

# Walt Disney World Resort Hotel Restaurant Locations

## IBM Data Science Capstone Project

### Introduction

Walt Disney World has over 25 resort hotels that are owned and operated by the Walt Disney World Resort.

Walt Disney World generally classifies restaurants as table service and quick service. Table service restaurants have a wait staff, take reservations, and include buffets and character meals. Quick service restaurants are more commonly known as fast food restaurants, and food is ordered, and usually paid, at a counter or station.

Quick service restaurants at Walt Disney World can be crowded with long lines, and table service restaurants often have little availability and/or long waits to be seated.

With some analysis, executives could have data to decide if quick service restaurants need to be added to the Walt Disney World Resort hotels. Revenue may be increased if more restaurants are needed and added in prime locations, giving guests access to quick, convenient meals and more time out of lines and in shops, which will also increase revenue.

### Data

To solve the problem, data needed included information about resort hotels, such as location and resort area, and information about the nearby restaurants.

To get this information, four sources are used..

1. The resort area in which the hotel is located is scraped from this web site, and this will be the master list of resort hotels. This master list included two non-Disney owned resort hotels because they are grouped with Disney resort hotels in the same area. (<https://touringplans.com/walt-disney-world/hotels>).
2. Longitude and latitude information for the resort hotels is required. This information is retrieved using the resort hotel address from this website (<https://touringplans.com/walt-disney-world/hotels/addresses>).
3. The number of rooms for each resort hotel is retrieved from this web site (<https://touringplans.com/walt-disney-world/hotels/number-rooms>).
4. The number and types of venues near the resort hotel, which is accessed using Foursquare location data, is used.

## Methodology

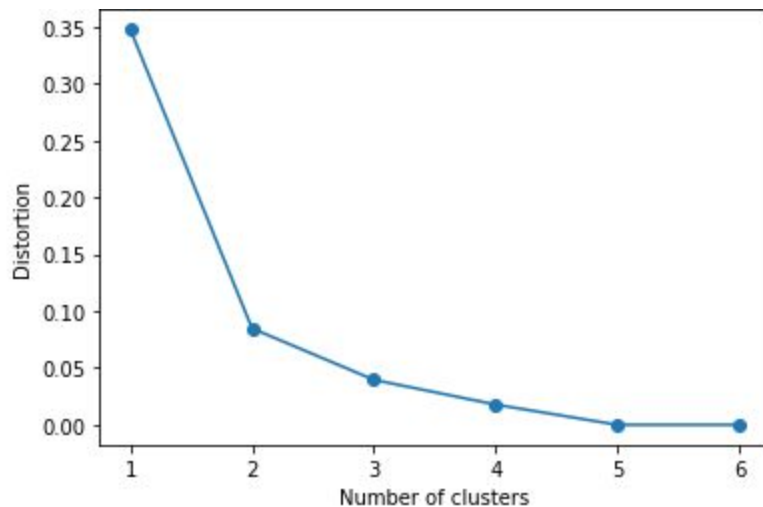
First, all three websites from touringplans.com are scraped for resort hotel name, resort area, resort address, and number of rooms. This information is merged into one table and saved to a csv file.

Next, using addresses of resort hotels, the latitude and longitude are retrieved using TomTom. The latitude and longitude are added to the table created from the previous step and saved to a csv file.

For the initial study, I decided to focus on the resort hotels in the Epcot resort area.

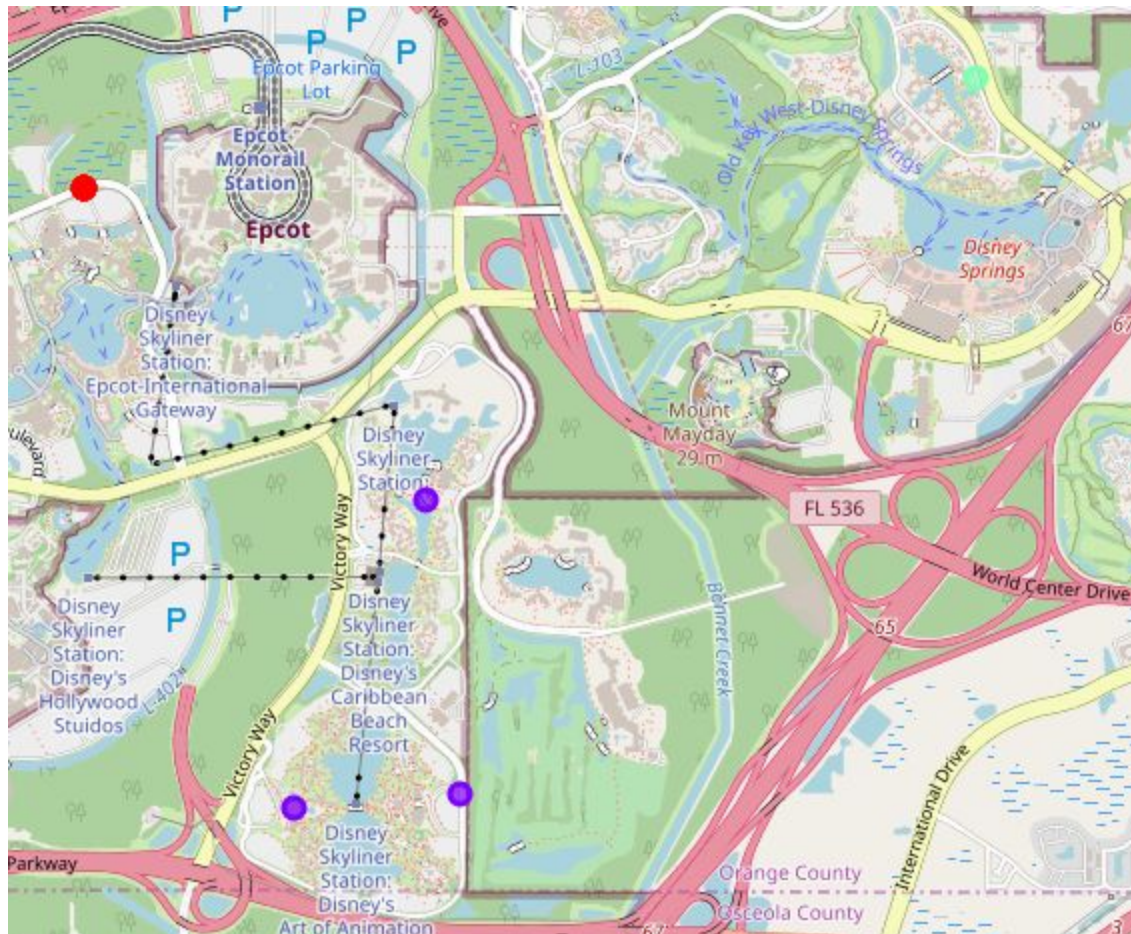
Using Foursquare and the latitudes and longitudes for each resort hotel, I retrieved venues near the resort hotels and ordered the venues into the ten most common for each resort hotel. I started with a radius of 500 meters and increased the radius to 1000 meters to get a more diverse list of venues.

