

DATABASE PROJECT

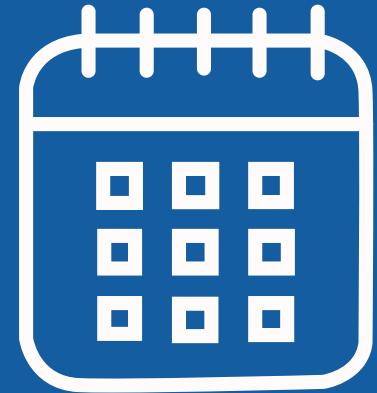
Done by:

BERDNYK Mariia

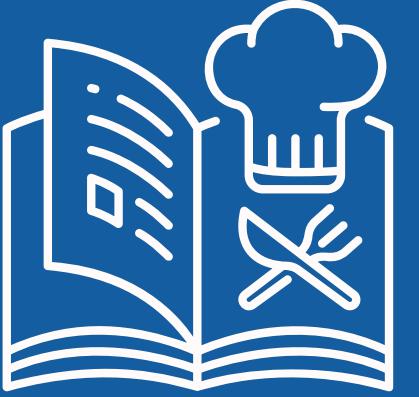
DUONG Thi Thanh Tu



EXAMPLE: HELLO FRESH



WEEKLY MEAL CHOICES



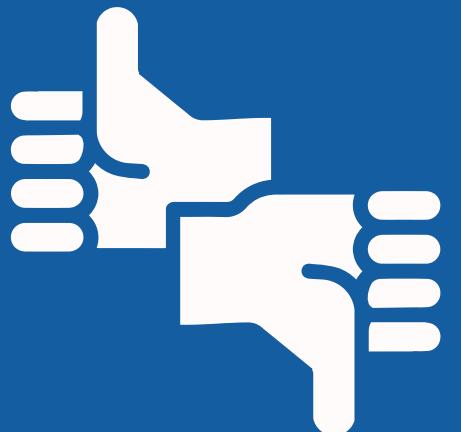
RECIPES



COMMANDS



DELIVERY



FEEDBACK



XML CONCEPTIONS

The nodes are connected by unique id



References



Fixed types

Reusability



Some elements to be stored in separate nodes. E.g. ingredients

XML contains both: mandatory and optional fields. Also, for some values there are enums selections. E.g. feedback mark

