Data Centric Development Milestone Project

PLANNING DOCUMENT

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"Data Centric Development Milestone Project"

This is the milestone project that I have created for the "Data Centric Development" module, which is part of "Full Stack Web Development Course" offered by Code Institute via Learning People.

Data Centric Development Milestone Project Brief

I have listed below the guidelines of this milestone project.

In this project, you'll be building a data-driven web application using the technologies that you have learned throughout Data Centric Development. You can either choose to to follow the example brief below, or you can use your own idea for the website.

CREATE AN ONLINE COOKBOOK:

Create a web application that allows users to store and easily access cooking recipes

Put some effort into designing a database schema based on recipes, and any other related properties and entities (e.g. views, upvotes, ingredients, recipe authors, allergens, author's country of origin, cuisine etc...). Make sure to put some thought into the relationships between them, and use either foreign keys (in the case of a relational database) or nesting (in the case of a document store) to connect these pieces of data

Create the backend code and frontend form to allow users to add new recipes to the site (at least a basic one, if you haven't taken the frontend course)

Create the backend code to group and summarise the recipes on the site, based on their attributes such as cuisine, country of origin, allergens, ingredients, etc. and a frontend page to show this summary, and make the categories clickable to drill down into a filtered view based on that category. This frontend page can be as simple or as complex as you'd like; you can use a Python library such as matplotlib, or a JS library such as d3/dc (that you learned about if you took the frontend modules) for visualisation

Create the backend code to retrieve a list of recipes, filtered based on various criteria (e.g. allergens, cuisine, etc...) and order them based on some reasonable aspect (e.g. number of views or upvotes). Create a frontend page to display these, and to show some summary statistics around the list (e.g. number of matching recipes, number of new recipes. Optionally, add support for pagination, when the number of results is large

Create a detailed view for each recipes, that would just show all attributes for that recipe, and the full preparation instructions

Allow for editing and deleting of the recipe records, either on separate pages, or built into the list/detail pages

Optionally, you may choose to add basic user registration and authentication to the site. This can as simple as adding a username field to the recipe creation form, without a password (for this project only, this is not expected to be secure)

CREATE YOUR OWN PROJECT

If you choose to create your project outside the brief, the scope should be similar to that of the example brief above. If you want some ideas, please ask your mentor for advice and direction.

Data Centric Development Milestone Project guidelines

I have listed below the guidelines when developing the milestone project.

- Project logic **must be created** using the following
    - (Css3,Html5,Python3).
    - (Flask) to structure the projects back-end.
    - (Git & GitHub) for version control (new functionality should have separate commit).
    - (Heroku) to deploy final version of code.

- Project logic **may use** the following
    - (Bootstrap) to enrich the look and feel of the project.
    - (JavaScript) to enrich the look and feel of the project.

- **Strive** to use **semantic Html5 elements** to structure your Html code better.
- Taking a **T**est-Driven **D**evelopment (TDD) approach to developing the game.
- The website **must be data-driven** (and can rely on structured ,unstructured data or a mix both).
- **CRUD** (**C**reate,**R**ead,**U**pdate,**D**elete) operations can be carried out using either **SQL** (e.g. MySQL/SQLite/Postgres) or **NoSQL** (e.g. MongoDB).

Operation	SQL	RESTful WS
Create	INSERT	POST
Read	SELECT	GET
Update	UPDATE	PUT
Delete	DELETE	DELETE

- Consider sharing working drafts / finalised versions of your database schema in a **'Database Schema'** folder in your repo.
- Each user **must** choose a username.
- Develop & Run **Automated** tests to ensure websites functionality works correctly
- Make sure web application is '**Responsive Design**' and automatically adjusts based on device size.

- Non-requirements for this project:
    - Secure user authentication (e.g. via passwords) is not required for this particular project.
      Having each user just choose a username is sufficient
      Secure authentication will be introduced in the Django module.

- Create a '**Credits**' section in the **Readme.md** file to include the following,
    - **Content** i.e. text copied from xxx
    - **Media** Where they were obtained from.
    - **Acknowledgements**

- Create a '**Deployment**' section in the **Readme.md** file to include the following,
    - How to **deploy project** to hosting platform (Heroku).
    - Details of how you created your database schema
    - Provide a link to 'Database Schema' folder.
    - Detail of differences between Deployed & Development Versions of code.
        - Different values for environment variables.
        - Different configuration files.
        - Separate Git Branch.

- Create a '**Testing**' section in **Readme.md** File to include the following,
    - **Summarizing** your approach to testing
    - Provide **pseudocode** written to develop your TDD tests
    - If **manual tests** are run to ensure websites functionality works correctly.
    - If tests are **not working** as expected document
        - Your expected output should have been.
        - Reasons why the test(s) could have been failing.