I used K means clustering to examine clusters. Using the Elbow Method, I estimated that the best number for k is 3.



## Results

Cluster 1 (red) contained 9 resorts with a total of 4632 rooms, clusters 2 (blue) contained 3 resorts with a total of 6400 rooms, and cluster 3 (aqua) contained 1 resort with a total of 489 rooms. Looking at the map, this result seemed reasonable. (All 9 resorts in cluster 1 have the same latitude and longitude and, therefore, are represented with one marker on the map below.)



## G. Gillis

### Cluster 1

Resort	Number of Rooms	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Disney's Beach Club Resort	583	American Restaurant	Hotel Bar	Theme Park Ride / Attraction	Buffet	Convenience Store	Gym / Fitness Center	Ice Cream Shop	Laundromat	Lounge	Lighthouse
Disney's BoardWalk Inn	378	American Restaurant	Hotel Bar	Theme Park Ride / Attraction	Buffet	Convenience Store	Gym / Fitness Center	Ice Cream Shop	Laundromat	Lounge	Lighthouse
Disney's Yacht Club Resort	630	American Restaurant	Hotel Bar	Theme Park Ride / Attraction	Buffet	Convenience Store	Gym / Fitness Center	Ice Cream Shop	Laundromat	Lounge	Lighthouse
Dolphin at Walt Disney World	1509	American Restaurant	Hotel Bar	Theme Park Ride / Attraction	Buffet	Convenience Store	Gym / Fitness Center	Ice Cream Shop	Laundromat	Lounge	Lighthouse
Swan at Walt Disney World	758	American Restaurant	Hotel Bar	Theme Park Ride / Attraction	Buffet	Convenience Store	Gym / Fitness Center	Ice Cream Shop	Laundromat	Lounge	Lighthouse
Disney's Beach Club Villas	282	American Restaurant	Hotel Bar	Theme Park Ride / Attraction	Buffet	Convenience Store	Gym / Fitness Center	Ice Cream Shop	Laundromat	Lounge	Lighthouse
Disney's BoardWalk Villas	532	American Restaurant	Hotel Bar	Theme Park Ride / Attraction	Buffet	Convenience Store	Gym / Fitness Center	Ice Cream Shop	Laundromat	Lounge	Lighthouse

### Cluster 2

Resort	Number of Rooms	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Disney's Caribbean Beach Resort	1536	Hotel Pool	Hotel	Bus Stop	Restaurant	Bus Station	Tram Station	Laundromat	Convenience Store	Tourist Information Center	Coffee Shop
Disney's Art of Animation Resort	1984	Hotel Pool	Hotel	Hotel Bar	Playground	Bus Stop	Food Court	Arcade	Athletics & Sports	Gift Shop	Food Truck
Disney's Pop Century Resort	2880	Hotel	Hotel Pool	Bus Stop	Food Court	Lake	Arcade	Gym / Fitness Center	Hotel Bar	Playground	Laundromat

### Cluster 3

Resort	Number of Rooms	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Disney's Riviera Resort	489	Hotel Bar	Bus Station	Hotel Pool	American Restaurant	Spa	Hotel	Ice Cream Shop	Arcade	Boat or Ferry	Café

## Discussion

Looking at the venues for quick service restaurants, clusters 2 and 3 both have a food court, cafe, or coffee shop in the top ten venues for each resort hotel. Cluster 1 seems to be lacking cafes, coffee shops and fast food restaurants. These quick service options are very appealing to guests that would like something quick to move to other activities.

## **Conclusion**

The nine resort hotels in cluster 1 total over 4600 rooms, so there is opportunity to provide quick, convenient dining to a number of guests. Looking at a map, Disney's Beach Club Resort, Disney's Beach Club Villas and Disney's Yacht Club Resort total nearly 1500 rooms and are on one side of Crescent Lake, while the other two are on the opposite side, totaling around 900 rooms. Swan and Dolphin total around 2200 rooms.

Two quick service restaurants are recommended, one near Disney's Boardwalk Villas, which would also appeal to visitors to Disney's Boardwalk entertainment district and guests at the Swan and Dolphin, and one near Disney's Yacht Club Resort, which could serve the larger number of rooms as well as appeal to guests at the Swan and Dolphin.

The same technique can be applied to the other resort areas - Magic Kingdom, Animal Kingdom, and Disney Springs.

For further analysis, additional helpful information, such as the serving and seating capacity of the existing quick service restaurants and average room capacity per resort, would be helpful.