

## FINAL PROJECT OST DOCUMENTATION

### DEVELOPER'S GUIDE

Resource(ndb.Model)

resourceid = ndb.StringProperty(indexed=True)

Unique resource id is created automatically whenever a new resource is created and stored in the data store.

name = ndb.StringProperty(indexed=True)

This holds the name of the resource created.

tags = ndb.StringProperty(repeated=True)

Each resource will have zero or more tags. Tags can be values like restaurant,room.

starttime = ndb.DateTimeProperty(auto\_now\_add=False)

Each resource has a start time from which the resource is available for reservation.

endtime = ndb.DateTimeProperty(auto\_now\_add=False)

Each resource has a end time till which the resource is available for reservation.

lastmadereservation = ndb.DateTimeProperty(auto\_now\_add=False)

Each resource has a last made reservation time and this will be null for a new resource that has not been reserved even once.

resourceowner = ndb.StringProperty(indexed=True)

Each resource has an owner which will be initialized with the email of the user who created it.

reservedinpastcount = ndb.IntegerProperty()

Each resource has a reservedinpastcount which when newly created is initialized with 0. This is incremented by 1 whenever a reservation is made on it and decremented by 1 when reservation on it is deleted.

Reservation(ndb.Model)

reservationid = ndb.StringProperty(indexed=True)

Unique reservation id is created automatically whenever a new reservation is created and stored in the data store.

reservationtime = ndb.DateTimeProperty(auto\_now\_add=False)

This holds the reservation start time.

reservationendtime = ndb.DateTimeProperty(auto\_now\_add=False)

This holds the reservation end time.

```
reservationduration = ndb.IntegerProperty()
```

This holds the reservation duration in minutes and must be an integer.

```
reservationowner = ndb.StringProperty(indexed=True)
```

This holds the user's email who created the reservation on a resource.

```
resourcename = ndb.StringProperty()
```

This holds the resource name on which reservation is created.

```
resourceid = ndb.StringProperty(indexed=True)
```

This holds the resource id on which reservation is created.

```
reservationmadetime=ndb.DateTimeProperty(indexed=True)
```

This holds the current time when the reservation is actually created.

## DESIGN

### HOME PAGE/LANDING PAGE

Home Add Resource Search Resource Logout

Welcome raghupathyvinayak@gmail.com!!

All Reservations for the user

RESOURCE NAME	USER	RESERVATION TIME	RESERVATION DATE	DURATION	DELETE RESERVATION
Canteen Dhabha 🍽️	raghupathyvinayak@gmail.com	19:00:00	2017-05-12	40	DELETE

All Resources in the system

RESOURCE NAME	AVAILABILITY	TAGS	NUMBER OF PAST RESERVATIONS
Canteen Dhabha 🍽️	10:00:00 - 22:00:00	restaurant fast food north indian	1
Mithaas 🍩	10:00:00 - 22:00:00	restaurant fast food north indian	1

All Resources created by the user

RESOURCE NAME	AVAILABILITY	TAGS	NUMBER OF PAST RESERVATIONS
Canteen Dhabha 🍽️	10:00:00 - 22:00:00	restaurant fast food north indian	1

This project deals with a resource reservation system in which every user can reserve any resource. Above is the home page(landing page) after the user has logged in using his email where we can see the following-

- 1) All Reservations for the user who just logged in sorted by reservation made time. The delete link is shown for deleting the reservation only if the currently logged in user is the owner of the reservation. Reservations which have been completed won't be shown in this view.
- 2) All Resources in the system that exist in the system sorted by last reservation time, also shows the number of past reservations.
- 3) All Resources created by the user sorted by last reservation time, also showing the number of past reservations.

Navigation Bar has the following options-

- 1) Home: This link leads to the home page of the application
- 2) Add Resource: adds a new resource into the system.
- 3) Search Resource: search an existing resource by name or by availability.
- 4) Logout: Logs out from the user session.

