FIX SECTION 21

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Travel Advisor Project Report

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I Project Description

1 Project Overview

Travel Advisor is a mobile application that provides users satisfaction when traveling nation park, this application aims to become the fully functional travel guide application. It included a schedule of different parks, ratings, weather notification, history, and photo gallery, and it has a navigation system that helps you to find the direction you are looking for. The application makes you never get lost in the national parks, and there is an emergency call button that could send your location to the rescue team when there is an emergency case happening.

2 The Purpose of the Project

2a The User Business or Background of the Project Effort

Our application is designed for the business investors and park owners to advertise the park and keeps the park safe. The idea would be for visitors in national parks, especially the first time visitors to know information about the park, or something they can use as a guide in their journey. By using this application, users can improve their experience in the park, so they will be more likely to come back again or recommend the park to others. Also, it would be useful for people who are interested in coming to the park, by using this application it will attract them to come.

Since we are making this application as a mobile application, our primary user will be smartphone owners who are traveling in the park or have the potential to do so. Users will be able to use this application to obtain information anywhere at any time as long as they have access to a smartphone.

The biggest challenges in travel are travel planning and orienting yourself in a place, and this application will solve both of the problems for the user. So, the effort of this project will go towards creating a great user experience by keeping it simple and easy, but nonetheless, providing authoritative and comprehensive information. We want the national park visitors to have a safe and relaxing journey in the park, but in the meantime they don't miss the beautiful scenery and fun activities.

Solving those problems would help the visitors to enjoy their time of travel. On the other hand, it would prevent risks from happening by providing the user information in the area including weather, vegetation, animals, etc. Also, it would ensure the user gets help in timely matters if they are endangered.

2b Goals of the Project

The goal of this project is to increase the overall quality of the user's journey in national parks. As said before, making travel planning and orienting itself in the national park earlier so that people are more likely to choose national park as the destination of their vacation. The visitors should see the effect immediately after using our product, and the park should see an increase in visitor volume in 6 months.

2c Measurement

Since seasons and time of the year can have a huge impact on the visitor volume, the idea of measuring if the park's visitor volume has increased after using our product would be comparing the visitor volume in the same season or same time of the year with one using our product and another don't.

To measure if the the overall quality of the user's journey has been increased, there could be some surveys sent out anonymously through the application. There could also be some kind of place where people can rate the application or leave comments about the application.

3 The Scope of the Work

The production statificity all visitors require during their traveling in National Park. When visitors travel across the National park, most of them are self-driving tours, and amateur hikers. There are a whole bunch of common sense of safe traveling they should know, and it costs a lot for tutoring every visitor, they may only visit once National park for their entire life. Well, this mobile application will be able to handle all complicated situations while you are traveling.

3a The Current Situation

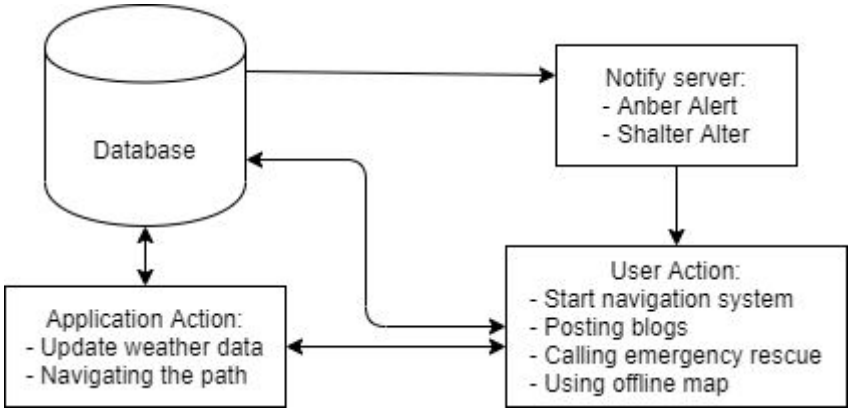
The main design of this application is to help clients have a better experience while they are using this application. This application would not be so useful for common daily use. But it turns out to be very useful when clients use it in Nation Park. This application gives all what clients need, if there is no signal, this application provides an offline road map. Anything emergency happens, the application has all contact and rescue methods.

3b The Context of the Work

Travel Advisor application including the online GPS navigation system, and offline road map, and database related species living in National park, also weather advisor is constantly updating the weather data and precaution for future days, beside that, clients can share their experience, new founds, photos and suggestions on the build-in web community. Any unexpected or emergency happened, the application provides instruction and 24 hours dial-service support. Well Travel Advisor is aiming to do certain things , it is not a general app that is used for common travel and daily use.