- Create a '**UX**' section in Readme.md File to include the following,
    - **Who** this web application is for.
    - **What** it is that want to achieve.
    - How Web application is the **best solution** to achieve what's required.
    - **Functionality** of the project**.**
    - **Features** of the project**.**
    - **Technologies** used in project**.**
    - If code was based on other code (Explain what was kept and how it was adapted to fit project needs).

Data Centric Development Project Checklist

I have listed below the main sections from the Checklist of the milestone project which should be incorporated into the project and checked before final submission using the Checklist.

- **Code Quality**
  - Appropriate use of Python
  - Appropriate use of the template language
  - Appropriate use of JavaScript
  - Appropriate use of JavaScript APIs (if used)
  - Appropriate use of HTML5
  - Appropriate use of CSS3
  - Appropriate use of Code

- **Software Development Practices**
  - Data Store Integration
  - Deployment Implementation
  - Deployment Write-up
  - Appropriate use of JavaScript
  - Appropriate use of JavaScript APIs (if used)
  - Directory Structure and File Naming
  - Version Control
  - Testing Implementation
  - Testing write-up
  - Readme file
  - Comments
  - Deployment Implementation
  - Deployment write-up

- **Usability and Real-world application**
  - Project Purpose
  - UX Design
  - Suitability for purpose
  - Navigation
  - Ease of Use
  - Information Architecture
  - Defensive Design

- **Layout and Visual Impact**
  - Responsive Design
  - Image Presentation
  - Colour Scheme and Typography

What I would like to accomplish

My Project Task List

This is a breakdown of the tasks that need to be performed to achieve the tasks set out in the project brief guidelines.