## ADD RESOURCE

Home

## Add Resource

Resource Name:

Resource Start Time:

Resource End Time:

Tags(Multiple Tags must be comma separated):

Add

This is the add resource where the user can add a new resource. You can go back to the home page using the Home link. The following information filled:

- 1) Resource Name- The name of the resource is mandatory.
- 2) Resource Start Time: The start time of the resource in HH:MM AM/PM format is mandatory.
- 3) Resource End Time: The end time of the resource in HH:MM AM/PM format is mandatory.
- 4) Tags: Zero or more tags for the resource for example room, restaurant and must be comma

separated. Tags are optional.

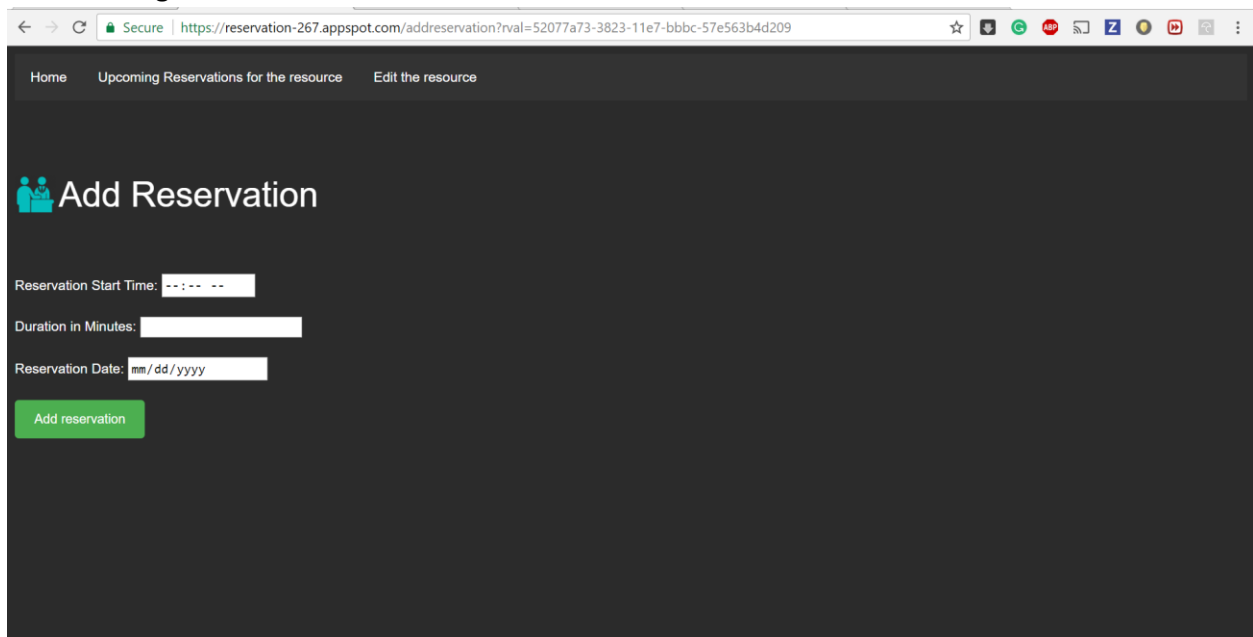
These are the following assumptions:

- 1) The resources created are available for the following duration every day.
- 2) The resource capacity is unlimited which means that multiple users can reserve the resource any time provided it falls within the available time of the resource.
- 3) There is no check on resource name uniqueness if it already exists in the system. So you can have two resources in the system with the same name but different id's and they will be considered as different.

These are the following validations:

- 1) Resource Start Time cannot be greater than Resource End Time.
- 2) Error is shown if Resource name, start time and end time is left empty.