The Navigation System is a very basic road map with all necessary areas in national parks. Clients could use other navigation systems to lead their road, but the main part of this navigation system also includes trail maps, campground and service area. This function would be very useful for all travelers. Scenic Spots Guide requires a database that contains a large number of species which inhabit its lands, it requires connection to a server so that clients could access the data of species. Weather advisor does not just display general weather information, it has a lot of details that could be used for certain studies. Emergency rescue is using the minimum resource to get connected rescue teams and display what users should do now and the closest service area. This part of information should build-in this application, because we can not guarantee that wifi or cell phone signals cover all areas. This part of function is compulsive because the main idea of this application is satisfying users while traveling to certain areas.

The requirement efforts are modifiable, both databases on the server or application itself should all be modifiable. For the navigation system, it also could be used on emergency rescue, since we can not guarantee the signal will be stable, so the deviation should be within 100 meter.



3c Work Partitioning

Business Event List

Event Name	Formatting	Input and Output
1. Analysing weather data	Local weather station and general area weather station readings in	Analysing and combining both general area weather data and local weather data. Because some species' activities are based on weather and time.

2. Navigation system	Input could be the final destination or incidentally location that users want passing by. Output is direction and good view spot or species around the road.	Planning the way to the final destination, and showing all view spots and species haunt spots.
3. Upload photos and stories to Photo Gallery	Server connection and user standard input, may need album permission	Users can share their great photos and scenic advise on Photo Gallery

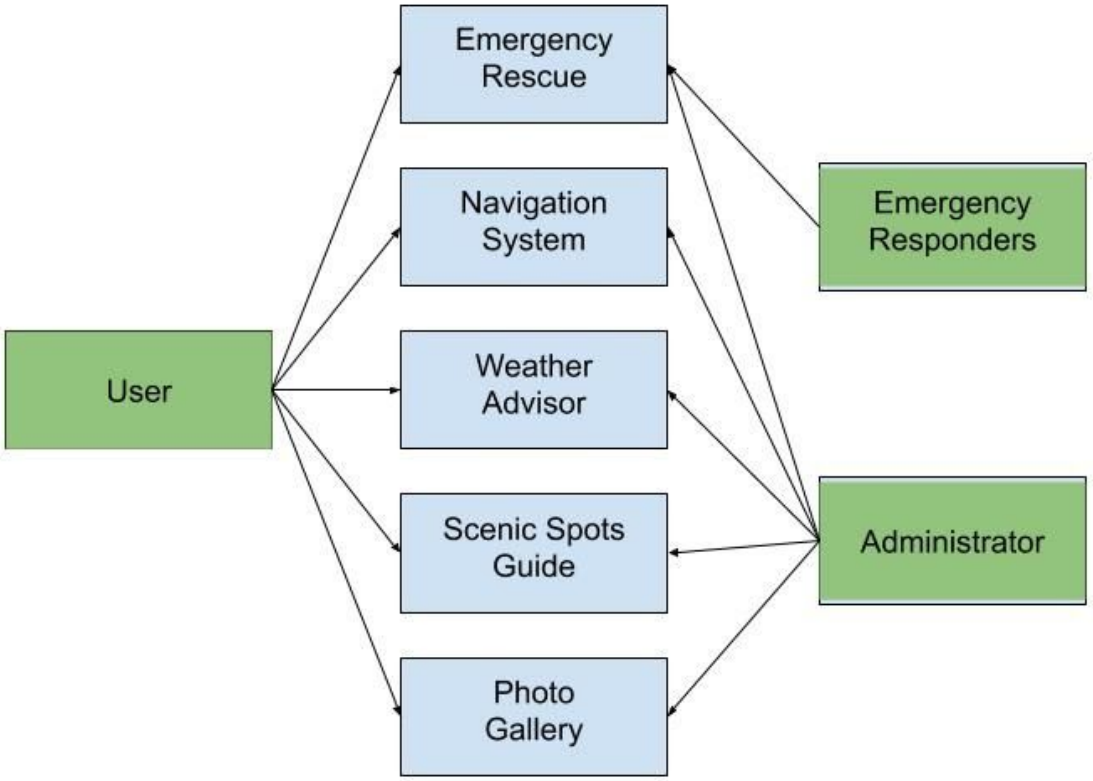
3d Competing Products

Travel Advisor application is not like a general travel advice application, Travel Advisor is aiming to target certain users and do certain things. First of all, not all applications have 24 hours dial-service support. Any unexpected or emergency happens, the application provides instructions and connects with the rescue team immediately. Secondly, not all applications are gathering local weather data and analysing general area weather data, since some species are very rare and strict on weather and time, this would be very helpful if users want to observe certain species.

4 The Scope of the Product

This product is to be used by both workers and visitors of the National Parks system: this includes the visitor, the admin and emergency services if necessary. All parties will have access to the navigation system, scenic spots guide, weather advisory, photo gallery, and emergency rescue system. This product is meant to augment visitor's experiences in the national park system by offering users the ability to navigate the parks via their smartphone; this navigation will highlight scenic spots and a photo gallery of notable spots. To promote safety, the user will be identified of any inclement weather and offer the ability to call for emergency rescue if necessary. The admin will have access to all facets of the system and emergency services will have access to the rescue system.

