Prem Rajeshkumar Bagdawala - Project Portfolio

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PROJECT: TravelBuddy

This project portfolio serves to document my contribution to **TravelBuddy**, a desktop application developed as a Software Engineering team project for the National University of Singapore (NUS) module CS2103T. The team comprised of 4 NUS computer science students, including myself.

The application was developed over the span of 8 weeks in Academic Year 18/19 Semester 2 using an iterative approach. During that time, we were asked to morph an existing desktop application AddressBook Level 4, which is made up of 10KLoC in Java. One main user requirement was the preference of the user to interact with the application using Command Line Interface (CLI) rather than a Graphical User Interface (GUI). The final product we created is TravelBuddy, which is detailed below.

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1. Overview

TravelBuddy is a travel journal desktop application for travel enthusiasts to record places which they have previously visited. With the recorded data, travellers can search for places visited based on specified filters such as rating and tags. Using the data, the application can analyse travel history and generate statistics. Users can also store their travel photos on TravelBuddy, which can help them remember and reminisce the places they have visited before.

My role in the project was to design and write the code for the Create, Read, Update and Delete (CRUD) feature. The following sections showcase, in greater detail, my contributions and enhancements added to TravelBuddy, as well as the documentation of these enhancements in the User Guide and Developer Guide.

2. Summary of Contributions

2.1. Major Enhancement

The major enhancement I added was **the ability to add, list, edit and delete places in**

Travelbuddy

What it does: It allows users to add, list, edit and delete places in TravelBuddy.

Justification: The user needs to be able to add the places into TravelBuddy. When the user applies some filters such as rating, a limited number of places would be shown. In order for the user to see all the places again, the list command would be used. The user may make some mistakes when adding a place, for which the edit command can be used to rectify the mistake. The user may have accidentally added a place, for which the delete command allows the user to remove the specific place.

Highlights: This enhancement involved a large amount of refactoring and careful crafting of test cases to test thoroughly the Date Visited field.

Overall code contributed: Commits

2.2. Minor Enhancement

The minor enhancement I did was to convert the Person object from the original code base to a Place object.

Code contributed to minor enhancement: Convert Place to Person

2.3. Other contributions

The table below documents the various other contributions that I made to TravelBuddy.

Project management	As the leader, I spearheaded project planning and managed the project scope. I conducted weekly meetings and managed the scheduling of tasks so as to prevent merge conflicts.
Enhancements to existing features	Updated tests and wrote additional tests to convert people in address book to places in TravelBuddy and improve coverage: #50, #115
Documentation	• Updated AboutUs with the responsibilities of team members: #12 • Updated the User Guide with features I added and FAQ section: #53, #63, #77, #85, #174 • Updated the User Guide with a command cheatsheet: #101 • Updated the Developer Guide with features I added and diagrams for illustration purposes: #68, #85, #101, #162, #174 • Fixed documentation errors found during testing: #135

Community	• Reviewed pull requests (with non-trivial review comments): #84 • Reported bugs and helped to fix bugs: #82, #118, #161 • Tested other projects and reported bugs: #223, #225, #227, #231, #238, #240, #246, #248

3. Contributions to the User Guide

The original User Guide was updated to match the enhancements implemented in TravelBuddy.

Given below is the start of an excerpt from the User Guide which I had contributed. They demonstrate my ability to write easy-to-follow documentation targeting end-users.

3.1. Adding a place: `add`

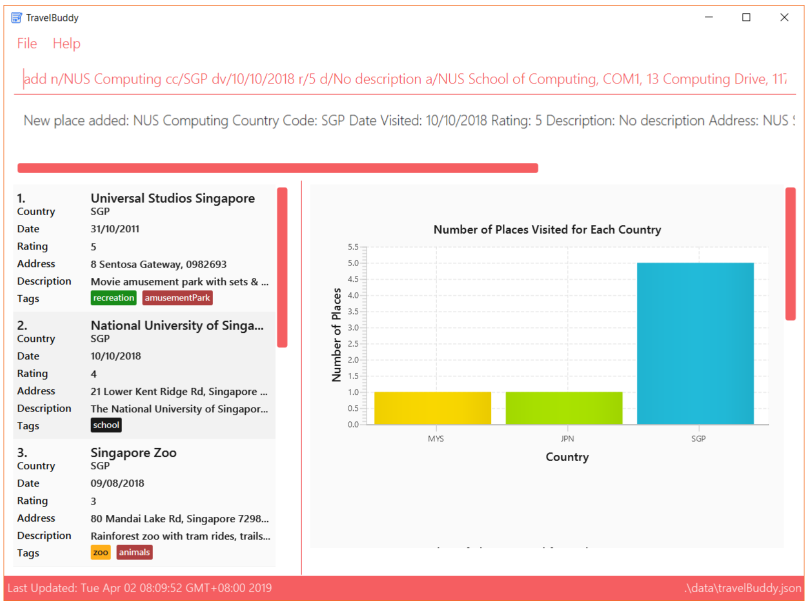
Description: The `add` command adds a place to TravelBuddy.