## Resource Page



The screenshot shows a web browser window with the URL <https://reservation-267.appspot.com/addreservation?rval=52077a73-3823-11e7-bbbc-57e563b4d209>. The page has a dark theme and a navigation bar with links: Home, Upcoming Reservations for the resource, and Edit the resource. The main heading is 'Add Reservation' with a calendar icon. Below the heading are three input fields: 'Reservation Start Time' with a time picker showing '--:-- --', 'Duration in Minutes' with a text input, and 'Reservation Date' with a date picker showing 'mm/dd/yyyy'. A green 'Add reservation' button is at the bottom.

The user can go to a resource page by clicking on the resource name wherever it is shown which takes it to the resource page, where user can see the following:

- 1) Add the reservation for the resource in the system.
- 2) See the upcoming reservations for the resource where upcoming means reservations which are active in the current time sorted by reservation time.
- 3) Edit the resource, this link is only shown if the currently logged in user is the owner of the resource.

## Add the Reservation

In Resource Page the user can add a new reservation. The following information is filled:

- 1) Reservation Start Time: The start time of the reservation in HH:MM AM/PM format is mandatory.
- 2) Duration in Minutes: The duration of the reservation in minutes is mandatory.
- 3) Reservation Date: The date on which the reservation is to be made is mandatory.

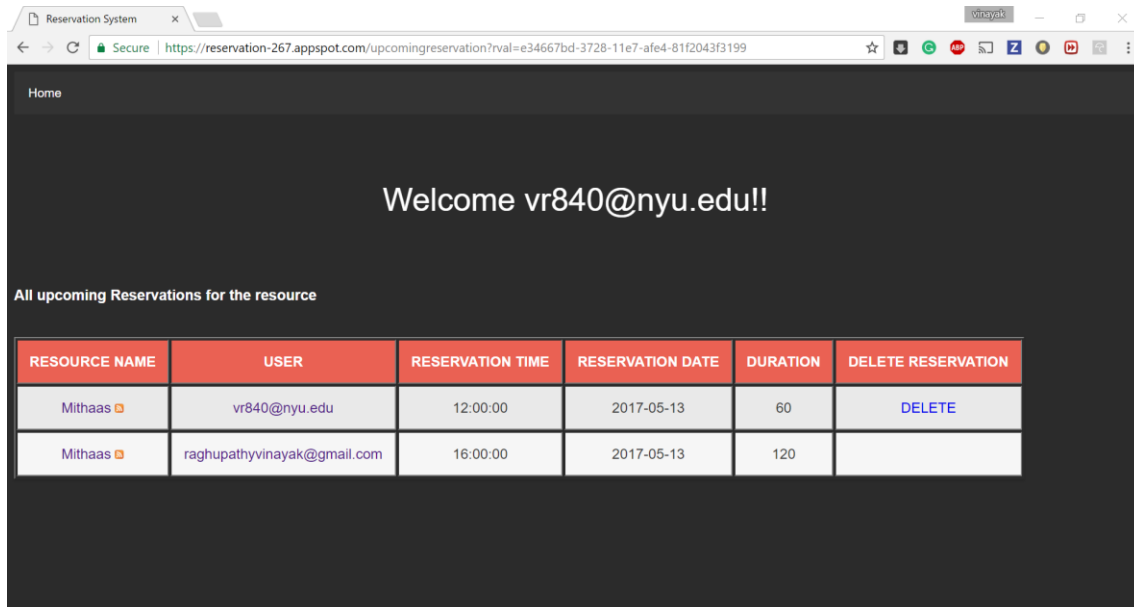
These are the following assumptions :

- 1) Duration in minutes must be an integer and greater than 0.
- 2) If reserving on the current day, reservation can only be made with the start time being atleast equal to current time.
- 3) Multiple users can reserve the same resource any time provided it falls within availability of the resource as capacity of the resource is unlimited.

These are the following validations :

- 1) The reservation date cannot be a past day.
- 2) For the reservation date being current day the reservation time cannot be a past time.
- 3) The system would not allow a reservation to be made if it overlaps with another one made by the same user.
- 4) The reservation cannot be made if it doesn't fall within the available start and end times of the resource.