4a Scenario Diagram(s)



4b Product Scenario List

Number	Scenario	Actor Involved
1	User selecting spot for navigation	User
2	User checking weather reports for the day	User
3	User checking the photo gallery for a specified area	User
4	Admin updating photo gallery with new user submitted photos	Admin
5	User using emergency rescue feature; pings emergency services	User
6	Emergency services finding a user's location after emergency rescue signal is sent out	Emergency Services

4c Individual Product Scenarios

Upon opening the application, the user (whether a visitor, administrator or emergency services) will be connected to the server via a secure connection. At this point a visitor would have many options; suppose the visitor elects to check the photo album to see where they would like to visit first. Once a location is determined, the user would open the interactive map and click on the location that they would like to visit. This would activate the navigation system, showing the visitor a route to their intended destination along with any scenic destinations along the way. The visitor would then have the ability to check the weather advisor to ensure that conditions would be ideal for the planned visit. After arriving at the destination, suppose the visitor gets lost, injured or stuck in extreme weather; this would send a notification to emergency services that a rescue is required. The emergency services would open the application and select emergency rescue; this would show the last known location of the distress signal and spring into action.

5 Stakeholders

5a The Client

The clients are for business investors and park owners. The business investors want tourists to have a better tourist experience, and the park owner may want their parks to have better safety.

5b The Customer

The tourists and park managers have to install the app and get a better tourist experience and management. The clients would update the newest announcements and tourists will get the newest information of the parks. Also, they would be required to maintain and update monthly.

5c Hands-On Users of the Product

The hand on users are going to be tourists and parks managers. The primary users will be tourists, and they would be able to use this application to help them to get useful information with their park visit. When they have the application installed and they would allow them to get the information of the park they are visiting.

5d Maintenance Users and Service Technicians

The application will be posted on the app store, so users can install it by themselves. The application will be maintained monthly and if there are any bugs that appear have been reported by the user will fix it as soon as possible.

5e Other Stakeholders

The other stakeholder that would benefit those developing relative groups and shops in the parks which will increase their business performance.

Quality Assurance: The product will be a success depending on the user experience ratings and feedback. For our application, we have a big amount of users which also are our application's tester. They will see any of the problems that the application would have missed or mistakes. We also have a professional tester team and they will receive those feedback from the user. They will have a good understanding of the software on test cases, and be able to confirm that reported by the users was exciting. Then, they can communicate with the software developing teams to fix the problems.

Technology experts: Technology experts will be responsible to provide customers with the best technology that they have. They have to understand what the customers demand and what the developers need to build, and in order to supply them with the most efficient way.

Software Developer: Software Developers will be in charge of the software architecture. All the application functionalities are depending on the software developers, they have to work on all the UI, back-end, and maintain of the software.

Legal: A legal representation of the company is going to be required to ensure all the data safety for all customers. The legal must obey all the fundamental ethical rules, and regulatory boundaries. They also have to protect data and in order to prevent any of those mishaps information privacy.

5f User Participation

The user would be expected to share the data with the development group, which will help them to analy which feature that the users use the most. The user would be allowed to write their feedback directly in the application.

5g Priorities Assigned to Users

The priorities will be set by the level of the user (people who use the application more frequently). The Users would be responsible to give feedback and report bugs that occur, and the development team could be taking care of the issues as soon as possible.

6 Mandated Constraints

6aSolution Constraints

Description: The product shall have offline map

Rationale: Using map for some place without signal

Fit criterion: Not like the interactive map, an offline map should exceltly as a physical map, with high resolution, shall not be able to interact but be able to zoom in and out.

Description: The product shall have 24 hours emergency dial-service

Rationale: There are many accidents happened in mountain or somewhere far from city, and this application will send rescue signal to the outside rescue team by using all radio frequency, include satellite and personal intercom channel

Fit criterion: 24 hours immediately response

Description: The product shall be able to be installed on a smartphone device.

Rationale: The product is to be marketed to travelers, hikers and mountain climbers. Smartphones are easy to carry and interactive.

Fit criterion: The product shall be able to use low power mode. When a user is trying to use an emergency rescue function, this product needs to make sure the remaining battery is able to constantly send rescue signal for over 30 minutes, and there shall be no external power source.

6b Implementation Environment of the Current System

First of all the physical environment is a general modern smartphone, this application can be used both in the city and outside of the city area. Secondly, there are at least two servers. The main server contains the species database that needs to be inquired from an interactive map from a user device. The main server and backup server both are taking immediate response to the emergency request with the user's last location. There should also be customer service, response and repair of the bugs and issues that customers provide to the debug center. For communication systems, it will use general mobile community strategies such as wifi, signal and GPS.