Shortcut: `a`

Examples: Given below are some examples on how to utilize the `add` command:

- `add n/Botanic Gardens cc/SGP dv/1/1/2017 r/4 d/UNESCO World Heritage Site a/1 Cluny Rd, Singapore 259569 t/nature`
  Adds Botanic Gardens to the list of places you have visited into TravelBuddy.
- `add n/Raffles Hotel cc/SGP dv/5/5/2016 t/hotel d/This place is lovely a/Raffles Road r/5 t/staycation`
  Adds Raffles Hotel to the list of places you have visited into TravelBuddy.

Figure 4.3.1 below shows the outcome of a specific `add` command



```
add n/NUS Computing cc/SGP dv/10/10/2018 r/5 d/No description a/NUS School of Computing, COM1, 13 Computing Drive, 117
```

```
New place added: NUS Computing Country Code: SGP Date Visited: 10/10/2018 Rating: 5 Description: No description Address: NUS S
```

1.	Universal Studios Singapore
Country	SGP
Date	31/10/2011
Rating	5
Address	8 Sentosa Gateway, 0982693
Description	Movie amusement park with sets & ...
Tags	recreation amusementPark
2.	National University of Singa...
Country	SGP
Date	10/10/2018
Rating	4
Address	21 Lower Kent Ridge Rd, Singapore ...
Description	The National University of Singapor...
Tags	school
3.	Singapore Zoo
Country	SGP
Date	09/08/2018
Rating	3
Address	80 Mandai Lake Rd, Singapore 7298...
Description	Rainforest zoo with tram rides, trails...
Tags	zoo animals

Last Updated: Tue Apr 02 08:09:52 GMT+08:00 2019 .\data\travelBuddy.json

Figure 4.3.1: Adding a place to TravelBuddy

TIP	A place can have any number of tags (including 0 tags).

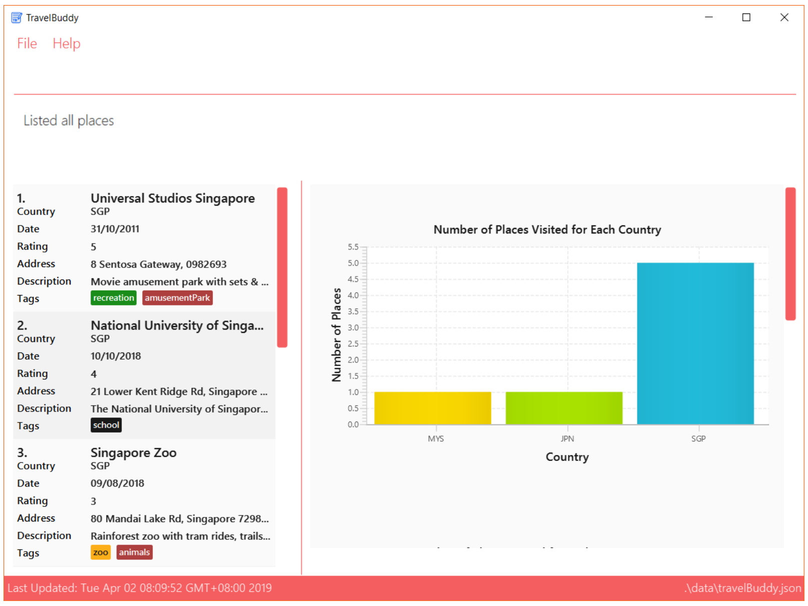
3.2. Listing all places: `list`

Description: The `list` command displays a list of all the places in TravelBuddy.

Shortcut: `l`

Format: `list`

NOTE	Calling the `list` command returns a list of all the places in TravelBuddy as shown in Figure 4.4.1 below.



