Downtown — JW Marriott Chicago

Print — 2 pages

Destination: Save as PDF

Pages: All

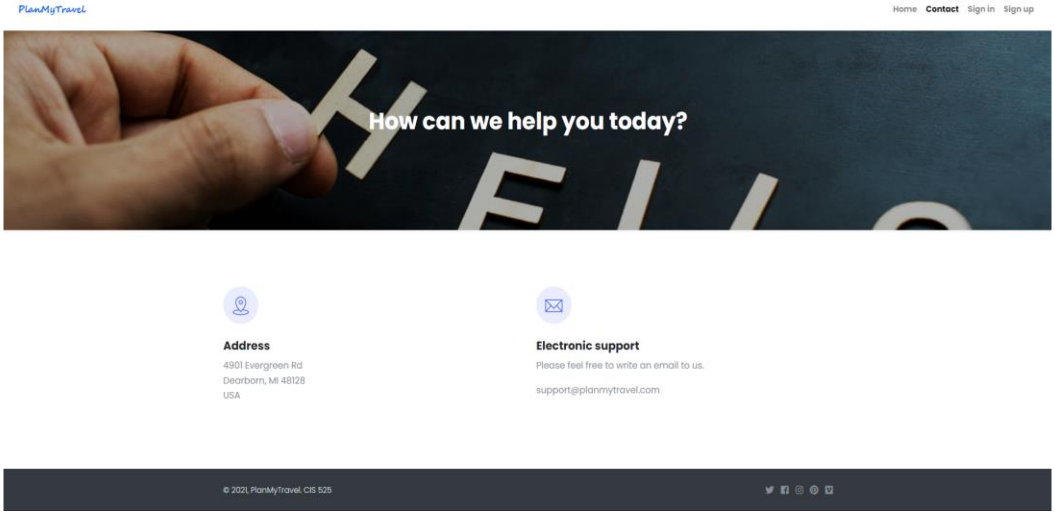
Pages per sheet: 1

Margins: Default

Options: ☑ Headers and footers
□ Background graphics

Figure 40: Custom Plan print functionality

Contact Page: This is a contact page showing information about address and electronic support.



How can we help you today?

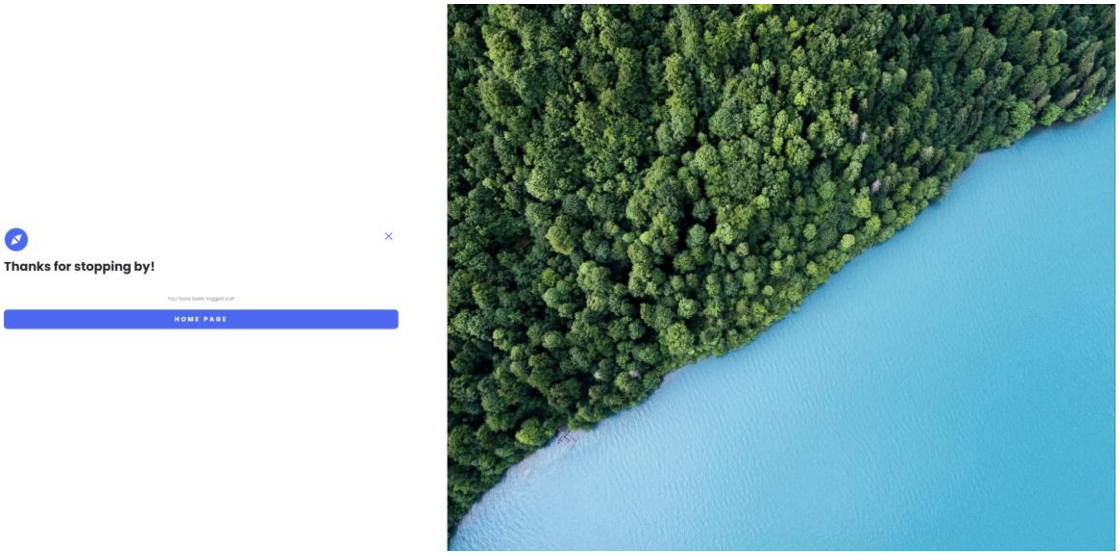
Address
4901 Evergreen Rd
Dearborn, MI 48128
USA

Electronic support
Please feel free to write an email to us.
support@planmytravel.com

© 2021, PlanMyTravel. CIS 525

Figure 41: Contact Page

Logout Page: After using the website user can Log out after clicking Logout Button. Logout Page is displayed with a success message.