After this application connect internet, if user location has update or user have not update their location for a while, For security reasons application will automatically upload user last location to server, if the user is missing, the rescue team could track by user last location.

6c Partner or Collaborative Applications

The Scenic Spots Guide outputs the user interesting species and scenic, this part will require developer import data from national park research database or library and upload data to the main server. So that when a user is inactive with a map, specie and scenic will be sent to the user device.

There is another function that needs to collaborate with the national park security system and rescue team. The Emergency Rescue function will immediately contact the rescue team and upload a report to the security system.

6d Off-the-Shelf Software

In order to implement this software, a framework that allows for dual platform (ios/android) should be used in development.

6e Anticipated Workplace Environment

The primary users would be using it outside, we have displays that are visible in sunlight. And we have to make sure that the users can access the network to make the product working properly.

6f Schedule Constraints

There are no schedule constraints for this product, but the product should take about 6 months to compete. The majority of the work of the product is going to be the back-end of the application.

6g Budget Constraints

The budget constraint would be around 50K, and most of the budget will speed on the software development parts. Server maintenance routine, customer service.

7 Naming Conventions and Definitions

7a Definitions of Key Terms

Navigation System: The application comes with a navigation system containing a map of each location, seven days weather forecasts, sunset/sunrise times, facilities available at the park and links to trail maps, campground maps and more.

Weather Advisor: The system will display the forecasted weather in the map with different areas in the park, like fog in the north of the park, or rain in the south of the park.

Photo Gallery: It is not just a photo gallery but more like a web community where pros and fans can share their photos and stories pertaining to the park with one another. This feature helps to find others interested in the park and develop a network between users.

Emergency Rescue: The emergency rescue feature would consist of a very minimal UI with a button. When the button is pressed, the devices' current GPS coordinates are recorded and immediately relayed to rescue teams. There is a high likelihood the device could run out of battery so this must be instantaneous.

Scenic Spots Guide: The scenic spots guide is a map that has a list of scenic spots and animals which are contained within the selected park. Users can select each of the scenic spots or animals to acquire more information about them.

7b UML and Other Notation Used in This Document

Any UML or Notation will be explained in more detail later in the report.

7c Data Dictionary for Any Included Models

Under the interactive map there is statistical analysis system, this particular system gathers weather data and species activities including: activity time, sleeping time, suckling period and favorite food, etc. The statistical and analysis system finds out the weather and time in relation to species. This helps both visitors and researchers observe any species within the national park.

Species databases are grouped by their type i.e. fish, birds and mammals; this could be divided even further into subsets like Mammal ->Carnivore/Herbivore.

Scenic spots are grouped by the amount of time needed to be spent there(>30 mins, 30 mins - 1hr, >1hr). When users are using the navigation system to their final destination, scenic spots will also display around route, grouped by time, so that user could make a little detour, but viewing a great scenic spot.

8 Relevant Facts and Assumptions

8a Facts

The factual information would be gathered from each national park. It would be the number of people viewed the information or rating and number of comments of the specific park. The data would be obtained daily or monthly depending on the volume.

This app will always be useful for national parks. This app would not only bring them more visitors but also help keep the visitors happy and safe.

This app is only for national parks and the visitors traveling in the park use only. It would require the application installed on a smartphone.

Any misuse from the users might lead to some mishaps for this app, please keep in touch with the customer so we can prevent it from happening or timely solve the problem.

People can learn the knowledge from this app including vegetation, animals or even the park itself.

