# CCPS 610 - Database Systems II

Assignment 2 Presentation

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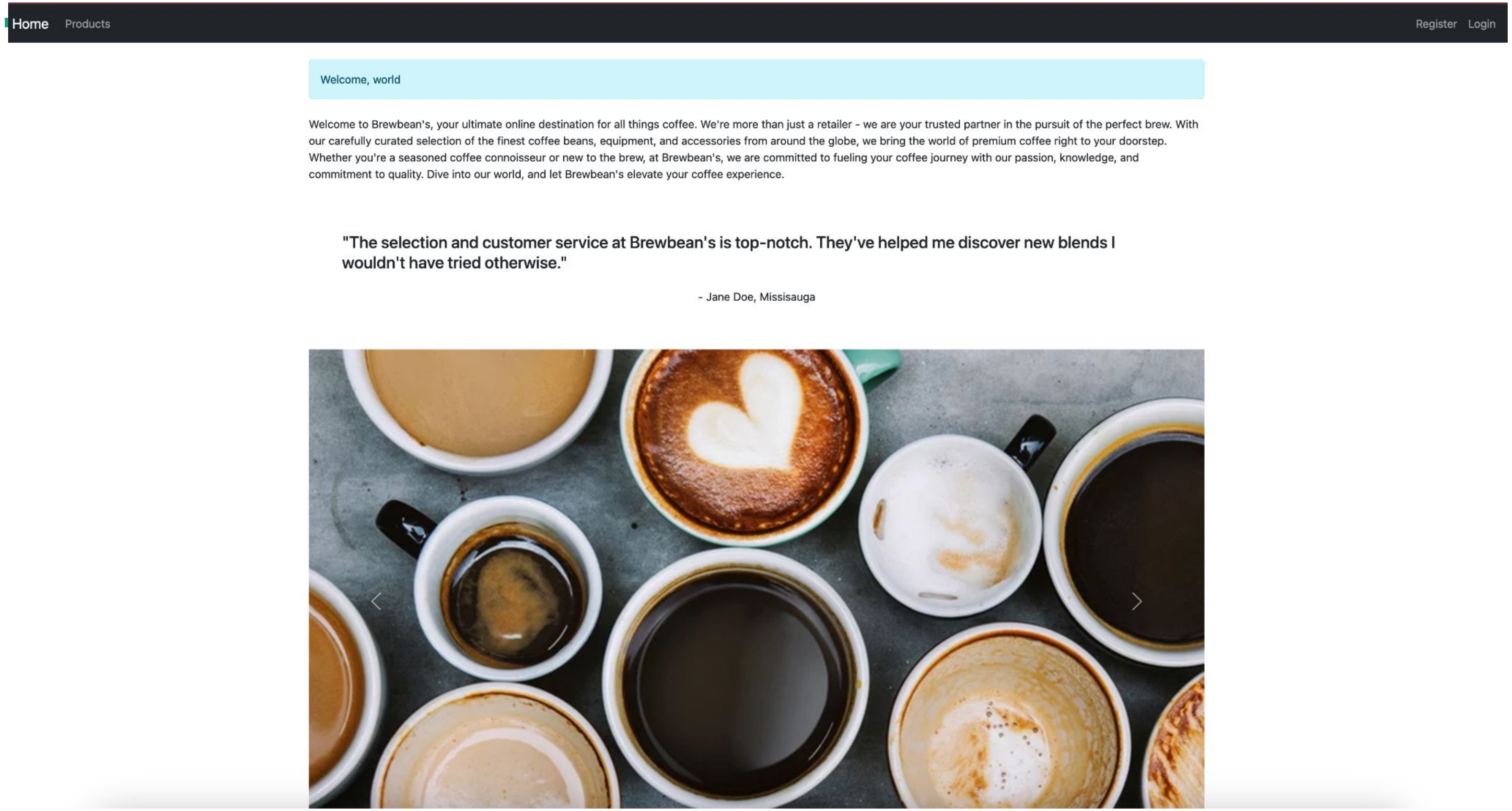
# Welcome to Brewbean’s Coffee!



