Use Cases

for

Travel Advisor

**Version 1.0**

**Prepared by Team 9**

**CS411**

**2/20/16**

1. **Guidance for Use Case**

Document each use case using the template shown in the Appendix. This section provides a description of each section in the use case template.

1. **Use Case Identification**

## Use Case ID

G.1 = Guest user use

R.1 = Registered user

A.1 = Administrator user

## Use Case Name

State a concise, results-oriented name for the use case. These reflect the tasks the user needs to be able to accomplish using the system. Include an action verb and a noun. Some examples:

* View part number information.
* Manually mark hypertext source and establish link to target.
* Place an order for a CD with the updated software version.

## Use Case History

### Created By

Supply the name of the person who initially documented this use case.

### Date Created

Enter the date on which the use case was initially documented.

### Last Updated By

Supply the name of the person who performed the most recent update to the use case description.

### Date Last Updated

Enter the date on which the use case was most recently updated.

1. **Use Case Definition**

## Actors

An actor is a person or other entity external to the software system being specified who interacts with the system and performs use cases to accomplish tasks. Different actors often correspond to different user classes, or roles, identified from the customer community that will use the product. Name the actor that will be initiating this use case and any other actors who will participate in completing the use case.

## Trigger

Identify the event that initiates the use case. This could be an external business event or system event that causes the use case to begin, or it could be the first step in the normal flow.

## Description

Provide a brief description of the reason for and outcome of this use case, or a high-level description of the sequence of actions and the outcome of executing the use case.

## Preconditions

List any activities that must take place, or any conditions that must be true, before the use case can be started. Number each precondition. Examples:

1. User’s identity has been authenticated.
2. User’s computer has sufficient free memory available to launch task.

## Postconditions

Describe the state of the system at the conclusion of the use case execution. Number each postcondition. Examples:

1. Document contains only valid SGML tags.
2. Price of item in database has been updated with new value.

## Normal Flow

Provide a detailed description of the user actions and system responses that will take place during execution of the use case under normal, expected conditions. This dialog sequence will ultimately lead to accomplishing the goal stated in the use case name and description. This description may be written as an answer to the hypothetical question, “How do I <accomplish the task stated in the use case name>?” This is best done as a numbered list of actions performed by the actor, alternating with responses provided by the system. The normal flow is numbered “X.0”, where “X” is the Use Case ID.

## Alternative Flows

Document other, legitimate usage scenarios that can take place within this use case separately in this section. State the alternative flow, and describe any differences in the sequence of steps that take place. Number each alternative flow in the form “X.Y”, where “X” is the Use Case ID and Y is a sequence number for the alternative flow. For example, “5.3” would indicate the third alternative flow for use case number 5.

## Exceptions

Describe any anticipated error conditions that could occur during execution of the use case, and define how the system is to respond to those conditions. Also, describe how the system is to respond if the use case execution fails for some unanticipated reason. If the use case results in a durable state change in a database or the outside world, state whether the change is rolled back, completed correctly, partially completed with a known state, or left in an undetermined state as a result of the exception. Number each alternative flow in the form “X.Y.E.Z”, where “X” is the Use Case ID, Y indicates the normal (0) or alternative (>0) flow during which this exception could take place, “E” indicates an exception, and “Z” is a sequence number for the exceptions. For example “5.0.E.2” would indicate the second exception for the normal flow for use case number 5.

## Includes

List any other use cases that are included (“called”) by this use case. Common functionality that appears in multiple use cases can be split out into a separate use case that is included by the ones that need that common functionality.

## Priority

Indicate the relative priority of implementing the functionality required to allow this use case to be executed. The priority scheme used must be the same as that used in the software requirements specification.

## Frequency of Use

Estimate the number of times this use case will be performed by the actors per some appropriate unit of time.

## Business Rules

List any business rules that influence this use case.

## Special Requirements

Identify any additional requirements, such as nonfunctional requirements, for the use case that may need to be addressed during design or implementation. These may include performance requirements or other quality attributes.

## Assumptions

List any assumptions that were made in the analysis that led to accepting this use case into the product description and writing the use case description.

## Notes and Issues

List any additional comments about this use case or any remaining open issues or TBDs (To Be Determines) that must be resolved. Identify who will resolve each issue, the due date, and what the resolution ultimately is.