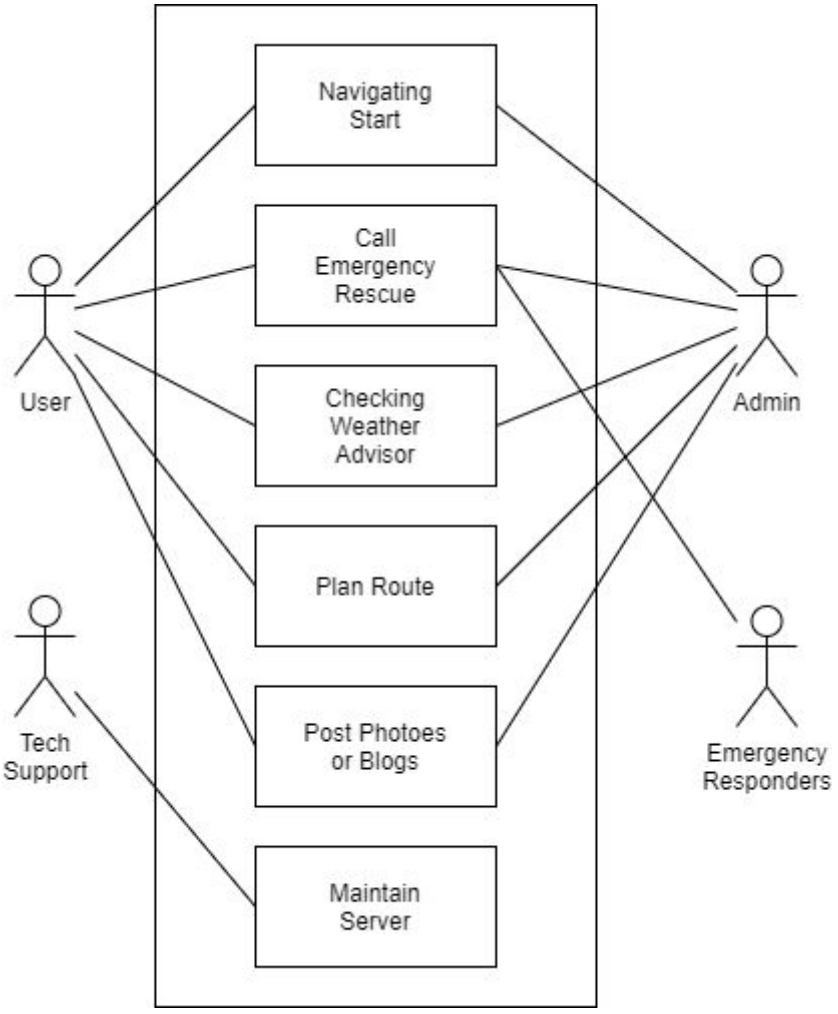
8b Assumptions

We are assuming the visitors who are using this app have basic knowledge of using a smartphone and can read English. Also, we assume all the national parks operate within the same guidelines. The adjustment could be made upon the request of the customers.

II Requirements

9 Product Use Cases

9a Use Case Diagrams



9b Product Use Case List

ID	Name	Description
1	Start Navigating	After user plans a route, the navigating system with guide the user to the requested location pass
2	Call Emergency Rescue	When user requests any emergency situation, a button press will contact emergency services immediately with location

3	Checking Weather Advisor	By selecting a species, the weather advisor will advise for the best time and place to aid with user observation
4	Plan Route	After a user selects their destination, highlight the scenic spots around the route
5	Post Photos or Blogs	To help build a national park web community with sharing favorite moments.
6	Maintain Server	Regular server maintenance, updating new species and species data. Ensuring emergency rescue always remains functional

9c Individual Project Use Case

Use case ID: 1 Name: Start Navigating
Pre-conditions: require GPS turned on, route is planned, destination selected
Post-conditions: GPS remains turned on
Initiated by: Any user who capable access this application
Triggering Event: Pressing the start navigation button
Additional Actors: No

Sequence of Events:

1. Once the system receives a destination from the user, navigating will provide several routes for the user to select.
    a. If the user does not pick any routes, the default route is the fastest path
    b. Users can pick one of the routes from the system: including the safest route, which could take a longer time; the most scenic route will pass by scenic spots, or the fastest route.
2. After the route is selected, the system will constantly update the user's current location on the map, and notifications will be displayed about the route.

Alternatives: An offline map will be used for Navigation
Exceptions: N/A

Use case ID: 2 Name: Call Emergency Rescue
Pre-conditions: The device is capable of sending an emergency message in weak signal or satellite signal
Post-conditions: GPS turned on to help rescue team locate user location
Initiated by: Any user who has access this application

Triggering Event: Pressing the Emergency Rescue button
Additional Actors: Rescue team

Sequence of Events:

1. When user request a emergency rescue, the rescue team will be contacted immediately
2. The app continues running, listening instructions from rescue team , then wait for rescuer to locate a user

Alternatives: N/A
Exceptions: If the call fails, the system repeats until the call is successful.

Use case ID: 3 Name: Checking Weather Advisor
Pre-conditions: Weather data is up to date
Post-conditions: Advise the best day to make species observation
Initiated by: Any user who capable access this application
Triggering Event: Pressing the Weather Advisor Rescue button
Additional Actors: No

Sequence of Events:

1. First by entering the species
    a. Systems will combine the recent weather data and species recent activity, this will determine a place and time that users can find the species.
    b. If the users want to have nice good weather, it will display the time span for a best possible views

Alternatives: N/A
Exceptions: For the species that do not exist in a national park, the system will provide general weather advice.