Welcome, world

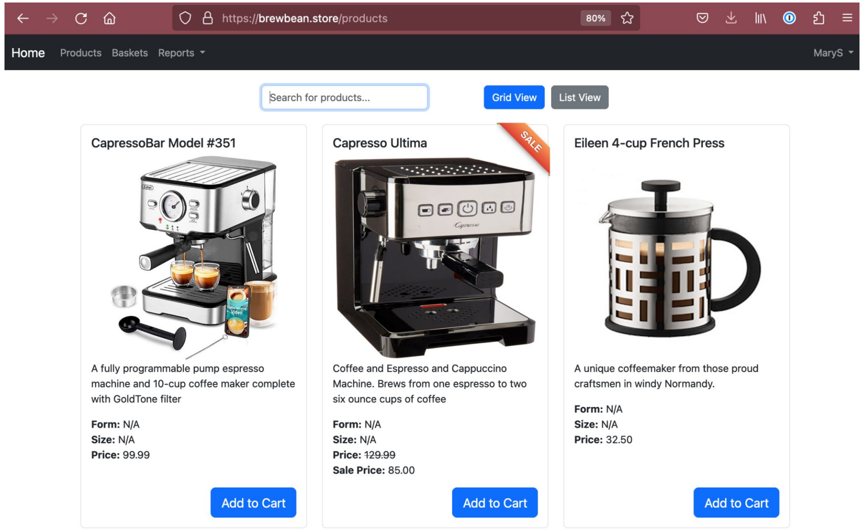
Welcome to Brewbean's, your ultimate online destination for all things coffee. We're more than just a retailer - we are your trusted partner in the pursuit of the perfect brew. With our carefully curated selection of the finest coffee beans, equipment, and accessories from around the globe, we bring the world of premium coffee right to your doorstep. Whether you're a seasoned coffee connoisseur or new to the brew, at Brewbean's, we are committed to fueling your coffee journey with our passion, knowledge, and commitment to quality. Dive into our world, and let Brewbean's elevate your coffee experience.

"The selection and customer service at Brewbean's is top-notch. They've helped me discover new blends I wouldn't have tried otherwise."

- Jane Doe, Missisauga

# Brewbean - Site Navigation

- Brewbean's Coffee is an online retailer that sells coffee-making equipment and coffee beans
- Shoppers can search or browse products, add products to their cart, create an account, and view those cart items in their basket
- Additionally, users with Employee or Admin access can add products, edit product descriptions and view reports about each shopper and their total spend on the site
- We will demonstrate the navigation with a live demo after this presentation



CapressoBar Model #351

A fully programmable pump espresso machine and 10-cup coffee maker complete with GoldTone filter

**Form:** N/A
**Size:** N/A
**Price:** 99.99

Capresso Ultima

Coffee and Espresso and Cappuccino Machine. Brews from one espresso to two six ounce cups of coffee

**Form:** N/A
**Size:** N/A
**Price:** ~~129.99~~
**Sale Price:** 85.00

Eileen 4-cup French Press

A unique coffeemaker from those proud craftsmen in windy Normandy.

**Form:** N/A
**Size:** N/A
**Price:** 32.50

## Brewbean - System Configuration

**Core Technologies**

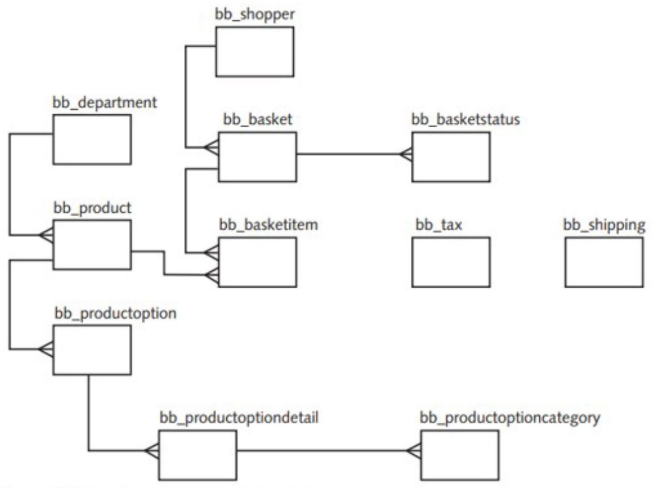
- MySQL Server 8.0.33
- Navicat for MySQL
  - For creating stored procedures and other data table structures
- Python3 + Flask 2.3.2
  - We utilized Flask to extend the python language to allow us to build html templates
- VIM and VSCODE for editing HTML and python files
- See the github repo for the latest MySQL build script for the project
  - Converted the original Oracle SQL dataset to MySQL

**Additional Server Detail**

- Domain name bought from gandi.net for $1 (annual)
- DigitalOcean Ubuntu VM $3 (monthly)
- LetsEncrypt SSL certificate $0

# Brewbean - Backend

## Initial ERD



## Created Views

bb_basket_admin
bb_basket_item_vu
bb_order_admin
bb_orderitems_admin
bb_product_admin
bb_product_employee
bb_product_guest
bb_ship_vu

