**-- URL query parameters and JSON responses --**

**Conventions**

In the following examples, user-supplied input is denoted by <angle brackets>.

Optional input is denoted by [square brackets], and optionally repeated input

is denoted by [ellipses...].

As is standard in URL queries, the beginning of a parameter list is denoted

by a question mark (?), and individual query parameters are separated by

ampersands (&). Parameters may be in the form of simple <attributes>, or

may be in the form of <attribute>=<value> pairs.

For example, in the 'search cookbooks by attribute' URL

http://www.recipeserver.com/cookbooks/list?<attribute>=<value>[&<attribute>=<value>...]

the URL of the script itself is given by http://www.recipeserver.com/cookbooks/list,

the beginning of the parameter list is denoted by a question mark (?),

the first <attribute> and <value> are user-supplied and necessary,

and as many repeated <attribute>=<value> pairs as desired may be supplied

afterwards, separated by ampersands (&).

The temporary server URL http://www.recipeserver.com/ is used until we can come

up with something nicer ;)

**HTTP requests**

Responses shall be obtained from the server via HTTP requests to the specified

URLs with the specified parameters.

Most requests shall be made via an HTTP GET request with a header in the

following format:

GET /<path>/<script> HTTP/1.1

host: http://www.recipeserver.com/

Creation requests for cookbooks and recipes shall be made via an HTTP POST

request with a header in the following format:

POST /<path>/create HTTP/1.1

content-type: application/x-www-form-urlencoded

host: http://www.recipeserver.com/

content-length: <parameter length>

<parameter=value>

[&parameter=value]

...

Since the creation requests require potentially long data such as descriptions

to be sent, it's not possible to use a GET request with query parameters (many

browsers are limited to slightly over 2000 characters in a URL).

Additional lines may be specified in the header if it simplifies the

implementation. However, the lines mentioned above must be present in all

requests.

**HTML encoding**

All parameters in both GET and POST requests must be encoded to escape all

HTML entities therein, to avoid confusing URL and request parsing. This

encoding shall be performed by the standard libraries for the language,

such as HttpServerUtility.HtmlEncode() in C#, or htmlentites() in PHP.

**JSON encoding**

All results returned by the server will be in JSON format. For requests

which return rows from a table, each row will be returned as a separate

JSON object (collection of key-value pairs), separated by a single newline

(\n). JSON objects are represented by braces ({/}) surrounding lists of

comma-separated "name":"value" pairs.

ex:

{"user":"lmitchell","password":"12345678"}

For requests which only require a success/failure response (eg. creating

a recipe, rating a recipe), the server shall respond with the JSON object

{"result":"<success/failure>","error":"<error message>"}

In the successful case, the "error" field's value will contain an empy string.

JSON objects shall be escaped as per the escaping rules followed by PHP's

json\_encode() function, and can be decoded into PHP associative arrays via

the json\_decode() function, or C#'s Json.Decode().

**USE CASE:** User login

**URL:**

**JSON:**

**cookbooks/**

Cookbook-related scripts will be accessed via the cookbooks/ subdirectory on the server. The scripts contained in cookbooks/ will be:

*cookbooks/search*  Search the database for cookbooks, with optional criteria to specify certain attributes. cookbooks/search will also allow the optional parameter show\_only=<number> and sort\_by=<attribute\_name> to allow sorting of the output and restriction of requests on the database. sort\_by will by default return attributes sorted in descending order - to specify ascending order instead, specify the attribute a -<attribute\_name> (ie. with a leading negative sign).

*cookbooks/create*  Create a new cookbook with specified criteria in POST request.

*cookbooks/add* Add a recipe to a cookbook.

*cookbooks/remove*  Remove a recipe from a cookbook.

*cookbooks/show-recipes* List all of the recipes in a specified cookbook.

*cookbooks/rate* Rate a specified cookbook.