Listed all places

1.	Universal Studios Singapore
Country	SGP
Date	31/10/2011
Rating	5
Address	8 Sentosa Gateway, 0982693
Description	Movie amusement park with sets & ...
Tags	recreation amusementPark
2.	National University of Singa...
Country	SGP
Date	10/10/2018
Rating	4
Address	21 Lower Kent Ridge Rd, Singapore ...
Description	The National University of Singapor...
Tags	school
3.	Singapore Zoo
Country	SGP
Date	09/08/2018
Rating	3
Address	80 Mandai Lake Rd, Singapore 7298...
Description	Rainforest zoo with tram rides, trails...
Tags	zoo animals

Last Updated: Tue Apr 02 08:09:52 GMT+08:00 2019 .\data\travelBuddy.json

Figure 4.4.1: Listing all the places in TravelBuddy

3.3. Editing a place: `edit`

Description: The `edit` command edits an existing place in TravelBuddy.

Shortcut: `e`

Format: `edit INDEX [n/NAME] [cc/COUNTRY_CODE] [dv/DATE_VISITED] [r/RATING] [d/DESCRIPTION] [a/ADDRESS] [t/TAG]…`

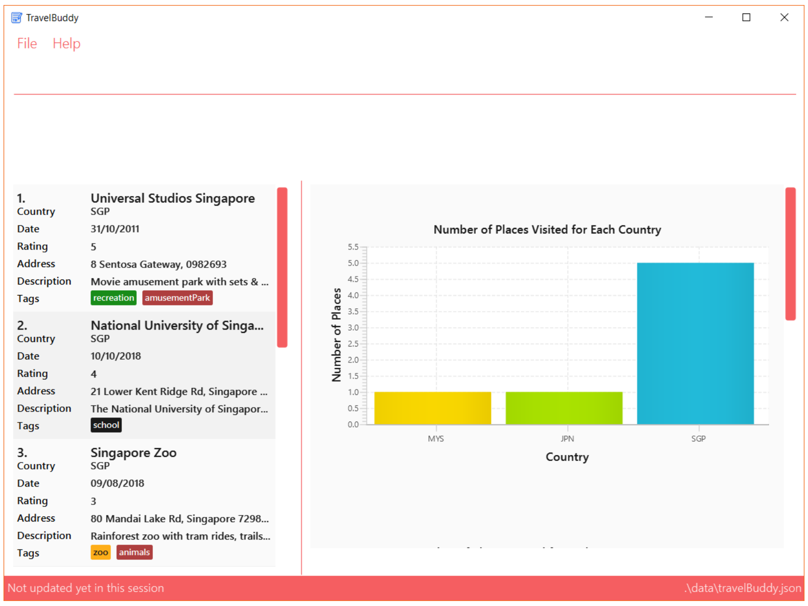
Preconditions: Given below is a list of preconditions that must be met for the `edit` command to work:

- The command edits the place at the specified `INDEX`. The index refers to the index number shown in the displayed place list. The index **must be a positive integer** 1, 2, 3, …
- It must have at least one of the optional fields.
- Its existing values will be updated to the input values.
- The adding of tags is not cumulative. Hence, when the tags are edited, the existing tags of the place will be removed.

- The tags can all be removed by typing `t/` without specifying any tags after it.

> **Examples:** Given below are some examples on how to utilize the `edit` command:
>
> - `edit 1 r/3 d/No description`
>   Edits the rating and description address of the 1st place to be `3` and `No description` respectively.
> - `edit 2 n/Raffles Hotel t/`
>   Edits the name of the 2nd place to be `Raffles Hotel` and clears all existing tags.