Thanks for stopping by!

You have been logged out!

Figure 42: Logout Page

Test Cases

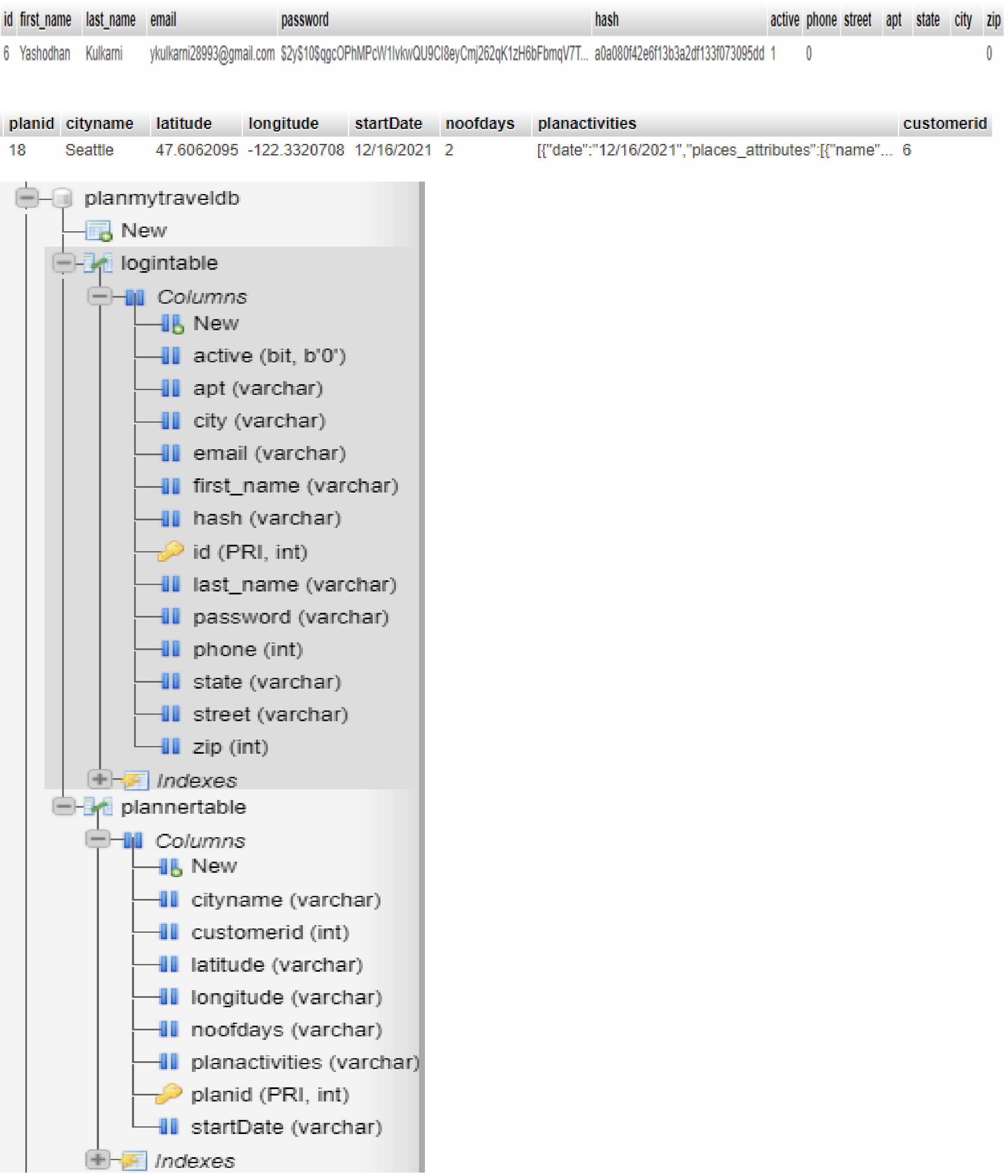
Test Case No.	Scenario	Test Case Result	Verdict
1	For Sign-up Valid Email Verification	Users should get a Verification link on registered email.	Yes
2	User Detail should successfully enter in Database	Database should show the new entry registered	Yes
3	Passwords should be entered and while storing it should be in Encrypted form.	Password record used to be in encrypted hash format in database	Yes
4	For Sign-in it should show successful registration.	While Sign-in the user should show the notification of account activation	Yes
5	For the Update profile the user must be able to update address, contact, password, and personal details.	User can change the current information with updated and shows the update successful window and store updated information in database	Yes
6	Passwords forgotten need to be reset.	User should get the link on the user verified email address. Users can enter a new password by reset option.	Yes
7	Search bar should accept the values for cities only	search bar is not accepting the any random values other than cities	Yes
8	Once click on the search after entering destination it should load the map for desired destination	Map gets loaded for places, hotels, and restaurants	Yes
9	Map should show markers	Markers get populated on the maps for	Yes