**USE CASE:** Show all cookbooks

**URL:** http://www.recipeserver.com/cookbooks/search

**JSON:**

**USE CASE:** Search cookbooks by attribute

**URL:** http://www.recipeserver.com/cookbooks/search?<attribute>=<value>[&<attribute>=<value>...]

**JSON:**

**USE CASE:** Show all of a user's cookbooks

**URL:** http://www.recipeserver.com/cookbooks/search?author\_name=<username>

**JSON:**

**USE CASE:** Show top 10 cookbooks by rating

**URL**: http://www.recipeserver.com/cookbooks/seach?show\_only=10&sort\_by

**USE CASE:** Create cookbook

**URL:** http://www.recipeserver.com/cookbooks/create

**POST REQUEST:**

POST /cookbooks/create HTTP/1.1

content-type: application/x-www-form-urlencoded

host: http://www.recipeserver.com/

content-length: <parameter length>

author\_name=<username>

&cookbook\_name=<cookbook\_name>

&cookbook\_description=<description>

**JSON:**

**USE CASE**: Add recipe to cookbook

**URL:** http://www.recipeserver.com/cookbooks/add?cookbook\_name=<cookbook\_name>&cookbook\_author=<cookbook\_author\_name>&recipe\_name=<recipe\_name>&recipe\_author=<recipe\_author\_name>

**JSON:**

**USE CASE:** Remove recipe from cookbook

**URL:** http://www.recipeserver.com/cookbooks/remove?cookbook\_name=<cookbook\_name>&cookbook\_author=<cookbook\_author\_name>&recipe\_name=<recipe\_name>&recipe\_author=<recipe\_author\_name>

**JSON:**

**USE CASE:** Show all recipes in a cookbook

**URL:** http://www.recipeserver.com/cookbooks/show-recipes?name=<name>&author=<username>

**JSON:**

**USE CASE:** Rate a cookbook

**URL:** http://www.recipeserver.com/cookbooks/rate?username=<username>&author\_name=<author\_name>&cookbook\_name=<cookbook\_name>&rating=<0..5>

**recipes/**

Recipe-related scripts will be accessed via the recipes/ subdirectory on the server. The scripts contained in recipes/ will be:

*recipes/search* Search the database for recipes, with optional criteria to specify certain attributes. recipes/search will also support the show\_only=<number> and sort\_by=<attribute> options (see cookbooks/search above). In addition, it will support the options using=<ingredient> and using\_only=<ingredient>. Both may be specified multiple times, and the final list will be used to filter recipes down to those which use (or only use) the specified ingredients.

*recipes/create*  Create a recipe with the specified parameters.

*recipes/delete*  Remove a recipe from the database and all associated cookbooks.

*recipes/rate*  Rate a specified recipe.

**USE CASE:** Show all recipes

**URL:** http://www.recipeserver.com/recipes/search

**JSON:**

**USE CASE:** Show all of a user's recipes

**URL:** http://www.recipeserver.com/recipes/search?author\_name=<username>

**JSON:**

**USE CASE:** Search recipes by attribute

**URL:** http://www.recipeserver.com/recipes/search?<attribute>=<value>[&<attribute>=<value>...]

**JSON:**

**USE CASE:** Show top rated recipes

**URL:** http://www.recipeserver.com/recipes/search?sort\_by=rating

**JSON:**

**USE CASE:** Show recipes using certain ingredients

**URL:** http://www.recipeserver.com/recipes/search?using=<ingredient>[&using=<ingredient>...]

**JSON:**

**USE CASE:** Show recipes using ONLY certain ingredients

**URL:** http://www.recipeserver.com/recipes/search?using\_only=<ingredient>[&using\_only=<ingredient>...]

**JSON:**

**USE CASE:** Create recipe

**URL:** http://www.recipeserver.com/recipes/create

**POST REQUEST:**

POST /recipes/create HTTP/1.1

content-type: application/x-www-form-urlencoded

host: http://www.recipeserver.com/

content-length: <parameter length>

recipe\_name=<recipe\_name>

&author\_name=<author\_name>

&instructions=<instructions>

&picture=</path/to/picture>

&prep\_time=<prep\_time>

&portions=<portions>

&description=<description>

**JSON:**

**USE CASE:** Rate recipe

**URL:** http://www.recipeserver.com/recipes/rate?username=<username>&recipe\_name=<recipe\_name>&author\_name=<author\_name>&rating=<0..5>

**JSON:**