### Upcoming Reservations Page



Home

Welcome vr840@nyu.edu!!

All upcoming Reservations for the resource

RESOURCE NAME	USER	RESERVATION TIME	RESERVATION DATE	DURATION	DELETE RESERVATION
Mithaas 🍷	vr840@nyu.edu	12:00:00	2017-05-13	60	DELETE
Mithaas 🍷	raghupathyvinayak@gmail.com	16:00:00	2017-05-13	120	

In the resource page you can click Upcoming Reservations tab. This is the page where the currently logged in user can see the upcoming reservations for the specific resource sorted by reservation time. Only the reservation that are active in the current time will be shown, other reservations which have been completed won't be shown in this view. The reservation can be deleted only if the reservation is created by the logged in user.

## Edit Resource

Home

### Edit the Resource

Resource Name:

Resource Start Time:

Resource End Time:

Tags:

This is the page where the currently logged in user can edit the resource provided he is the owner of the resource. The fields are already populated with the initial stored values of resource.

This is the assumption:

- 1) Existing reservations will still refer to the old resource and will need to be deleted and recreated.

This is the following validation:

- 1) Resource Start Time cannot be greater than Resource End Time.

## Owner Page

Home Add a new Resource

### Welcome vr840@nyu.edu!!

All Reservations for the user vr840@nyu.edu

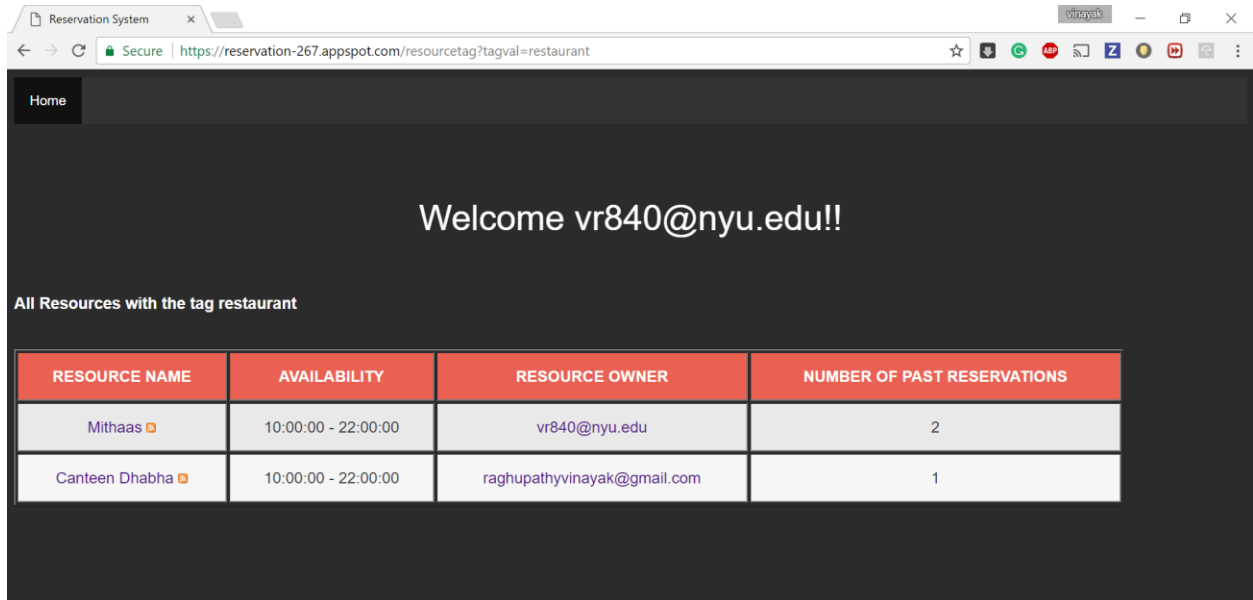
RESOURCE NAME	USER	RESERVATION TIME	RESERVATION DATE	DURATION	DELETE RESERVATION
Mithaas	vr840@nyu.edu	12:00:00	2017-05-13	60	<a href="#">DELETE</a>