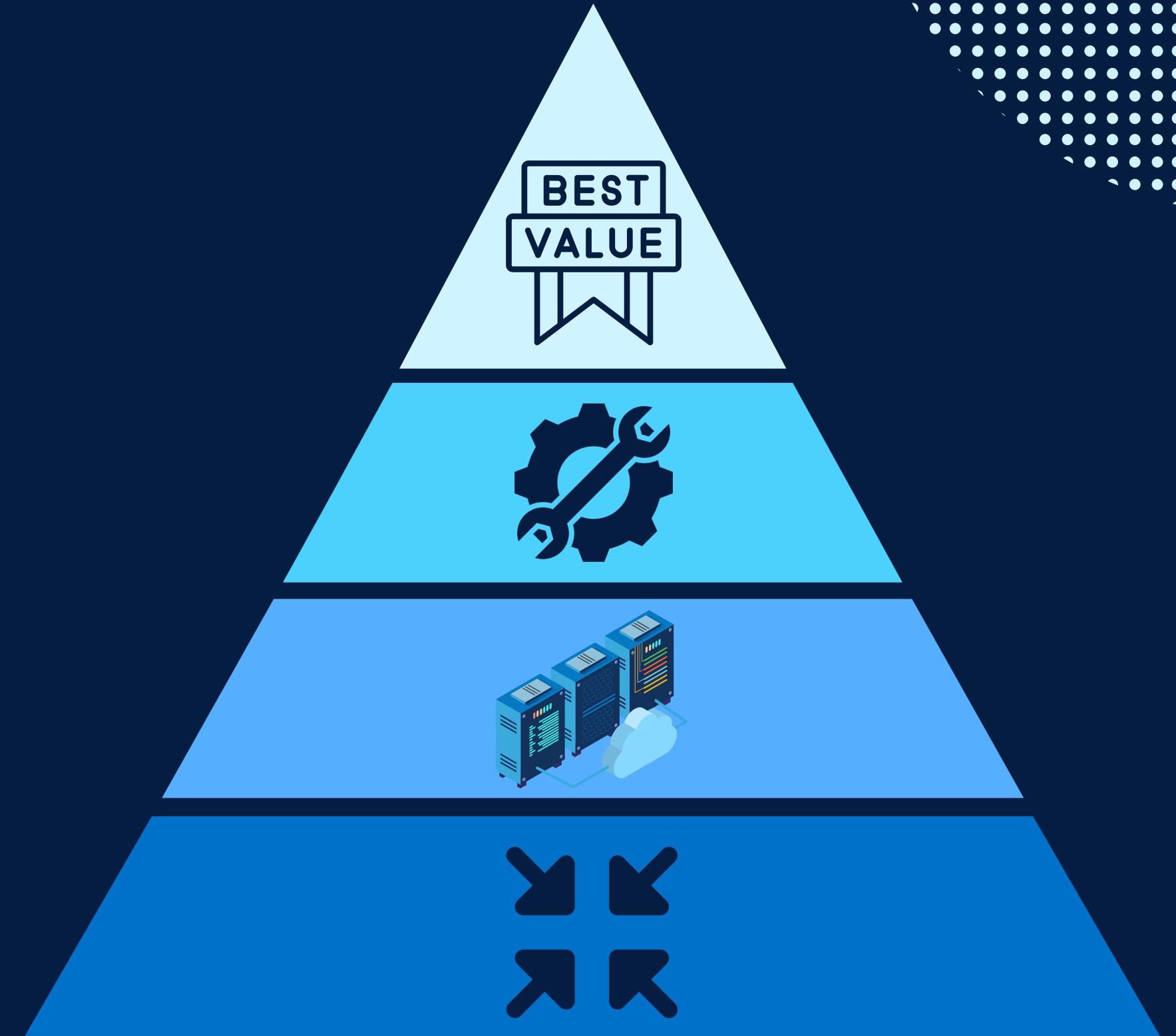
```
<hello_fresh xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="hello_fresh.xsd">  
  <meals_list...>  
  <ingredients_list...>  
  <allergens_list...>  
  <nutritional_component_list...>  
  
  <utensil_list...>  
  
  <tag_list...>  
  
  <difficulty_list...>  
  
  <category_list...>  
  
  <price_type_list...>  
  
  <weekly_menu_list...>  
  
  <feedbacks_list...>  
  
  <favorite_list...>  
  
  <user_list...>  
  
  <command_list...>  
  
  <delivery_list...>  
</hello_fresh>
```

```
<meal id="_5857fcd16121bb11c124f383"  
      name="When Steak Met Potatoes"  
      description="When cooking a date-night dinner for a loved one (or indulging in some personal TLC), it's best to keep it simple, cupid. You're  
      and Creamed Kale with Peppercorn Sauce</headline>  
      <image src="https://img.hellofresh.com/c_fit,f_auto,fl_llossy,h_1100,q_30,w_2600/hellofresh_s3/image/peppercorn-steak-w06-e4014085.jpg" ...>  
      <tags...>  
      <recipe...>  
      <utensils...>  
      <categories...>  
      <price_type_ref idref="_prime_price_type"/>  
      <nutritional_values...>  
</meal>
```

```
<recipe>  
  <total_time>  
    <time_amount value="30" unit="minutes"/>  
  </total_time>  
  <difficulty_ref idref="_difficulty_1"/>  
  <ingredients>  
    <ingredient_ref idref="_sirloin_steak_id" type="in_box">  
      <amount>  
        <value value="12" unit="ounce"/>  
      </amount>  
    </ingredient_ref>
```

ADVANTAGES

- 01 Minimization of data repetition
- 02 Efficient storage
- 03 Maintainability
- 04 Atomicity of values (e.g. time units)