10	Places, Hotels, and restaurants should be obtained for desired destination only	Website is generating places, hotels, and restaurants for desired destination only	Yes
11	All the information like photos and reviews should fetch once user click on place, hotel, or restaurants	Review, photos are fetched for selected place, hotel, and restaurants	Yes
12	Selected places, restaurants and hotels should get added to favorites	Places, restaurants, and hotels successfully added to the favorites	Yes
13	Once a plan is generated, it populates the Selecting Date Range page.	It should show Calendar to select Date Range.	Yes
14	After Dates are selected, it shows a day-wise container to drag and drop items from the favorite list.	Days wise containers should have the same number matching with date range selected.	Yes
15	After dragging and dropping and clicking the Create Plan button.	Once Create Plan button is clicked, it should insert new record in Planner table with mapped Plan details	Yes
16	Once the plan is created the plan should get save in the database in planner table	Travel Plan is stored in the planner table	Yes
17	Once the plan is created successful, plan details can be seen in Plan Tab of Navigation bar	After Clicking Plan tab of the Navigation bar, in the upcoming plan, it should show our created plan.	Yes
18	In the created plan, the end user can print the plan.	Once “Print” option is selected, it should pop up window to print the plan	Yes

Table 2: Test Cases

Database Structure

This database contains two tables as logintable and plannertable. Logintable contains Id, which is auto incremented, and it has a primary key. Plannertable contains customer id which is related to logintable.



id	first_name	last_name	email	password	hash	active	phone	street	apt	state	city	zip
6	Yashodhan	Kulkarni	ykulkarni28993@gmail.com	$2y$10$qgcOPhMPcW1lvkwQU9Cl8eyCmj262qK1zH6bFbmqV7T...	a0a080f42e6f13b3a2df133f073095dd	1	0					0