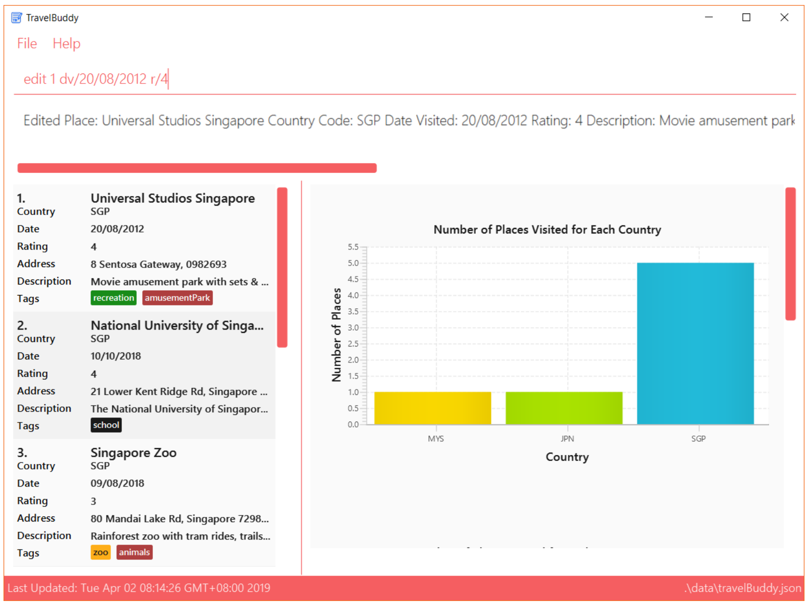
Figure 4.5.1 below shows the list of places before the `edit` command was used.



```
1.           Universal Studios Singapore
Country      SGP
Date         31/10/2011
Rating       5
Address      8 Sentosa Gateway, 0982693
Description  Movie amusement park with sets & ...
Tags         recreation  amusementPark

2.           National University of Singa...
Country      SGP
Date         10/10/2018
Rating       4
Address      21 Lower Kent Ridge Rd, Singapore ...
Description  The National University of Singapor...
Tags         school

3.           Singapore Zoo
Country      SGP
Date         09/08/2018
Rating       3
Address      80 Mandai Lake Rd, Singapore 7298...
Description  Rainforest zoo with tram rides, trails...
Tags         zoo  animals

Not updated yet in this session                                   .\data\travelBuddy.json
```

Figure 4.5.1: Before the `edit` command was used

Figure 4.5.2 below shows the list of places after the `edit` command was used.



```
edit 1 dv/20/08/2012 r/4

Edited Place: Universal Studios Singapore Country Code: SGP Date Visited: 20/08/2012 Rating: 4 Description: Movie amusement park

1.           Universal Studios Singapore
Country      SGP
Date         20/08/2012
Rating       4
Address      8 Sentosa Gateway, 0982693
Description  Movie amusement park with sets & ...
Tags         recreation  amusementPark

2.           National University of Singa...
Country      SGP
Date         10/10/2018
Rating       4
Address      21 Lower Kent Ridge Rd, Singapore ...
Description  The National University of Singapor...
Tags         school

3.           Singapore Zoo
Country      SGP
Date         09/08/2018
Rating       3
Address      80 Mandai Lake Rd, Singapore 7298...
Description  Rainforest zoo with tram rides, trails...
Tags         zoo  animals

Last Updated: Tue Apr 02 08:14:26 GMT+08:00 2019                  .\data\travelBuddy.json
```

Figure 4.5.2: After the `edit` command was used

3.4. Deleting a place: `delete`

Description: The `delete` command deletes the specified place from TravelBuddy.

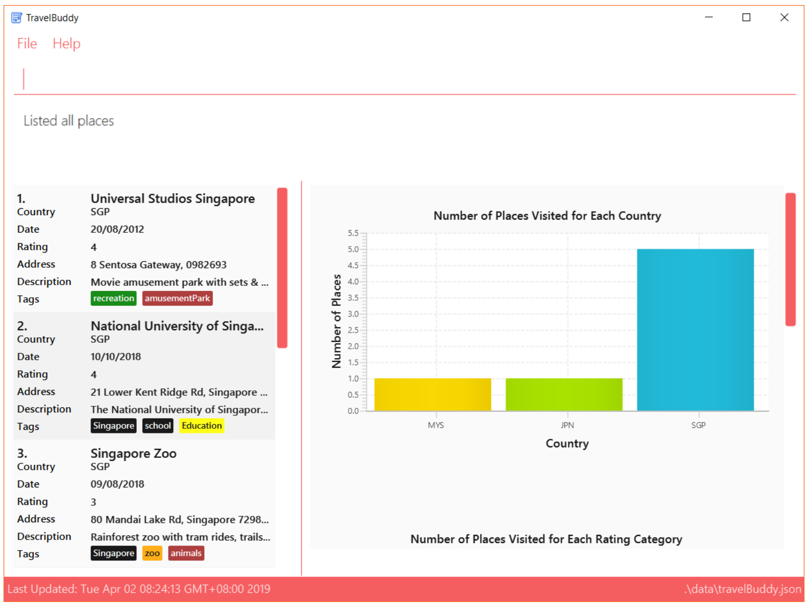
Shortcut: `d`

Format: `delete INDEX`

Preconditions: Given below is a list of preconditions that must be met for the `delete` command to work:

- Deletes the place at the specified `INDEX`.
- The index refers to the index number shown in the currently displayed list, on the left.
- The index **must be a positive integer** 1, 2, 3, …

Figure 4.11.1 below shows TravelBuddy before `delete` command was used.