DISADVANTAGES

Complexity



Consistent
updates &
synchronizations



SCENARIOS

01

List all the dishes & recipes

02

List all the weekly menus

03

Display recipes by categories

04

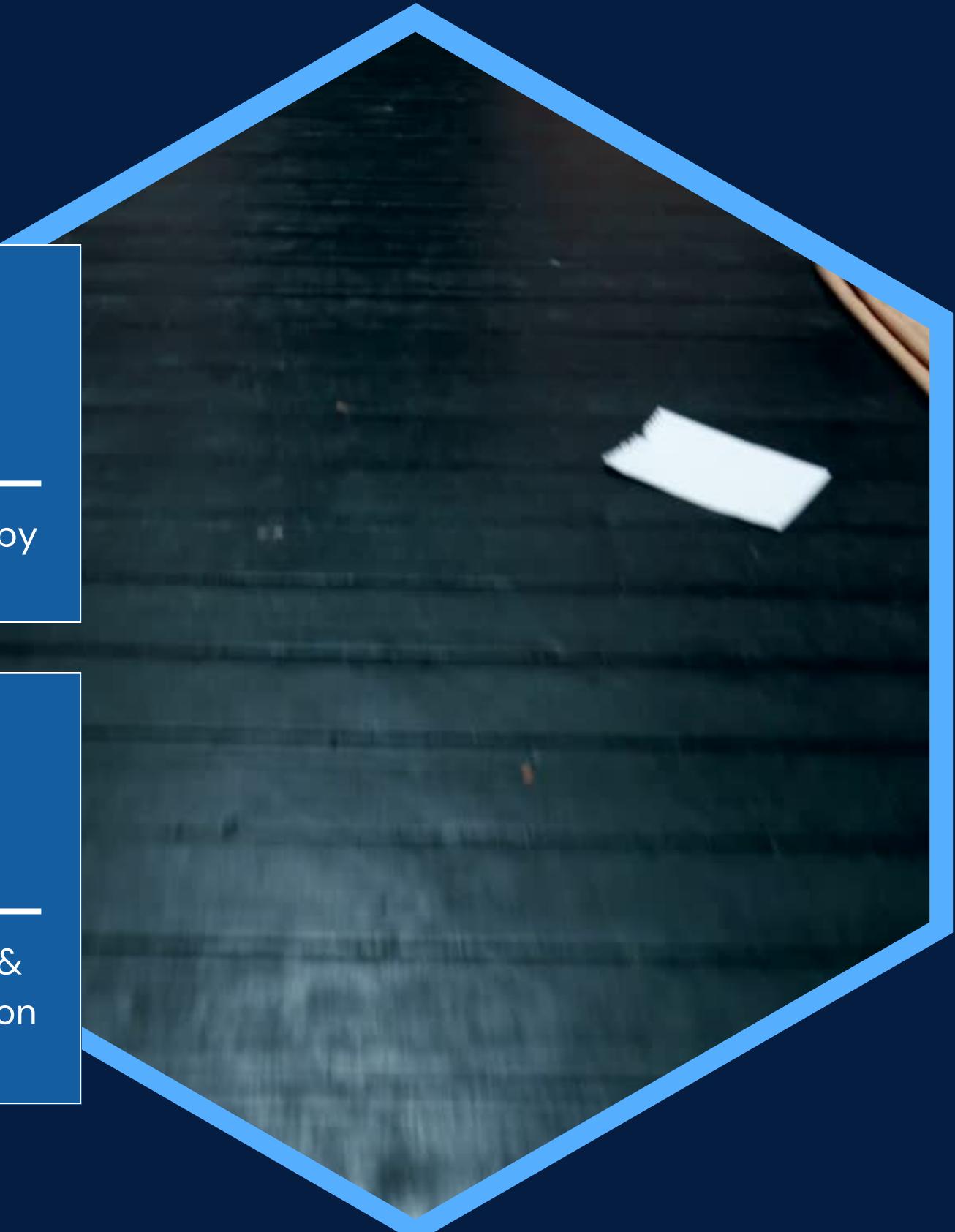
Select commands on a specific day

05

Select meals depending on the budget

06

Average rating & diet depending on provided data



SCENARIO 1 - DISPLAYING MEALS AND THEIR RECIPES

Our Recipes

When Steak Met Potatoes
and Creamed Kale with Peppercorn Sauce



Pork Schnitzel

with Roasted Veggies & a Creamy Mustard Sauce

[VIEW RECIPE](#)

Coat pork in breadcrumbs and immediately become a mealtime MVP. Crispy pork is pretty much perfect in any form, but this isn't your run-of-the-mill schnitzel. To amp up flavor, we've added lemon zest and garlic powder to our breadcrumb mixture, then drizzled the crispy pork chops with our new favorite condiment: creamy honey mustard sauce. Speaking of, we're