All Resources created by the user vr840@nyu.edu

RESOURCE NAME	AVAILABILITY	TAGS	NUMBER OF PAST RESERVATIONS
Mithaas	10:00:00 - 22:00:00	restaurant fast food north indian	2
Sarvanna Bhavan	07:00:00 - 23:00:00	north indian south indian sweet shop	0

Whenever the reservations are shown, each have an owner name(user) , clicking which leads you the owner page. This shows all the resources and reservations created by the owner. Here resources are sorted by last reservation time and reservations are sorted by reservation time.

## Tag Page



Home

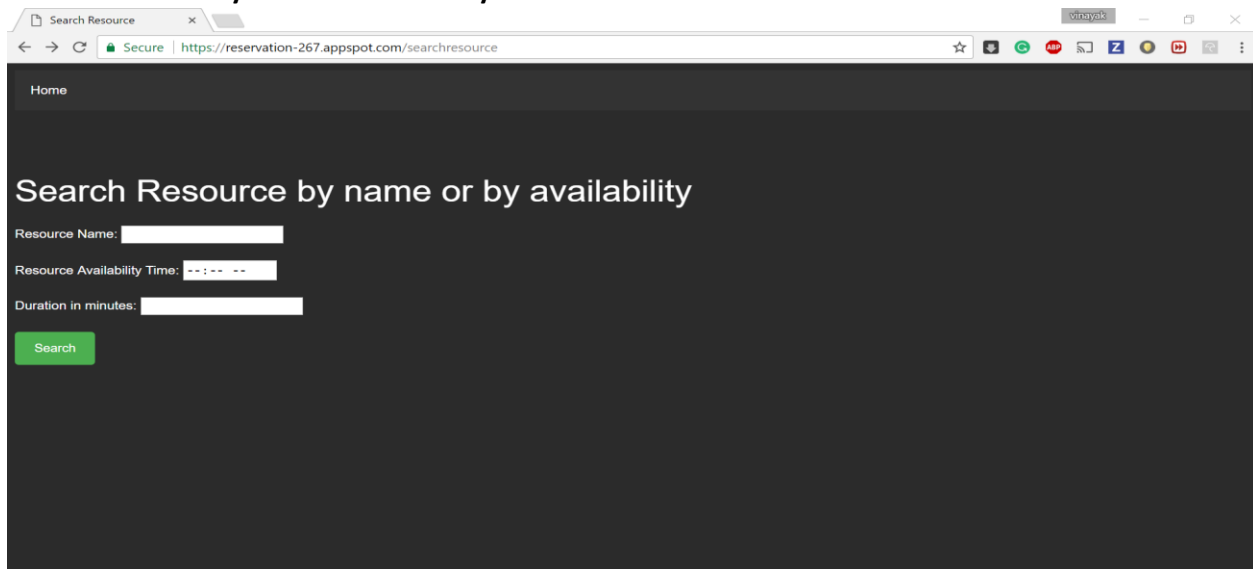
Welcome vr840@nyu.edu!!

All Resources with the tag restaurant

RESOURCE NAME	AVAILABILITY	RESOURCE OWNER	NUMBER OF PAST RESERVATIONS
Mithaas 🍽️	10:00:00 - 22:00:00	vr840@nyu.edu	2
Canteen Dhabha 🍽️	10:00:00 - 22:00:00	raghupathyvinayak@gmail.com	1

Wherever the resources are shown, clicking on the tags will show all the resources present in the system which have the specific tag. Here the resource owner is also shown clicking which will lead you to the owner page. Clicking on the resource name will lead to the resource page.

## Search Resource by name or availability



Home

Search Resource by name or by availability

Resource Name:

Resource Availability Time:

Duration in minutes:

In the Home page, click on Search Resource so you can search the resources in the system by name or availability time and duration.