NO.	PROJECT TASK DESCRIPTION	PROJECT TASK OBJECTIVE
1	**Create** Web Application.	**Create** cookbook / recipe-based web application.
2	**Design** a database schema.	**Based on** recipes and any other related properties and entities (e.g. views, upvotes, ingredients, recipe authors, allergens, author's country of origin, cuisine etc.…) **Think** about **relationships** between them and use **foreign keys** (in the case of a relational database) or **nesting** (in the case of a document store) to **connect** these pieces of data together.
3	**Allow** users to **add** new recipes to Website.	**Create** the back-end code **Create** the front-end form
4	**Group** and **summarize** recipes on the Website.	Based on these attributes (e.g. cuisine, country of origin, allergens, ingredients, etc.….) **Create** Front-end page to show this summary. Make the categories clickable to be able to drill down into the filtered view based on category. The Front-end page can be simple or complex by using Python Library such as Matplotlib or JS Library such as D3/DC
5	**Retrieve** a list of recipes.	**Create** back-end code to retrieve a list of recipes , filtered on various criteria (e.g. allergens, cuisine, etc.…) and **order** them based on some reasonable aspect (e.g. number of views or upvotes). **Create** front-end code to display and **show** summary statistics around the list (e.g. number of matching recipes, number of new recipes) **Optionally** , add support for pagination , when the number of results is large.
6	**Show** all attributes for that recipe	**Create** a **detailed view** for each recipe that shows all attributes for that recipe and full preparation instructions
7	**Allow Editing** and **deleting** of recipe records.	Either on separate pages or built into list / detail pages.
8	Add Basic User registration and authentication	**Optionally** you may choose to add basic user registration and authentication to the web application **Add** a simple username field to the recipe creation form , without password.
9	**Ensure** there's a README.md	A project submitted **without** a README.md file will FAIL.
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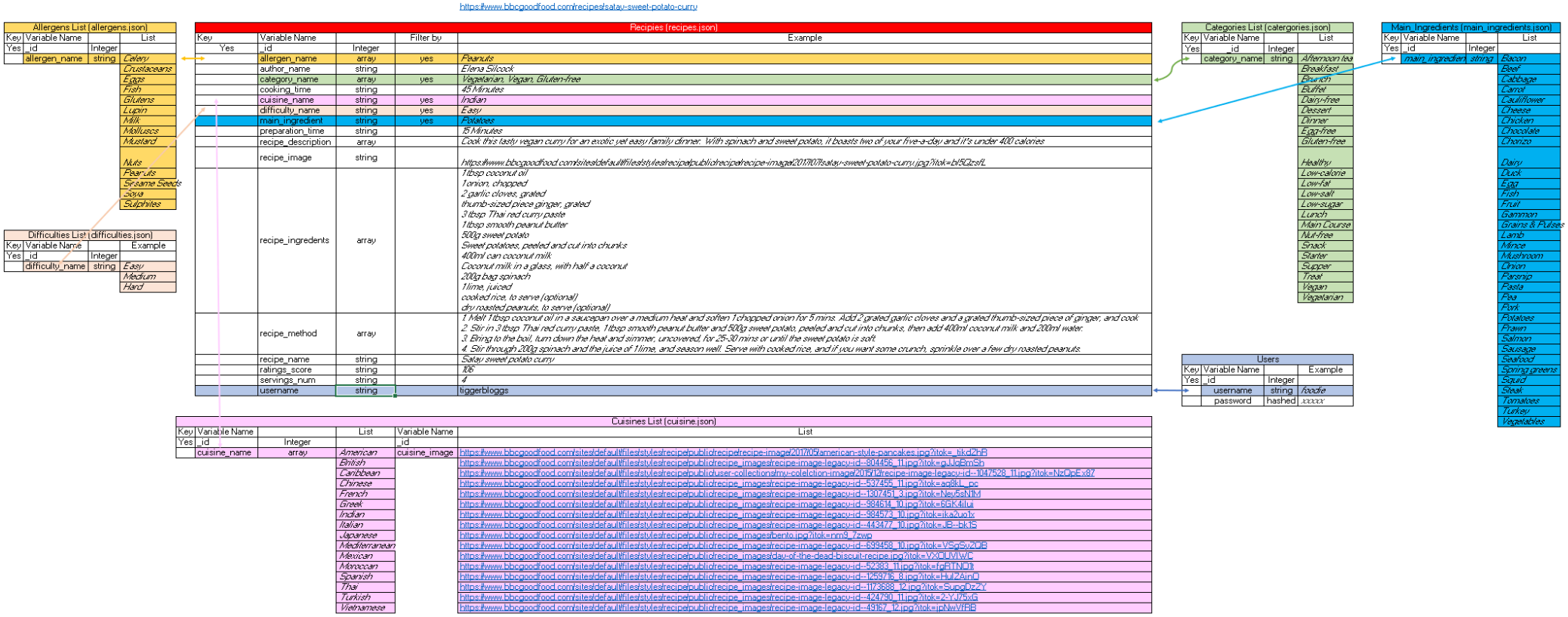
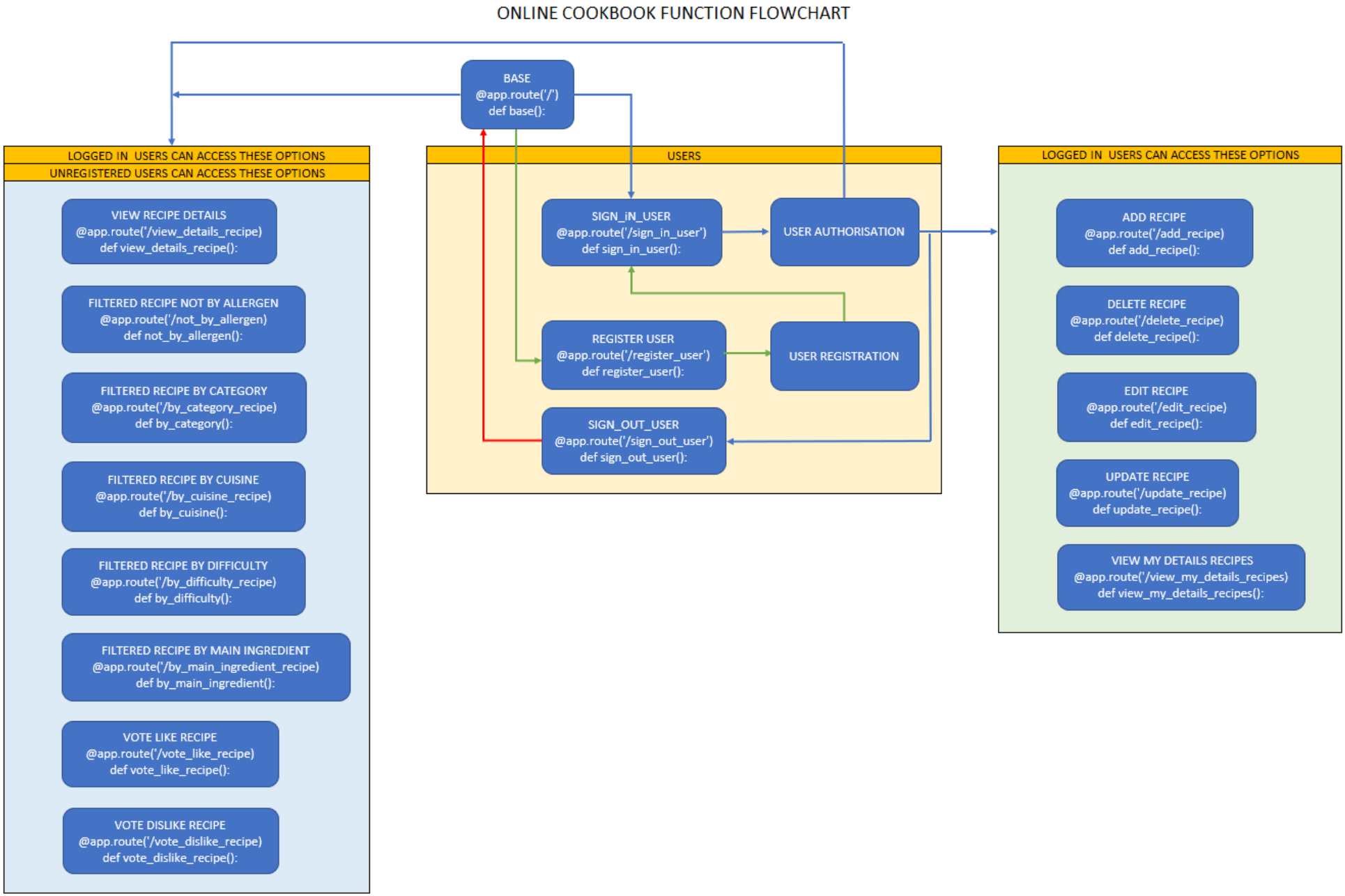
My Database Schema diagram