Soy-Glazed Hoisin Meatloaves
plus Scallion Asparagus, Rice & Sriracha Mayo



Shrimp Pasta Primavera
with Lemon Sauce, Bell Pepper, Zucchini & Peas



Crispy Parmesan Chicken
with Garlic Scallion Couscous & Lemony Roasted Carrots



'Shroom 'n' Swiss Beef Burgers
with Potato Wedges & a Creamy Honey Dijon Dipper



SCENARIO 1 - DISPLAYING MEALS AND THEIR RECIPES



When Steak Met Potatoes

and Creamed Kale with Peppercorn Sauce

and Creamed Kale with Peppercorn Sauce

When cooking a date-night dinner for a loved one (or indulging in some personal TLC), it's best to keep it simple, cupid. You're more likely to impress by showing off your mastery of the classics than by breaking out the brulee blowtorch and nearly setting something on fire. So say "I love you" with a meal that never fails to please: steak and potatoes with creamed veggies and a peppercorn sauce. Call it steak au poivre if you wanna get fancy.

Tags: Gluten-free

Total Time: 30 minutes

Difficulty: Easy

SCENARIO 1 - DISPLAYING MEALS AND THEIR RECIPES

Ingredients



12 ounce
Carrots



12 ounce
Potatoes



1 unit
Lemon



2 tablespoon
Mayonnaise
(Contains Eggs)



2 teaspoon
Honey



2 teaspoon
Dijon Mustard



2 teaspoon
Fry Seasoning



0.5 cup
Panko Breadcrumbs
(Contains Wheat)



1 teaspoon
Garlic Powder



1.5 tablespoon
Sour Cream
(Contains Milk)



10 ounce
Pork Chops

Not included in your delivery



2 teaspoon
Cooking Oil



Salt



Pepper

Nutritional Values:

/ per Serving

Calories: 860kcal

Fat: 45g

Saturated Fat: 10g

Carbohydrate: 77g

Sugar: 22g

Dietary Fiber: 9g

Protein: 34g

Cholesterol: 130mg

Sodium: 1490mg

Utensils

Zester

Peeler

Small Bowl

Baking Sheet

Plastic Bag

Medium Bowl

Paper Towel

Large Pan

SCENARIO 1 - DISPLAYING MEALS AND THEIR RECIPES

Instructions



1

Adjust rack to top position (top and middle positions for 4 servings) and preheat oven to 425 degrees. Wash and dry produce.



2

Put carrots on one side of a baking sheet with a drizzle of oil, salt, and pepper. Toss potatoes on empty side with a drizzle of oil, Fry Seasoning, salt, and pepper. (For 4 servings, use 2 sheets; roast potatoes on top rack and carrots on middle rack.)

SCENARIO 1 - DISPLAYING MEALS AND THEIR RECIPES

To define how different parts of the XML document should be transformed into HTML

To efficiently retrieve related data

XPath

To navigate and select specific elements

XSLT Templates

Conditions

To conditionally render certain elements or data based on the presence or absence of specific XML elements or attribute

Key-based

SCENARIO 2 - LIST ALL THE WEEKLY MENUS

Our Weekly Menus

Menu from 2024-03-02 to 2024-03-08

Menu from 2024-03-09 to 2024-03-15

Menu from 2024-03-02 to 2024-03-08

When Steak Met Potatoes
and Creamed Kale with Peppercorn Sauce

Total Time: 30 minutes +2.5EUR/per serving 0

Categories: Hall of Fame, Kid-Friendly, Italian, Steak, Meat & Veggie, Family Friendly

Tags: Gluten-free



Pork Schnitzel
with Roasted Veggies & a Creamy Mustard Sauce

Total Time: 35 minutes 1

Categories: Hall of Fame, Latin American, Meat & Veggie



Soy-Glazed Hoisin Meatloaves
plus Scallion Asparagus, Rice & Sriracha Mayo

Total Time: 35 minutes 2

Categories: Meatball, Asian, Chinese, Meat & Veggie, Family Friendly



Shrimp Pasta Primavera
with Lemon Sauce, Bell Pepper, Zucchini & Peas

Total Time: 30 minutes 1

Categories: Pastas, Italian, Kid-Friendly, Pescatarian



SCENARIO 3 - DISPLAY RECIPES BY CATEGORIES

Our Recipe Categories

Culture

- African
Oops! Nothing here yet.
- American
- Asian
- Chinese

Soy-Glazed Hoisin Meatloaves

plus Scallion Asparagus, Rice & Sriracha Mayo

[VIEW RECIPE](#)