Use Case List

|  |  |  |
| --- | --- | --- |
| ***ID*** | ***Primary Actor*** | ***Use Case Title*** |
| R.1,G.1 | User | Compare Flights to driving |
| R.2 | User | Forward user to ticket purchasing |
| R.3, A.1 | User/Administrator | Update user car efficiency information |
| R.4 | User | Save the search results |
| R.6 | User | Repurchase flights based on past purchase |
| R.7 | User | Subscribe to flight vs drive notifications |

Use Case Template

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| --- | --- | --- | --- |
| Use Case ID: | G.1 | | |
| Use Case Name: | Compare Flights, choose to drive | | |
| Created By: | Team 9 | Last Updated By: | Matt |
| Date Created: | 2/22/16 | Date Last Updated: | 2/24/16 |

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| --- | --- |
| Actors: | User |
| Description: | User wants to compare the price of driving to a location as opposed to flying from the airport closest to the origin and destination. |
| Trigger: | User wants to take a trip, and they do not know if they want to drive to their destination or fly. |
| Preconditions: | User is not registered with the site |
| Postconditions: | session ends on window close |
| Normal Flow: | User enters start and end addresses into text boxes and clicks search. The site then returns flights ordered by price and duration, as well as approximate driving time and gas cost. The user decides to drive, and closes the webpage. |
| Alternative Flows: | User enters start and end addresses into text boxes and clicks search. The site then returns flights ordered by price and duration, as well as approximate driving time and gas cost. The user decides to take a flight, and clicks on a flight. the site then forwards them to the associated ticket purchasing website |
| Exceptions: | 1. User clicks search before entering addresses. site requests an address and await further input 2. User enters an invalid address site identifies that address is invalid and requests a new address 3. User enters an address that is inaccessible by driving or flying |
| Includes: | none |
| Priority: | High |
| Frequency of Use: | 2-3 times before an upcoming trip |
| Business Rules: | User is restricted to domestic trips.  User will only receive flight information if the origin and destination are far enough apart that they do not ping to the same airport.  User cannot get flight information if there is not airport located near their point of origin. |
| Special Requirements: | None |
| Assumptions: | The user knows where they want to go and when, and what kind of car they have. |
| Notes and Issues: |  |

Use Case Template

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| --- | --- | --- | --- |
| Use Case ID: | R.2 | | |
| Use Case Name: | Purchase Flight | | |
| Created By: | Matt | Last Updated By: | Matt |
| Date Created: | 3/13/16 | Date Last Updated: | 3/13/16 |

|  |  |
| --- | --- |
| Actors: | Registered Users and Guest Users |
| Description: | The User has decided to purchase a plane ticket. So they click on the link to the website to purchase a ticket. |
| Trigger: | The User comes to the site to compare flight prices. Once they have looked at the prices they decide to buy. |
| Preconditions: | The user has searched for flights and there are valid options to select. Each entry has a link to a website. |
| Postconditions: | A link to a website is opened. |
| Normal Flow: | The user is scrolling through a list organized by price and airline. When they select a flight. |
| Alternative Flows: |  |
| Exceptions: | There are no valid flights, so nothing should be displayed. |
| Includes: |  |
| Priority: | Medium |
| Frequency of Use: | Almost every use |
| Business Rules: |  |
| Special Requirements: | User lives near an airport and their destination is by a airport. |
| Assumptions: |  |
| Notes and Issues: | The google API may not return a link to ticket purchase in the JSON file. |

Use Case Template

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | R.5 | | |
| Use Case Name: | Authentication | | |
| Created By: | Matt | Last Updated By: | Matt |
| Date Created: | 3/13/16 | Date Last Updated: | 3/13/16 |

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| --- | --- |
| Actors: | Registered User |
| Description: | User logs in using OAHU service. |
| Trigger: | User wants to save their location and past searches |
| Preconditions: | The user is on the website and they already have a facebook. |
| Postconditions: | User has an account logged into the database. |
| Normal Flow: | The user authenticates with facebook. Then they put their input their home locations. |
| Alternative Flows: |  |
| Exceptions: | They do not have a facebook. |
| Includes: | This case access save searches. |
| Priority: | Low |
| Frequency of Use: | One time use |
| Business Rules: | Every authenticated user gets one account. Every user must have a location. |
| Special Requirements: |  |
| Assumptions: | The user lives by an airport. |
| Notes and Issues: | Location will be stored using Google’s map API, An error will be thrown if the address entered by the user cannot be found. |