Use case ID: 4 Name: Plan Route
Pre-conditions: User selected their final destination
Post-conditions: requires GPS stay on after location was accepted
Initiated by: Any user who capable access this application
Triggering Event: Pressing the navigation button, this triggers the navigation system
Additional Actors: No

Sequence of Events:

1. System will prompt user to enter their destination
    a. Highlight the scenic spots around the route to allow user to alter their route

Alternatives: User can also plan their route on the provided offline map
Exceptions: Destination does not exist

Use case ID: 5 Name: Post Photos or Blogs Pre-conditions: Stable internet connection Post-conditions: User can post, edit, upload and comment on their blog Initiated by: Blog owner Triggering Event: Pressing the Photo Gallery button Additional Actors: No
Sequence of Events: 1. System will display all users' public blogs a. the system provide the ability like and comment under each blog 2. The user can post a good photo of scenic spots or their favorite
Alternatives: N/A Exceptions: N/A

Use case ID: 6 Name: Maintain Server Pre-conditions: Remote server Post-conditions: Server can communicate with hosts Initiated by: Server owner Triggering Event: Daily server diagnose Additional Actors: Tech Support
Sequence of Events: 1. Tech support should run diagnose for server daily 2. Also needs to making sure the backup server also in a good condition
Alternatives: N/A Exceptions: N/A

10 Functional Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
FUNC - 1	The Emergency Rescue connection should sent as fast as possible	Close all unnecessary resource, only making sure that Emergency Rescue is working functional	Require clear audio and clear image to be sent, but also require low energy use.	FUNC - 1
FUNC - 2	Plan route not only consider the shortest path but also caring the	Using the shortest path algorithm should do.	Test if the route is shortest and all selected scenic spots are passed	FUNC - 2

	user travel experience			
FUNC - 3	Weather advisor is helping user to explore the better view of scenic spots or species activity	If certain species like wet environments and shadow sides, combine the nation park terrain data or weather data. Then display the place or time	It can be tested by given random species, the system should return a place or time that meets the user requirement. Or return the specie does not exist in this national park	FUNC - 3

11 Data Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
DATA - 1	Saving species data that users are interested in.	Users may want to go back to their previous species data.	Generating a huge user search history, and check if all data is saved	DATA - 1
DATA - 2	User blogs should save permanently on server unless user explicit delete their blog	A health and energetic web community should not control their freedom of speech. So nothing will be deleted without informing the user.	Generating numbers of different types of blogs, check if all blogs exist.	DATA - 2

12 Performance Requirements

12a Speed and Latency Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
SLR-1	The emergency	The environment must	When the user	SLR-1

	call service algorithm must be instant.	be fast, the user will only use this service when an emergency happens and those emergencies require immediate help.	presses the call button, the location of the user needs is sent to the rescue team within 1 second. Otherwise, the test fails.	
SLR-2	The application's route generation algorithm must be fast	A user will not want to wait for a route to load forever, so it must be done in a reasonable time.	The routes must be generated within 2 seconds. Otherwise, the test fails.	SLR-2
SLR-3	The overall speed for loading and running the app must be done in 1 second.	The user should require the least loading time possible	The app must finish loading and be running in 1 second.	SLR-3

12b Precision or Accuracy Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
PAR-1	The location of the user must be as precise as possible. The error range must be kept within 5 meters.	The location is used for search and rescue people who are in danger. The more precise the locations are, the more it can help both the user and the rescue team.	This can be tested using unit tests.	SLR-1
PAR-2	All generated routes must be correct and easy to read and follow.	The user must be able to read and follow GPS instructions. Since some of the users will be using the GPS feature while driving, the instructions must be succinct and clear, so it will not distract them.	This will be tested using feedback from users during product usage.	PAR-2

12c Capacity Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
CR-1	The backend servers should be able to handle 10,000 users connecting all concurrently	This application is meant to serve all the visitors in national parks, so the backend must be able to connect a large number of users.	It can be tested by simulating multiple users and those users can make requests at the same time.	CR-1

13 Dependability Requirements

13a Reliability Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
RR-1	The application shall not fail more than once per day.	If the application fails often, users could be put in danger.	Unit tests and automation tests can be used to prevent users from prone to failures.	RR-1
RR-2	No data shall be lost or damaged in the event of a failure.	Users should be able to reconnect to the server to resync the data.	Unit tests will be able to ensure data will not get lost during program crashes.	RR-2

13b Availability Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
AR-1	The application shall be available during all hours of the day.	Travel Advisor contains features a user can use during the closing time of the park. I.e. photo gallery, weather advisory and park	Unit tests and automation tests can be used to ensure the application is available at all	AR-1

		information, etc.	times.	
AR-2	The application shall have 99% uptime.	Application crashes should only happen occasionally. Since crashes will affect the user experience of using the app.	Automation and unit tests will ensure that almost all crashes are mitigated.	AR-2

13c Robustness or Fault-Tolerance Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
RFTR-1	When the application fails/crashes,na corresponding error messageis sent with instructions to restart the application.	Restart instruction becomes super useful when the application crashes. Especially the users of this application might not have a lot of knowledge in this aspect.	Unit tests can be used to ensure the proper error messages are displayed upon failures.	RFTR-1

13d Safety-Critical Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
SCR-1	The application shall not cause any damage to the user's devices.	If the application caused damage to the user's devices. It will cause the owner additional charges to repair the device, and no user will want that to happen.	Unit tests can be used to ensure the app is not taking up too much CPU.	SCR-1
SCR-2	The application will not ask for users' personal information besides email when creating an	Travel Advisor does not need to know any personal information of the user to be a helpful application. The email is used for creating	Developers must be careful when handling users' personal data. And all data must be stored in	SCR-2

	account. The username for each account can be “faked” names.	accounts so users can save information. But the user doesn’t have to have an account to have access to the app.	a safe space.	