TravelBuddy
File
Help
Number of Places Visited for Each Country
Number of Places
Country
MYS
JPN
SGP
Number of Places Visited for Each Rating Category

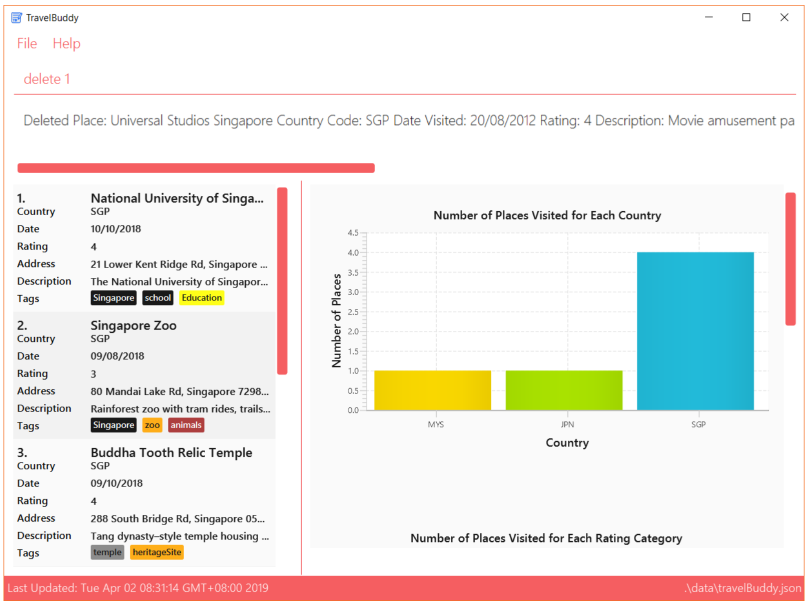
Listed all places

1.	Universal Studios Singapore
Country	SGP
Date	20/08/2012
Rating	4
Address	8 Sentosa Gateway, 0982693
Description	Movie amusement park with sets & ...
Tags	recreation amusementPark
2.	National University of Singa...
Country	SGP
Date	10/10/2018
Rating	4
Address	21 Lower Kent Ridge Rd, Singapore ...
Description	The National University of Singapor...
Tags	Singapore school Education
3.	Singapore Zoo
Country	SGP
Date	09/08/2018
Rating	3
Address	80 Mandai Lake Rd, Singapore 7298...
Description	Rainforest zoo with tram rides, trails...
Tags	Singapore zoo animals

Last Updated: Tue Apr 02 08:24:13 GMT+08:00 2019 .\data\travelBuddy.json

Figure 4.11.1: Before the `delete` command was used

Figure 4.11.2 below shows the result of using the `delete` command on the first place of interest.


TravelBuddy
File
Help
Number of Places Visited for Each Country
Number of Places
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
MYS
JPN
SGP
Country
Number of Places Visited for Each Rating Category

```
delete 1
```

```
Deleted Place: Universal Studios Singapore Country Code: SGP Date Visited: 20/08/2012 Rating: 4 Description: Movie amusement pa
```

1.	National University of Singa...
Country	SGP
Date	10/10/2018
Rating	4
Address	21 Lower Kent Ridge Rd, Singapore ...
Description	The National University of Singapor...
Tags	Singapore school Education
2.	Singapore Zoo
Country	SGP
Date	09/08/2018
Rating	3
Address	80 Mandai Lake Rd, Singapore 7298...
Description	Rainforest zoo with tram rides, trails...
Tags	Singapore zoo animals
3.	Buddha Tooth Relic Temple
Country	SGP
Date	09/10/2018
Rating	4
Address	288 South Bridge Rd, Singapore 05...
Description	Tang dynasty–style temple housing ...
Tags	temple heritageSite

Last Updated: Tue Apr 02 08:31:14 GMT+08:00 2019 .\data\travelBuddy.json

Figure 4.11.2: After the `delete` *command was used*

Examples: Given below are some examples on how to utilize the `delete` command:

- `list`
  Lists all the places in TravelBuddy
  `delete 2`
  Deletes the 2nd place in TravelBuddy.
- `search Raffles`
  Searches for any places which has the word "Raffles" in it.
  `delete 1`
  Deletes the 1st place in the results of the `search` command.

This marks the end of the excerpt from the User Guide.

4. Contributions to the Developer Guide

The original Developer Guide was updated to match the logic of the enhancements implemented in TravelBuddy.