In our opinion, a humble meatloaf is one of the most underrated dishes—it's so comforting, but can also easily be dressed up with any spices and sauces we're craving. In this sweet, savory, and lightly spicy riff on the classic, we combine ground

- French
- Indian
- Italian
- Japanese

Dish

- Bowl
- Burger
- Flatbread
- Meatball
- Pastas
- Quesadilla
- Risotto
- Soup
- Steak
- Stir-Fry
- Taco

Particular

- Hall of Fame
- Kid-Friendly
- Most Recent
- Quick Meals for Busy Nights

Plan

- Family Friendly
- Fit & Wholesome
- Meat & Veggie
- Pescatarian
- Quick & Easy
- Veggie

SCENARIO 3 - DISPLAY RECIPES BY CATEGORIES

Iteration

Ensures that only distinct category types are processed

Sorting

Variables

For later use within the loop

SCENARIO 4 - SELECT COMMANDS THAT HAVE BEEN VALIDATED ON A SPECIFIC DAY

Copying

Copied attributes from one element to another

```
<?xml version="1.0"?>
<result>
  <command id="_command_1">
    <user_ref idref="_user_1">
      <user id="_user_1">
        <user_address>
          <user_address id="_user1_address">
            <address_ref idref="_user1_address"/>
          </user_address>
        </user_address>
      </user>
    </user_ref>
    <meal_ref_list>
      <meal_ref idref="_65afe675a33a91ae6a3f7dd7">
        <meal id="_65afe675a33a91ae6a3f7dd7" name="Pork Schnitzel" description="Coat pork in breadcrumbs and immediately
          <headline>with Roasted Veggies && a Creamy Mustard Sauce</headline>
        </meal>
      </meal_ref>
    </meal_ref_list>
  </command>
</result>
```

SCENARIO 5 & SCHEMA - SELECT MEALS DEPENDING ON THE BUDGET

Stripping

Perceives the spaces created in XSLT file format and improves readability

```
    "utensils": {  
  
        "type": "string",  
        "enum": [  
            "_baking_sheet",  
            "_large_pan",  
            "_pan",  
            "_zester",  
            "_peeler",  
            "_small_bowl",  
            "_plastic_bag",  
            "_medium_bowl",  
            "_paper_towel",  
            "_small_pot",  
            "_large_bowl",  
            "_strainer",  
            "_whisk",  
            "_large_pot",  
            "_medium_pot",  
            "_baking_dish",  
            "_plastic_wrap",  
            "_potato_masher",  
            "_meat_mallet"  
        ]  
    },
```