Use Case Template

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | R.6 | | |
| Use Case Name: | Repurchase flights based on past purchase | | |
| Created By: | Chi | Last Updated By: | Chi |
| Date Created: | 3/13/2016 | Date Last Updated: | 3/13/2016 |

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| --- | --- |
| Actors: | Registered users |
| Description: | A user can retrieve the information of the flight for a particular trip the user has taken, and there’s a link that can take the user to the site where he/she can repurchase the same flight. |
| Trigger: | A user looks up a particular trip and see which flight he/she has taken for the trip. |
| Preconditions: | The user has non-empty search result and chosen flight for at least once. |
| Postconditions: | The user is at website where he/she can purchase tickets for the chosen flight. |
| Normal Flow: | The user looks up his/her search result and find the desired trip information. A clickable link to the flight purchasing website will show up if available. |
| Alternative Flows: | If no flight was taken for that trip, then no link will be provided. |
| Exceptions: | The database has no information on whether the flight method was chosen or which flight was chosen for a trip. |
| Includes: |  |
| Priority: | Low |
| Frequency of Use: | Occasional |
| Business Rules: |  |
| Special Requirements: | The user goes to the flight ticket purchasing sites through Travel Advisor’s sites. |
| Assumptions: | The system will save the information on which flight was chosen by the user for each trip. |
| Notes and Issues: | The price for a certain flight might be different. However, if a user likes a flight for some other reason (airline, time frame, accessibility, etc), providing the possibility of retrieve that information increase the convenience. |

Use Case Template

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | R.3 | | |
| Use Case Name: | Update user car efficiency information | | |
| Created By: | Lucas | Last Updated By: | Lucas |
| Date Created: | 3/13/2016 | Date Last Updated: | 3/13/2016 |

|  |  |
| --- | --- |
| Actors: | Registered users |
| Description: | A user can register their car make and model to their account, which will then be used in the cost analysis for the driving component of the tool |
| Trigger: | A user opens their account page and selects the option to add a vehicle |
| Preconditions: | The user has a registered account and is logged in |
| Postconditions: |  |
| Normal Flow: | The user opens their account page selects to add a vehicle, at which point drop down menus become available to select manufacturer, year, and model. Once selected the user will click a save button, a confirmation will appear, and the user will be returned to the main page |
| Alternative Flows: | The user attempts to search for a trip once logged in, but has no registered car. A notification will appear reminding the user to add the car, or proceed without that comparison being executed |
| Exceptions: | The database has no information on the car make, model and efficiency, a manual mpg option will become available. |
| Includes: |  |
| Priority: | Medium |
| Frequency of Use: | Frequent |
| Business Rules: | Every user can store up to 4 vehicles to their account at a time |
| Special Requirements: |  |
| Assumptions: | The user has a car |
| Notes and Issues: |  |

Use Case Template

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | R.7 | | |
| Use Case Name: | Subscribe to flight vs drive notification | | |
| Created By: | Ben | Last Updated By: | Ben |
| Date Created: | 3/14/2016 | Date Last Updated: | 3/14/2016 |

|  |  |
| --- | --- |
| Actors: | Registered users |
| Description: | A user can save a future trip and be notified if flights become cheaper than driving or vice versa, based on changes in flight and gas prices |
| Trigger: | Gas or flight price changes |
| Preconditions: | User has a specific trip in mind, but not sure if they want to drive or fly |
| Postconditions: |  |
| Normal Flow: | The user looks up his/her search result and find the desired trip information. They then save this trip and subscribe to email notifications. If a change occurs such that it changes which is cheaper, the user will receive an email. |
| Alternative Flows: |  |
| Exceptions: |  |
| Includes: |  |
| Priority: | Very Low |
| Frequency of Use: | Infrequent |
| Business Rules: |  |
| Special Requirements: |  |
| Assumptions: |  |
| Notes and Issues: |  |

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Lucas Neves | 2/22/16 | initial revision | 1.0 |
| Ben Owens | 2/22/16 | initial revision | 1.0 |
| Matt Bass | 2/22/16 | initial version | 1.0 |
| Chi Zhang | 2/22/16 | initial version | 1.0 |
| Matt Bass | 2/24/16 | Business Rules and Priority | 1.1 |
| Chi,Lucas | 3/13/16 | Use case R.3 and R.6 | 1.2 |
|  |  |  |  |