14 Maintainability and Supportability Requirements

14a Maintenance Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
MR-1	Maintenance will be available through the help section, email or phone.	Maintenance teams will have permission to access each user’s data in order to provide needed help.	All maintenance requests should be handled by the maintenance teams in a reasonable time.	MR-1
MR-2	Any maintenance which could affect normal usage of the application, the maintenance must be done at midnight.	Midnight will have the lowest user volume, so those types of maintenance should be done at midnight to minimize the effect on the user; unless the maintenance requires immediate maintenance.	Maintenances could be performed at any time of the day, so maintenance teams need to be flexible in order to provide the help users needed.	MR-2

14b Supportability Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
SR-1	The help section of the application will be the main source of support.	The help section will be provided to the user, and users can submit any help there.	Support should be given 24/7. During work hours requests should be instant, for all after-hours requests the	SR-1

			system will have automated responses. The help section is for small issues that can be fixed on the spot.	
SR-2	Users have the option to send emails to the developers.	This is for bigger issues, and the maintenance teams will handle case by case.	Bigger issues that require a longer time to fix would be requested through email. Users can expect responses for the requesting emails within 3 business days.	SR-2

14c Adaptability Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
ADR-1	The application must be compatible with all Android phones and iPhones.	Travel Advisor is a mobile application that runs on Android phones and iPhones. It would be able to support both operating systems.	The application needs to be tested on different mobile devices that use the Android or IOS operating system.	ADR-1

14d Scalability or Extensibility Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
SER-1	The application shall be capable	Travel Advisor will be able to handle 10,000 requests at the same	Testing and Updates will always be taking	SER-1

	of processing 10,000 users.	time in order to serve 10,000 users.	place to ensure all user requests are processed properly.	

14e Longevity Requirements

Name-ID	Description	Rationale	Fit Criterion	Acceptance Tests
LR-1	As long as national parks in the United States are open for public, the application will continue on.	Travel Advisor shall be available to the user as long as the national parks are open for visitors.	Travel Advisor might be adapting as times in order to keep information relevant.	LR-1

15 Security Requirements

15a Access Requirements

NAME - ID	**Description**	**Rationale**	**Fit Criterion**	**Acceptance Tests**
ACRE - 1	Only certain user will need access requirements to be able to change information about the parks and remove employees in the parks	Managers of the parks will have the these right, but it is also depending on the parks discretion.	Users will only have access to read the information that provides by the parks	ACRE - 1

15b Integrity Requirements

NAME - ID	**Description**	**Rationale**	**Fit Criterion**	**Acceptance Tests**
INRE - 1	The systems that	The security of	Users will only	INRE - 1

	are utilized in order to build the services for the parks shall all be built with security in mind in order to protect all of the user information.	parks and users' information should be a priority. The security team would be responsible for ensuring that information is safe.	have access to their profiles and basic table and customer functionalities that would allow them to use the normal tasks. park Managers and will handle the rest.	
INRE - 2	There would be no third party users only the clients and the developing team that would have access.	The application will not share any data with other third parties.	All of this would be disclosed on the user agreements and terms and conditions.	INRE - 2

15c Privacy Requirements

NAME - ID	**Description**	**Rationale**	**Fit Criterion**	**Acceptance Tests**
PRRE - 1	The application will only use the data that the users agree to share	User agreements would be the first thing that the users agree to use the application	Any data use should be ask the user's permission	PRRE - 1
PRRE - 2	The application will also notify all users if there are any changes to the privacy policy	A notification would allow us to notify the users that any change of the privacy policy	Privacy is a priority of all users and we have to notify users if any change	PRRE - 2

15d Audit Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
AURE - 1	Audits will be done monthly	Upon request each user can request a different frequent audits	These audits are performed monthly by the test team.	AURE - 1

15e Immunity Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
IMRE - 1	The servers that would run the application must be built and protected with high-grade security systems.	All the server are hosted in most of the time	Servers are hosted from companies that guarantee 95% up-time	IMRE - 1

16 Usability and Humanity Requirements

16a Ease of Use Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
EAUS - 1	The application should be usable within the training.	The application should help the visitor use their time efficiency	All operation should be simple and directly	EAUS - 1

