

ARRS - Documentation

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A Resource Reservation System

Usage:

To use ARRS, please visit <https://arcane-unicorn.herokuapp.com/> . Here the viewer can use the built in search bar to search for tags and/or resource names, however the user will be unable to make or see reservation until signed up/logged in. If you click any of the links, you will be redirected to the main page.

Once logged in the user can see available resources, create new resource and make reservations for existing resources. Note here that a date, start time and duration needs to be specified and that reservations cannot be made in the past.

Beyond the basic features the following has also been implemented

- Search for Resource Names and Tags. This happens simultaneously, but the search result will only show exact matches at this point.
- Any resource will also keep track of number of active reservations and the total number of reservations made.
- When reserving or cancelling a reservation, the user will be notified by email. A prompt should also appear to confirm cancellations.
- As the owner of a resource, you can also delete your resources from the system. This automatically cancels all active reservations.

Note on email notifications:

During development, I accidentally pushed my settings.py file to git, containing hard-coded security credentials. For this reason, my account at SendGrid has been temporarily suspended. I have asked them to lift the suspension, but I'm still waiting for them to do so. Hopefully this feature will be up and running again soon.

Experiment Branch:

For the experiment branch, I have turned off email notifications for reservations and cancellation.

Development:

The ARRS application has been developed in python using Django, MySQL and Heroku for hosting. The following models, pages, function and forms were developed.

Models

<u>User</u>	<u>Resource</u>	<u>Reservation</u>
Built In Django Model. Attributes: <ul style="list-style-type: none">- Name- Email- Password	Custom Django Model: Attributes: <ul style="list-style-type: none">- Name CharField: Name of Resource- Owner Foreign Key: User- Start TimeField: When the resource availability starts.- End TimeField: When the resource availability ends.- URL CharField: Contains url to resource information page.- Tags CharField: String of tags, separated by spaces.- Lastreservation TimeField: When the last reservation was made.- CurrentCount BigIntegerField: Tracks the number of active reservations- ReservationCount BigIntegerField: Tracks the number of reservations made throughout time.	Custom Django Model Attributes: <ul style="list-style-type: none">- Owner Foreign Key: User- Resource Foreign Key: resource. Taken through URL- Start TimeField: When the Reservation Starts- Duration TimeField: Duration of the reservation- End TimeField: When the Reservation Ends. Auto generated- Timestamp TimeField: When the reservation was made. Auto generated

Pages

<u>Index/Landing Page</u>	<u>User Page</u>	<u>Create Resource Page</u>
If Authenticated: Redirect to Userpage. Else shows <ul style="list-style-type: none">- Login Link to login page- Signup	If Authenticated: <ul style="list-style-type: none">- Render Username- List user reservation- List all resources with information	If Authenticated: <ul style="list-style-type: none">- Render username- Create Resource Form: Name, Start, end, tags- Tags: as string separated

<p>Link to sign up page</p> <ul style="list-style-type: none"> - Search Bar <p>Search of Tags and Resource Names. Redirects to result page</p>	<ul style="list-style-type: none"> - List user resources with information <p>Reservation has a RSS link and a cancellation link. Resources has a link the resource page and to delete. If not authenticated redirect to index page</p>	<p>by spaces</p> <p>If form is valid redirect to userpage. If not authenticated redirect to index page</p>
<u>Resource Page</u>	<u>Tags Page</u>	<u>RSS Page</u>
<p>If Authenticated:</p> <ul style="list-style-type: none"> - Show Resource Info. - Show Tags. Links to tags page. - Reservations Made. - Create Reservation Form. - If user is owner: Modify Resource information Form. <p>If not authenticated redirect to index page.</p>	<p>If Authenticated:</p> <ul style="list-style-type: none"> - Search Resource.tags - List found resources <p>If not authenticated redirect to index page</p>	<ul style="list-style-type: none"> - Convert reservations object information to xml format - Render in browser as pure text.
<u>Login Page</u>	<u>Sign Up Page</u>	<u>Search Page</u>
<p>Provide credentials to login to ARRS system. If Authenticated redirects to userpage otherwise reloads login page</p>	<p>Provide credentials to signup for ARRS system. If Authenticated redirects to userpage otherwise reloads login page</p>	<p>Given query, tags and resource names are searched for the query and listed if any match. List give links the either tags page or resource page.</p>

Forms

<u>Sign Up Form</u>	<u>Resource Form</u>	<u>Reservation Form</u>
<p>User Specified</p> <ul style="list-style-type: none"> - Username - Email - Password 	<p>User Specified:</p> <ul style="list-style-type: none"> - Name - Tags String separated by spaces - Start Format: hh:mm - End Format: hh:mm 	<p>User Specified:</p> <ul style="list-style-type: none"> - Date Format: dd/mm/yyyy - Start Format: hh:mm - Duration Format: hh:mm <p>Generates:</p> <ul style="list-style-type: none"> - End Time - Timestamp <p>Updates:</p> <ul style="list-style-type: none"> - resource.lastreservation

Functions

<u>Verify Reservation</u>	<u>Delete Reservation</u>	<u>Cancel Reservation</u>
<p>Takes information generated by a ReservationForm. Verifies the following:</p> <ul style="list-style-type: none">- Reservation is within the allowed time.- Reservation time is available- Reservation time is valid, i.e. duration is 1 minute or more and starts before it ends.	<p>Deletes Reservations which has passed, based on end time.</p>	<p>Available for the owner of a reservation. Cancels the reservation at the request of the owner.</p>
<u>Emailnotification</u>	<u>Search</u>	
<p>Emails a user a confirmation of reservation or cancellation</p>	<p>Emails a user a confirmation of reservation or cancellation</p>	