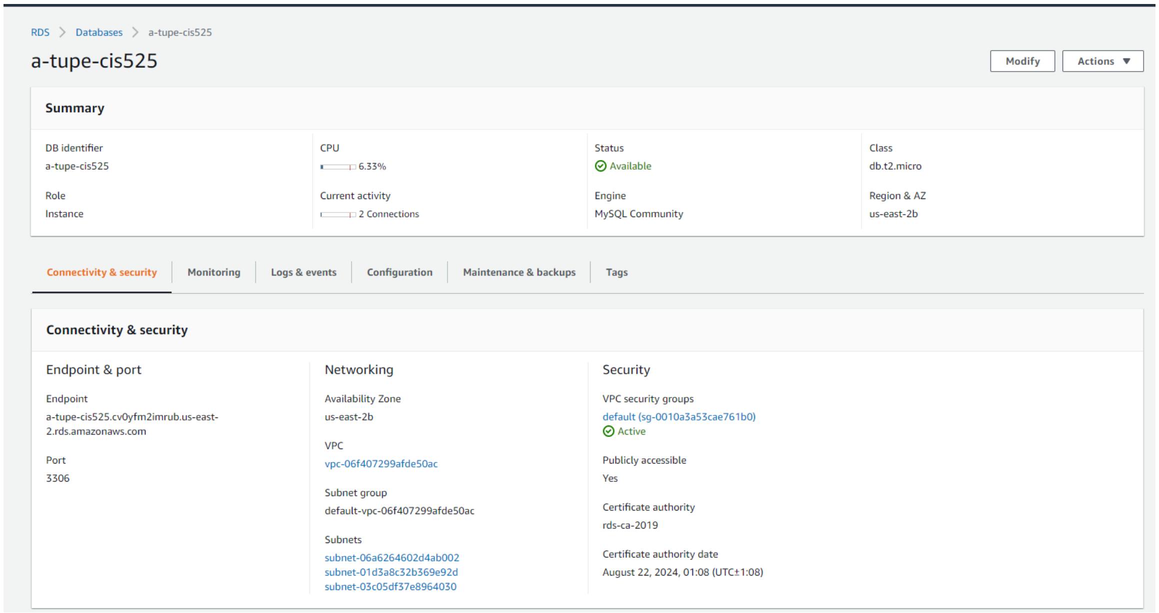
planid	cityname	latitude	longitude	startDate	noofdays	planactivities	customerid
18	Seattle	47.6062095	-122.3320708	12/16/2021	2	[{"date":"12/16/2021","places_attributes":[{"name"...	6

```
planmytraveldb
    New
    logintable
        Columns
            New
            active (bit, b'0')
            apt (varchar)
            city (varchar)
            email (varchar)
            first_name (varchar)
            hash (varchar)
            id (PRI, int)
            last_name (varchar)
            password (varchar)
            phone (int)
            state (varchar)
            street (varchar)
            zip (int)
        Indexes
    plannertable
        Columns
            New
            cityname (varchar)
            customerid (int)
            latitude (varchar)
            longitude (varchar)
            noofdays (varchar)
            planactivities (varchar)
            planid (PRI, int)
            startDate (varchar)
        Indexes
```

Figure 43: Database Structure

AWS Deployment

We have mainly used 2 Amazon Web Service (AWS) services: Amazon Elastic Beanstalk, and Amazon RDS.



a-tupe-cis525

Summary

DB identifier
a-tupe-cis525

CPU
6.33%

Status
✓ Available

Class
db.t2.micro

Role
Instance

Current activity
2 Connections

Engine
MySQL Community

Region & AZ
us-east-2b

Connectivity & security

Endpoint & port

Endpoint
a-tupe-cis525.cv0yfm2imrub.us-east-2.rds.amazonaws.com

Port
3306

Networking

Availability Zone
us-east-2b

VPC
vpc-06f407299afde50ac

Subnet group
default-vpc-06f407299afde50ac

Subnets
subnet-06a6264602d4ab002
subnet-01d3a8c32b369e92d
subnet-03c05df37e8964030