16b Personalization and Internationalization Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance

				Tests
PEIN - 1	The application should have multiple language for user to chose	Multiple language system would help user that may not understand English	The application should have as least three language(English, Spanish, Chinese) for the user to chose	PEIN - 1

16c Learning Requirements

NAME - ID	**Description**	**Rationale**	**Fit Criterion**	**Acceptance Tests**
LERE - 1	Users need to learn how to mark the attractions and communicate with other users in the application	Time would be provided an experience for how to use the application	All users should be able to mark down the attractions that they like and share information (picture of attractions, experience) with other users	LERE - 1

16d Understandability and Politeness Requirements

NAME - ID	**Description**	**Rationale**	**Fit Criterion**	**Acceptance Tests**
UPRE - 1	The application should have a language filter in the communication system for the users	The communication system would automatically block the swear words	The communication system of the application should not have any verbal violence	UPRE - 1

16e Accessibility Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
ACRE - 1	The application should be usable by anyone	The application software is free in the app store	Anyone could download the application	ACRE - 1

16f User Documentation Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
USDO - 1	the user documents would ask feedback of the user, and the use time of the users	The users will provide feedback to the development term, and analyzed the collected data to improve the application	Users would provide the best feedback and agree with the data analyze	USDO - 1

16g Training Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
TRRE - 1	Learn how to use a smartphone or similar device efficiently	Guiding would be provided by the application	User should be able to use all the feature in the application	TRRE - 1

17 Look and Feel Requirements

17a Appearance Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
APRE - 1	The product must be able to handle different layout, since the application has different features(sub system)	The different layout would help the different feature more clear and efficient	The application would had a clear UI and fit in the feature	APRE - 1

17b Style Requirements

NAME - ID	Description	Rationale	Fit Criterion	Acceptance Tests
STRE - 1	The product must have a simple and clean look.	A simple and clean UI will help the users more comfortable while using the application	The UI of the application should be simple but innovative	STRE - 1

18 Operational and Environmental Requirements

18a Expected Physical Environment

The product shall be used by a visitor in various types of weather conditions. The product shall be usable if a mobile device is available.

The product shall enter an offline mode when cellular service is unavailable.

18b Requirements for Interfacing with Adjacent Systems

The product shall work on both the Android or IOS operating systems.

The product shall be available in the app store for free download.

The product shall allow for user registration with email verification.

The product shall not allow multiple accounts per email.

The product shall require unique usernames.

The product shall be able to update weather information while cellular data is available.

The product shall be accessible by at least 3 different types of users (visitor, admin and emergency services).

18c Productization Requirements

The product shall be a free application for download via the app store.

Application upgrades shall be available for download immediately after release.

The product shall be able to be downloaded by a user with minimal experience in the app store.

The product shall not be downloaded if the required disk space is not available.

18d Release Requirements

The application store will provide upgrades for free download.

The application will respond to any found bugs in a timely manner.

User profiles will be accessible on any release.

19 Cultural and Political Requirements

19a Cultural Requirements

The product shall offer text in the top 4 languages in the United States (English, Spanish, Chinese and French).

The product shall not collect any data pertaining to gender or race.

19b Political Requirements

The product should comply with all terms of service required by both the IOS and Android application stores.

The product shall make all functionality available to the Administrator.

The product shall allow access to visitor location to Emergency service.

20 Legal Requirements

20a Compliance Requirements

Personal information shall be implemented so as to comply with the Data Protection Act.

The product shall offer emergency service visitor information in the event of an emergency.

The product shall comply with all terms or service required by both the Android and IOS application stores.

The product shall only use licensed map information for the Navigation System.

20b Standards Requirements

The product shall comply with state and federal laws at all times.

The product shall comply with IOS standards.

The product shall comply with Android standards.

Acceptance Tests: List ID# and/or names here . . .

21 Requirements Acceptance Tests

21a Requirements – Test Correspondence Summary

Test	Requirements																			
Test 1																				
Test 2																				

Test 3																			
Test 4																			
Test 5																			
Test 6																			
Test 7																			
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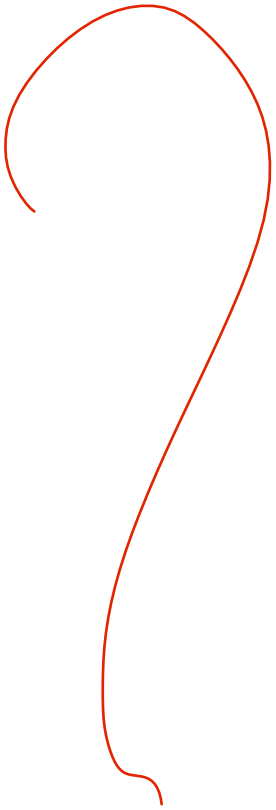
21b Acceptance Test Descriptions