Given below is the start of an excerpt from the Developer Guide which I had contributed. They demonstrate my ability to write technical documentation and the technical depth of my contributions to the project.

4.1. Add Feature

The `add` command is used to add a place into TravelBuddy. The user can add the following details related to the place:

- Name
- Country Code

- Date Visited
- Rating
- Address
- Description
- Tag (Optional)

NOTE The Country Code adheres to the three-letters ISO-3166 standard. The full list of Country Codes can be found in CountryCodes.adoc

4.1.1. Current Implementation

Given below is a sequence of steps, illustrating the interaction between various classes when the add command is entered.

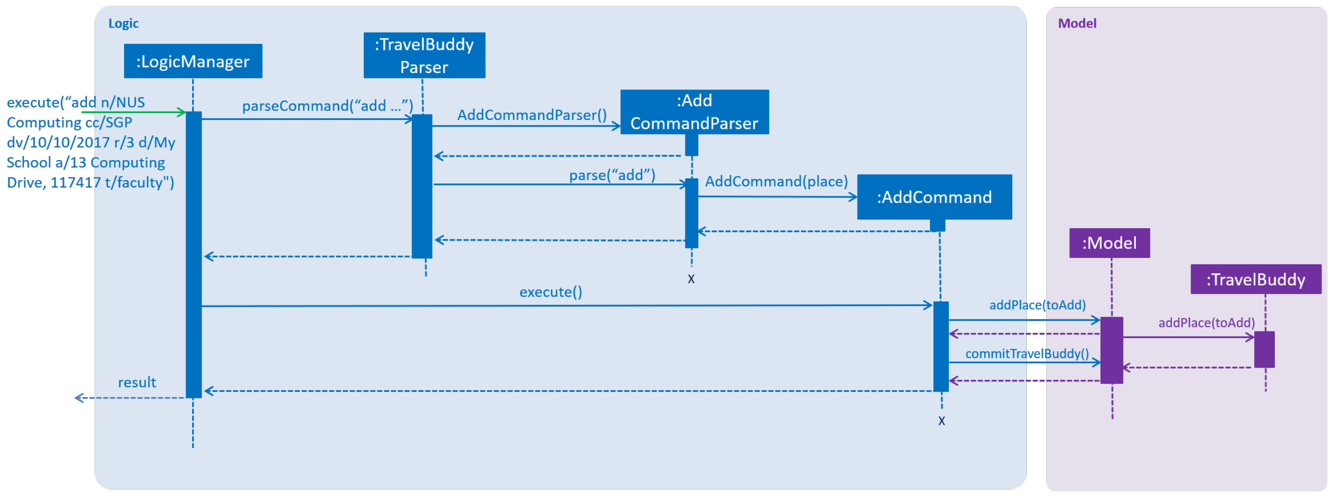


Figure 10: Add Command Sequence Diagram

Step 1: The user enters the command `add n/NUS Computing cc/SGP dv/10/10/2017 r/3 d/My School a/13 Computing Drive, 117417 t/faculty`.

Step 2: The command is processed by the Logic component, which will then call `LogicManager#execute()`.

Step 3: `TravelBuddyParser#parseCommand()` is invoked, which is also located in the Logic component.

Step 4: `AddCommandParser#AddCommandParser()` is invoked.

Step 5: The `AddCommandParser#parse()` is called and receives the command with the arguments given as a string.

Step 6: The `AddCommandParser` interprets the arguments and constructs an `AddCommand`.

Step 7: The `AddCommand` with a Place specified by the user is returned.

Step 8: The `AddCommand#execute()` method is invoked.

Step 9: The `Model#addPlace()` method is invoked with the argument `toAdd`. The

`Model#commitTravelBuddy()` method is also invoked.