Security

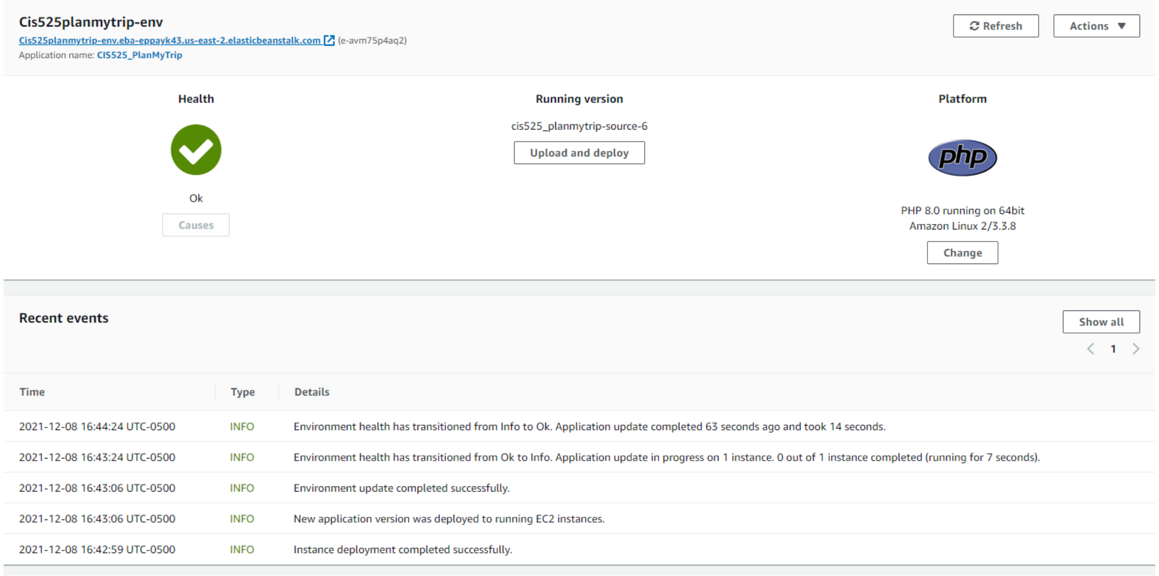
VPC security groups
default (sg-0010a3a53cae761b0)
✓ Active

Publicly accessible
Yes

Certificate authority
rds-ca-2019

Certificate authority date
August 22, 2024, 01:08 (UTC±1:08)

Figure 44: Amazon RDS Database config



Cis525planmytrip-env
Cis525planmytrip-env.eba-eppayk43.us-east-2.elasticbeanstalk.com (e-avm75p4aq2)
Application name: CIS525_PlanMyTrip

Health
Ok

Running version
cis525_planmytrip-source-6

Platform
PHP 8.0 running on 64bit Amazon Linux 2/3.3.8

Recent events

Time	Type	Details
2021-12-08 16:44:24 UTC-0500	INFO	Environment health has transitioned from Info to Ok. Application update completed 63 seconds ago and took 14 seconds.
2021-12-08 16:43:24 UTC-0500	INFO	Environment health has transitioned from Ok to Info. Application update in progress on 1 instance. 0 out of 1 instance completed (running for 7 seconds).
2021-12-08 16:43:06 UTC-0500	INFO	Environment update completed successfully.
2021-12-08 16:43:06 UTC-0500	INFO	New application version was deployed to running EC2 instances.
2021-12-08 16:42:59 UTC-0500	INFO	Instance deployment completed successfully.

Figure 45: Elastic Beanstalk Application Deployment

Chapter 7. Project Outcome and Future Scope

Learning Outcome

1. While developing PlanMyTravel website it was fun and interesting way to enhance learning on different technologies. It encourages us to learn and participate in daily coding activities.

2. Learning new technologies like for authentication we used password encryption using # As an md5 function, for email verification we used PHPMailer and even Google API which access the nearby live data.

3. Travel website is for user, so from user perspective we learned that website should be User-friendly, and UI should be attractive.

4. Our website has a Google API which is new technology for us to learn, by accessing live data from nearby places.

5. PlanMyTravel was the best experience to learn how real-life technology works. It is real time experience, to get hands-on experience on a website with more than seven technologies.

Future Scope

1) After developing trip plan using existing features, we can develop enhanced functionality by SMS service using Twilio API. In this, the end user would get a final plan on his/her phone number. Advantage of developing this functionality is end user can access that plan easily by checking messages and no need to access and login into account.

2) This web application can be integrated with existing travel web applications like Expedia, Hotels.com, Trivago. So, end user can directly book hotels and restaurants from this website.

3) Future scope of this application is to develop Mobile Application. Advantage of using Mobile Application would allow customers to access this application fast and easy. and gives scope to build unique service and features.

4) In the future, this application can be developed in multiple languages. End user can select their own language.

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