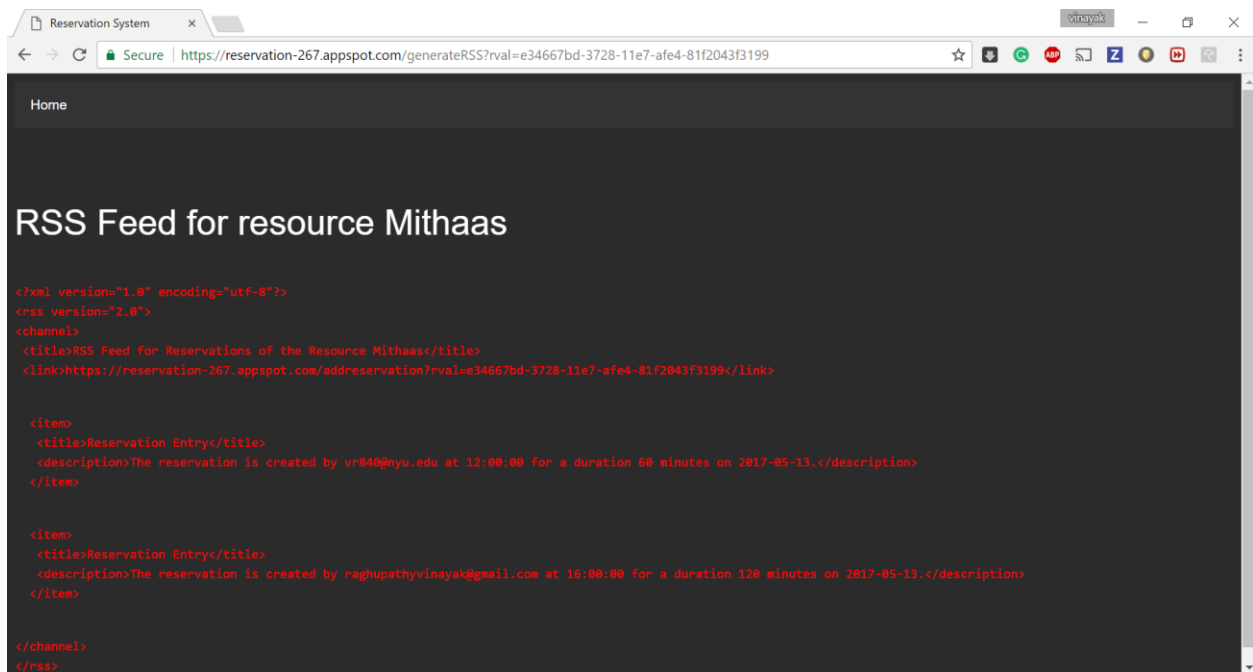
These are the following assumptions-

- 1) The name must exactly match the name of the resource that exists in the system.
- 2) Here the availability time is entered in (HH:MM AM/PM) and the duration in minutes. All resources will be returned such that availability start time and availability end time should fall under the resource start time and end time.
- 3) All the fields should not be filled.

These are the following validations-

- 1) All fields should not be empty, either the name or availability time and duration should be filled.

## RSS Page



Whenever the resources are shown in any view, every resource name has an RSS link next to it, clicking which will dump all the reservations which were created on that resource leading to RSS page.

title : Gives the information on what resource the RSS feed is given below.

item: Holds a reservation entry.

link : This link leads to resource info page for the resource.

description: This gives the information on reservation created on the resource.

## Extra Credits Attempted

- 1) When showing a resource, system shows how many times it has been reserved in the past.
- 2) System supports the ability to search for resources by name or by availability.
- 3) System supports a requirement where a user can only have one reservation at a time. The system would not allow a reservation to be made if it overlaps with another one made by the same user.
- 4) System sends an email to the user who reserved the resource on successful reservation.