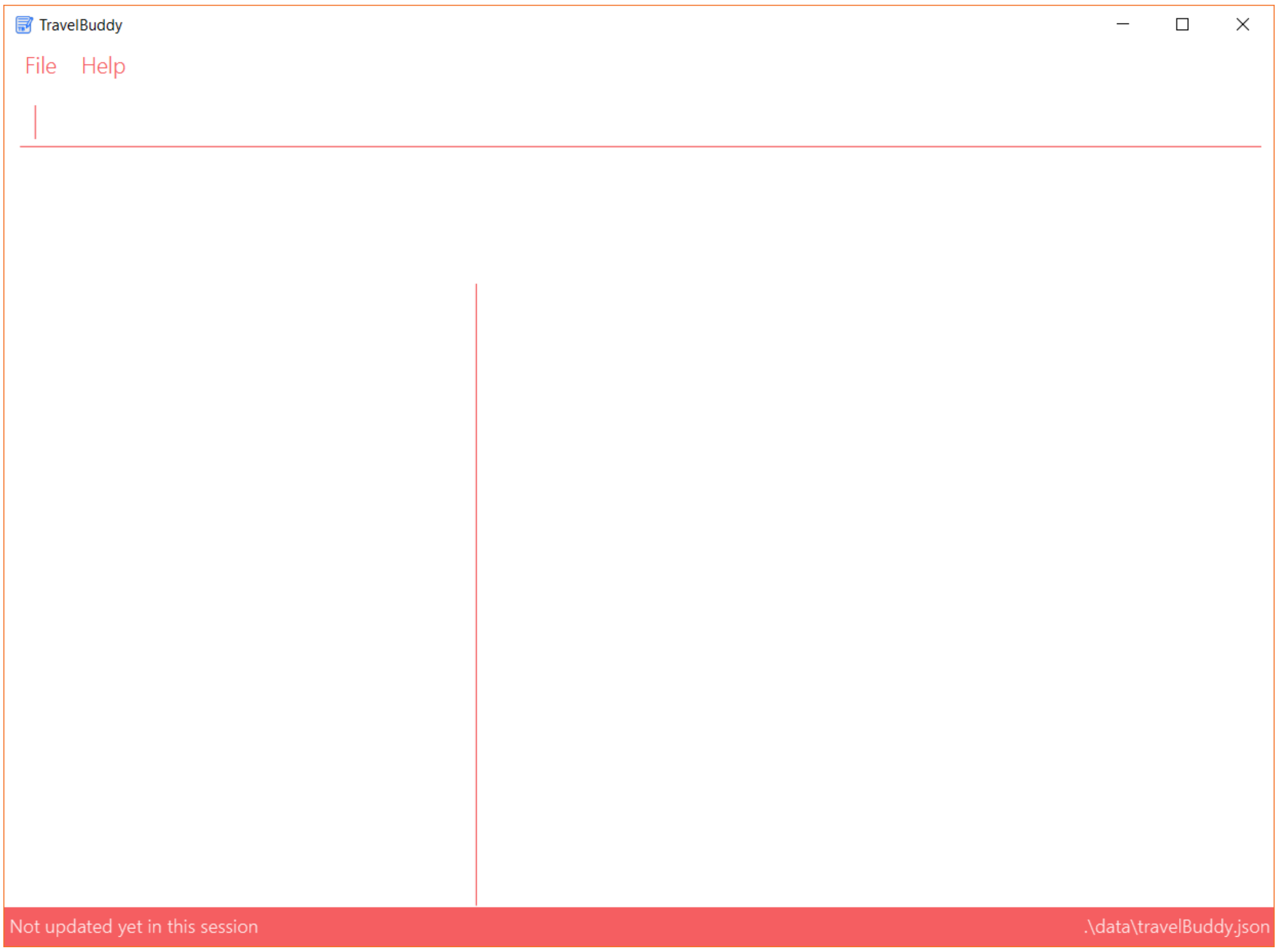
Step 10: The `TravelBuddy#addPlace()` method is invoked by `Model` with the argument `toAdd`.

Step 11: A result object is returned.

