

# Cocktail Recommending Chatbot

Text Technology Final Project

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# Project idea

- Scenario: Users are in a certain mood to have a particular type of cocktails but do not know which one to choose
- Would be nice if a chatbot can:
  - recommend the most suitable cocktails for users
  - provide details about this recommended cocktails

# Overall workflow

- Collect : Plain text from online cocktail recipes and discussion web pages
- Prepare:
  - Phase 1 - Encode the text data to XML file and XML schema
  - Phase 2 - Import the XML into a database
- Access: A chatbot that asks users' preferences ( taste, base, hashtags, juice, syrup) and access the database with SQL queries created based on users' input.

# Collect and Prepare

From plain text to XML file

## INGREDIENTS IN THE BEST OLD FASHIONED RECIPE

2 ½ oz Bourbon (or Rye Whiskey)

1/2 oz simple syrup

3 dash Angostura Bitters

1 each Lemon and orange twist

The Old Fashioned is one of the oldest cocktails, developed during the 19th century. Originally, an "old fashioned" cocktail was a standard cocktail created by combining spirits, bitters, water, and sugar. This recipe is simple and makes for a classic cocktail that can be enjoyed by many - don't forget to add that garnish for a hint of citrus.

```
<cocktail>
  <name>Old Fashioned</name>
  <ingredient>
    <alcohol>
      <base>Bourbon</base>
      <other1>Angostura Bitters</other1>
    </alcohol>
    <additional>
      <syrup>simple</syrup>
      <garnish1>orange twist</garnish1>
    </additional>
  </ingredient>
  <flavor>
    <taste1 type="main">spicy</taste1>
    <taste2 type="main">bitter</taste2>
    <taste3>sweet</taste3>
  </flavor>
  <hashtagSet>
    <hashtag1>classic</hashtag1>
    <hashtag2>most popular in 2021</hashtag2>
    <hashtag3>one of the oldest cocktails</hashtag3>
  </hashtagSet>
</cocktail>
```

# Preparing Phase 1 - Encode the text data to XML file and XML schema

- XML file: Contains 11 different cocktail elements
- XML schema

```
1 <?xml version="1.0"?>
2 <xs:schema attributeFormDefault="unqualified" elementFormDefault="qualified" xmlns:xs="http://www.w3.org/2001/XMLSchema">
3   <xs:element name="cocktails">
4     <xs:complexType>
5       <xs:sequence>
6         <xs:element name="cocktail" maxOccurs="unbounded">
7           <xs:complexType>
8             <xs:sequence>
9               <xs:element type="xs:string" name="name"/>
10              <xs:element name="ingredient">
11                <xs:complexType>
12                  <xs:sequence>
13                    <xs:element name="alcohol">
14                      <xs:complexType>
15                        <xs:sequence>
16                          <xs:element type="xs:string" name="base"/>
17                          <xs:element type="xs:string" name="other1" minOccurs="0"/>
18                          <xs:element type="xs:string" name="other2" minOccurs="0"/>
```

# Preparing Phase - 2

Tools: Python, MySQL

Flow: create a empty database >

construct tables >

read the xml files with python >

extract and insert the content of xml files into tables in the database

# Preparing Phase - 2

Difficulty: To find a common structure for all recipes.

- ➡ the new recipe doesn't fit in the original structure
- ➡ add a new element in xml files for the additional ingredient
- ➡ modify tables and the code for extracting data

name	base	other1	other2	juice1	juice2	syrup	garnish1	garnish2	other_add1	other_add2
Old Fashioned	Bourbon	Angostura Bitters				simple	orange twist			
Negroni	Gin	Campari	sweet vermouth				orange twist			
Daiquiri	White Rum			lime		simple	lime wedge			
Dry Martini	Gin	dry vermouth					lemon twist			
Jungle Bird	Rum	Campari		lime	pineapple	simple	pineapple wedge			
Margarita	Tequila	orange liqueur		lime		agave	lime wheel	salt		
Manhattan	Rye	sweet vermouth	Angostura bitters				cherry			
Cosmopolitan	Vodka	Cointreau		cranberry	lime		lime wedge			
Irish Coffee	Irish whiskey						whipped heavy cream		hot coffee	brown sugar
Aviation	Gin	Maraschino liqueur	creme de violette	lemon		simple				
Bloody Mary	Vodka			tomato	lemon		lemon	celery	Worcestershire sauce	pepper

# Accessing Phase

Tools: Python, MySQL

Flow:

- greet
- ask for taste preference
- 2~3 questions that were based on the selected taste in the previous section
- print out the recommended cocktail



# Usage

```
Hi! I'm your Sweet Bartender! What is your name? Ahh D00
Hello, Ahh D00! I will now recommend some cocktails to you base on your answers. Are you ready to start? (y/n) yes
Let's get started!
Do you want something 1)SWEET 2)SOUR 3)BITTER 4)BOOZY 5)SPICY? 1
Would you like something fruity? 1)Yes 2)No 1
Pick one with your intuition! 1)CLASSIC 2)TROPICAL 3)THE QUEEN 4)PARTY 5)GORGEOUS 2
Hey Ahh D00! We recommend 'Jungle Bird' for you!
You will have Rum as your base.
You'll also need some Campari
Then prepare some lime and pineapple juice.
And some simple syrup as well.
Don't forget to get some pineapple wedge for garnish.
Then you'll have a nice glass of Jungle Bird. Enjoy your cocktail!
```

# Accessing Phase : Difficulties

- SQL queries were hard-coded
- Prompt questions were manually created

→ Works in a small and fixed database, but what if new cocktails are added?

```
# if user prefers boozy

def boozy(self):
    prefer_base = input("Gin base or Rye base? 1)GIN 2)RYE ")
    if prefer_base.lower() in ("1", "gin"):
        # Negroni, Dry Martini
        return self.boozy_gin()
    elif prefer_base.lower() in ("2", "rye"):
        # Manhattan
        cursor = db.cursor()
        cursor.execute(
            "SELECT i.* FROM sys.ingredient i INNER JOIN sys.flavor f ON f.name = i.name WHERE (f.taste1 = 'boozy' OR f.taste2 = 'boozy') AND i.base = 'rye';")
        result = cursor.fetchall()
        return self.show(result)
```

# Documentation

- [Github](#)

# Citations

- Online cocktail recipe:
  - *The 50 most popular cocktails in the World (updated 2022)*. VinePair. Retrieved January 23, 2022, from <https://vinepair.com/articles/50-most-popular-cocktails-world-2017/>
  - *Cocktail & other recipes*. Liquor.com. (n.d.). Retrieved January 23, 2022, from <https://www.liquor.com/cocktail-and-other-recipes-4779343>