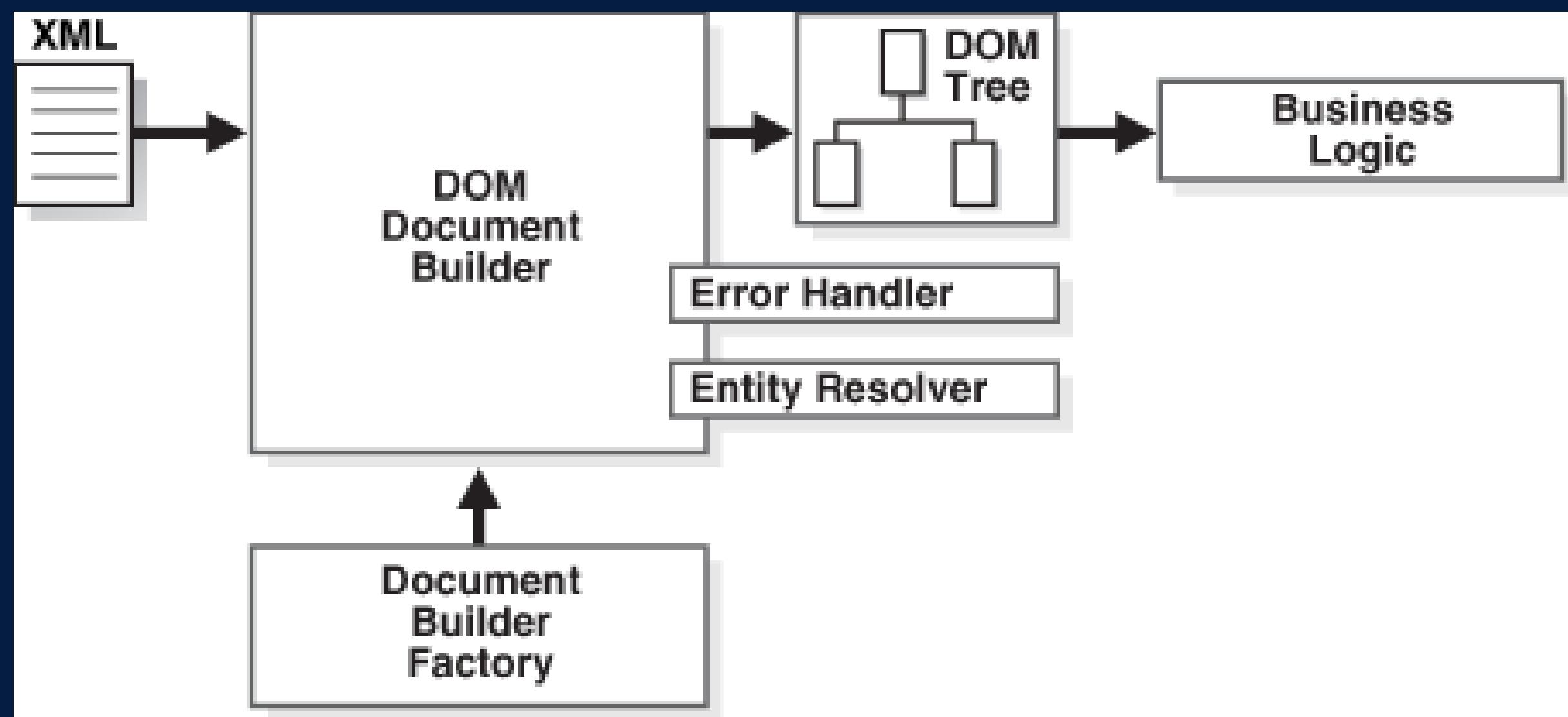
```
{  
    "$schema": "http://json-schema.org/draft-07/schema#",  
  
    "definitions": {  
        "meal": {  
            "type": "object",  
            "properties": {  
                "name": {  
                    "type": "string"  
                },  
                "description": {  
                    "type": "string"  
                },  
                "headline": {  
                    "type": "string"  
                },  
                "image": {  
                    "type": "string"  
                },  
                "recipe": {  
                    "$ref": "#/definitions/recipe"  
                },  
                "utensils": {  
                    "type": "array",  
                    "items": {  
                        "$ref": "#/definitions/utensils"  
                    }  
                },  
                "categories": {  
                    "type": "array",  
                    "items": {  
                        "$ref": "#/definitions/category_list"  
                    }  
                },  
                "price": {  
                    "type": "string",  
                    "enum": [  
                        "_normal_price_type",  
                        "_prime_price_type",  
                        "_luxury_price_type"  
                    ]  
                },  
                "tags": {  
                    "type": "array",  
                    "items": {  
                        "$ref": "#/definitions/tag_list"  
                    }  
                }  
            }  
        }  
    }  
}
```



SCENARIO 6

Calculate the average rating & combine 2 dishes with the highest average mark to fit in the nutritional diet provided by the user (+- 5 % measurable error)

SCENARIO 6 - DOCUMENT OBJECT MODEL (DOM) PARSER FOR JAVA



SCENARIO 6

- 01** We retrieve the list of all meals (meal_list tag)
- 02** We retrieve the list of feedbacks (feedbacks_list)
- 03** We calculate the average from feedback and sort the resulting values
- 04** We iterate the list of sorted meals, generate combinations of 2 meals and check if the sum of all their nutritions fits the provided diet (+- 5 % measurable error)



Thanks for your
attention!