Add Command

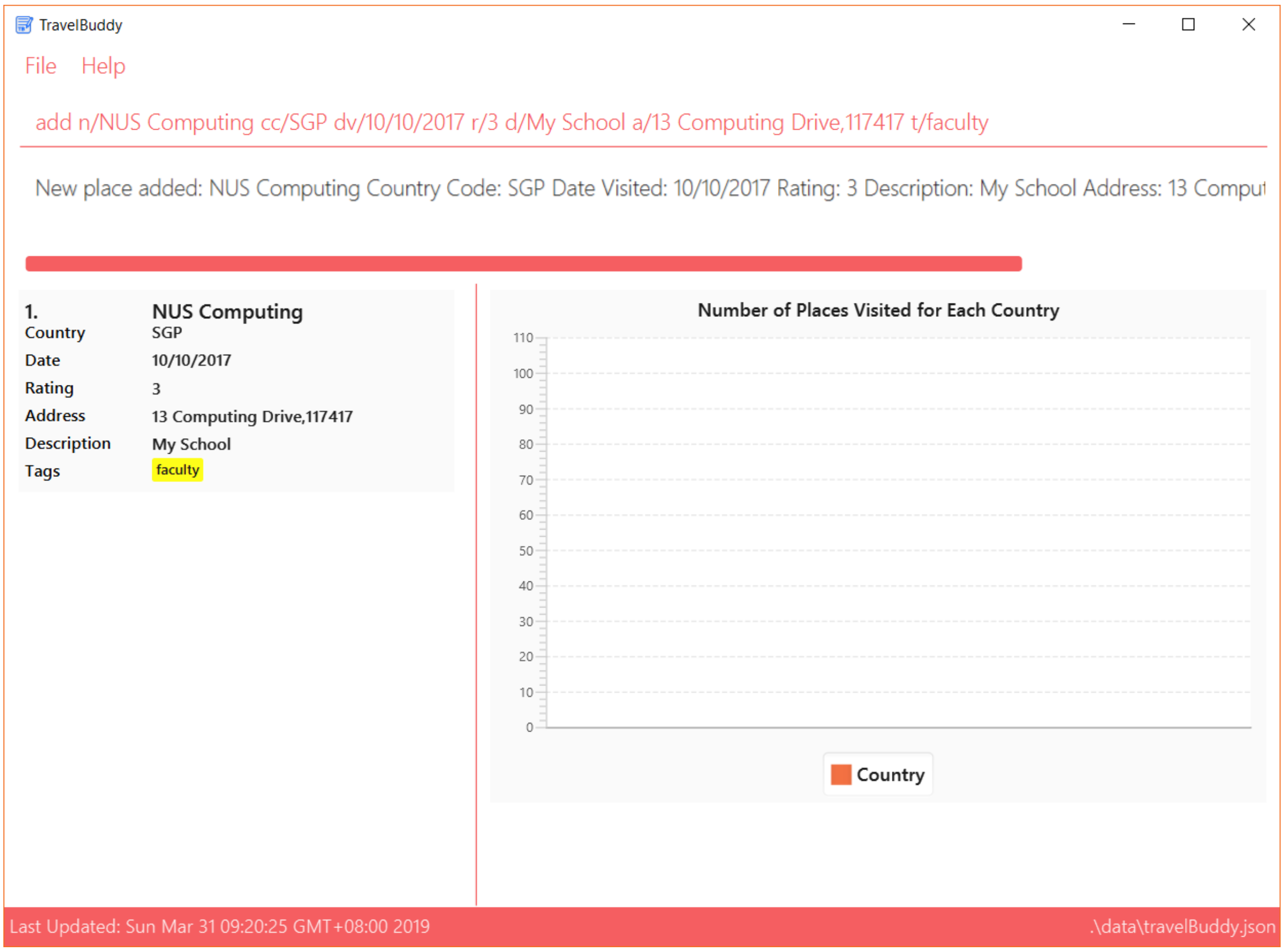
Given below is an example usage scenario and what the user will see in the GUI.

Step 1. The user launches the application and sees the GUI with no places.



Not updated yet in this session .\data\travelBuddy.json

Step 2. The user enters the full add command `add n/NUS Computing cc/SGP dv/10/10/2017 r/3 d/My School a/13 Computing Drive, 117417 t/faculty` to add the place to TravelBuddy and presses enter. TravelBuddy will start executing the steps mentioned in Figure 10.


TravelBuddy

File Help

```
add n/NUS Computing cc/SGP dv/10/10/2017 r/3 d/My School a/13 Computing Drive,117417 t/faculty
```

```
New place added: NUS Computing Country Code: SGP Date Visited: 10/10/2017 Rating: 3 Description: My School Address: 13 Comput
```

1.	NUS Computing
Country	SGP
Date	10/10/2017
Rating	3
Address	13 Computing Drive,117417
Description	My School
Tags	faculty

Last Updated: Sun Mar 31 09:20:25 GMT+08:00 2019

.\data\travelBuddy.json

NOTE The command `add` is in lower-case. Mixed-case or upper-case commands are not recognised by TravelBuddy.

4.1.2. Design Considerations

Aspect: Data structure to store Country Codes

- **Alternative 1 (current choice):** Use enum specified in java.util.Locales.
  - Pros: Easy to implement and contains all three-letters country codes specified in ISO-3166.
  - Cons: Slightly slow in searching for country code.
- **Alternative 2:** Create own data structure containing most commonly traveled countries in the world.
  - Pros: Locating country code in data structure would be faster than Alternative 1.
  - Cons: Tedious process of typing out country codes in the data structure.

This marks the end of the excerpt from the Developer Guide.