This diagram is showing an example recipe from https://www.bbcgoodfood.com/recipes/satay-sweet-potato-curry



My Online Cookbook Function Mock-up flowchart



My Sample JSON Recipe data

This is a sample of the json recipe data loaded into the mongo DB online_cookbook


```
{"allergens": "Peanuts",
"author": "Elena Silcock",
"category": ["Vegetarian", "Vegan", "Gluten-free"],
"cooking_time": "45 Minutes",
"cuisine": "Indian",
"difficulty": "Easy",
"image_url": "https://www.bbcgoodfood.com/sites/default/files/styles/recipe/public/recipe/recipe-image/2017/07/satay-sweet-potato-curry.jpg?itok=bl5QzsfL",
"main_ingredient": "Potatoes",
"preparation_time": "15 Minutes",
"recipe_description": ["Cook this tasty vegan curry for an exotic yet easy family dinner.",
                       "With spinach and sweet potato, it boasts two of your five-a-day and it,s under 400 calories"],
"recipe_ingredents": ["1 tbsp coconut oil",
                      "1 onion, chopped",
                      "2 garlic cloves, grated",
                      "thumb-sized piece ginger, grated",
                      "3 tbsp Thai red curry paste",
                      "1 tbsp smooth peanut butter",
                      "500g sweet potato",
                      "Sweet potatoes",
                      "peeled and cut into chunks,400ml can coconut milk",
                      "Coconut milk in a glass",
                      "with half a coconut",
                      "200g bag spinach",
                      "1 lime, juiced",
                      "cooked rice, to serve (optional)",
                      "dry roasted peanuts, to serve (optional)"],
"recipe_method": ["1. Melt 1 tbsp coconut oil in a saucepan over a medium heat and soften 1 chopped onion for 5 mins. Add 2 grated garlic cloves and a grated thumb-sized piece of ginger, and cook for 1 min until fragrant.",
                  "2. Stir in 3 tbsp Thai red curry paste, 1 tbsp smooth peanut butter and 500g sweet potato, peeled and cut into chunks, then add 400ml coconut milk and 200ml water.",
                  "3. Bring to the boil, turn down the heat and simmer, uncovered, for 25-30 mins or until the sweet potato is soft.",
                  "4. Stir through 200g spinach and the juice of 1 lime, and season well. Serve with cooked rice, and if you want some crunch, sprinkle over a few dry roasted peanuts."],
"recipe_name": "Satay sweet potato curry",
"rastings": 106,
"serves": 4,
"username": "Foodie"}
```

My Project Overview

I decided to

- Create a Cookbook online recipe application based on project brief.
- Build the database using MongoDB as per the mini project in the "Data Centric Development" module.
- Build User registration and authentication processes using Bcrypt
- Create Database schema diagram using Excel
- I did some google research and will use https://www.bbcgoodfood.com/ as recipe reference site.

Media used

Media	Sourced Location
Bootstrap theme (Agency)	https://startbootstrap.com/template-overviews/agency/
Home page background image	https://cdn.pixabay.com/photo/2017/06/06/22/37/italian-cuisine-2378729__340.jpg
Icons	https://fontawesome.com
Cuisine /Recipe images	https://www.bbcgoodfood.com/