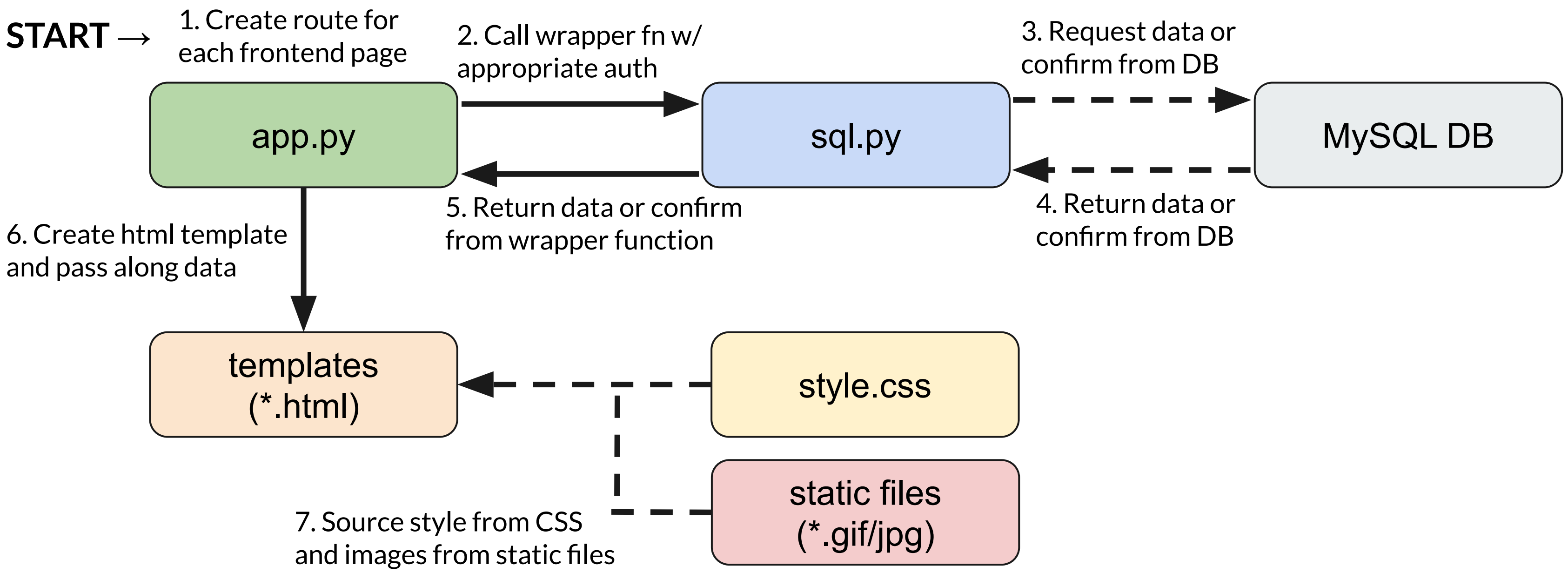
## Created Triggers

set_proddepttype_before_insert
set_prodoptions_after

## Created Procedures and Functions

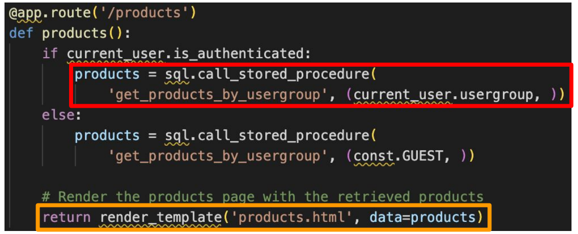
all_items_in_stock
delete_basketitem_by_basketitemid
delete_product_by_productid
delete_user_by_email_and_username
get_account_by_accountid
get_basketitems_by_basketid_full
get_basketitems_by_basketid_shopper
get_baskets_by_admin
get_baskets_by_shopperid
get_basketstatus_by_basketid_full
get_basketstatus_by_basketid_shopper
get_checkout_by_shopperid
get_departments
get_product_by_productid
get_productoptions_by_productid
get_products_by_usergroup
get_purchase_amt_by_shopperid
get_sale_info
get_shopper_by_shopperid
get_tax_by_state_and_amount
get_taxrate_by_shopperid
get_total_purchase_amt
insert_audit_employee
insert_audit_logon
insert_basket
insert_basketitem
insert_checkout
insert_orderstatus
insert_product
is_account_by_accountid_and_username_and_password
is_basket_owner_by_basketid_and_shopperid
is_username_password
register_shopper
test_product_reset
test_shopper_reset
update_account_password
update_product
update_shopper

# Brewbean - Frontend


START →
1. Create route for each frontend page
app.py
2. Call wrapper fn w/ appropriate auth
sql.py
3. Request data or confirm from DB
MySQL DB
4. Return data or confirm from DB
5. Return data or confirm from wrapper function
6. Create html template and pass along data
templates (*.html)
style.css
static files (*.gif/jpg)
7. Source style from CSS and images from static files

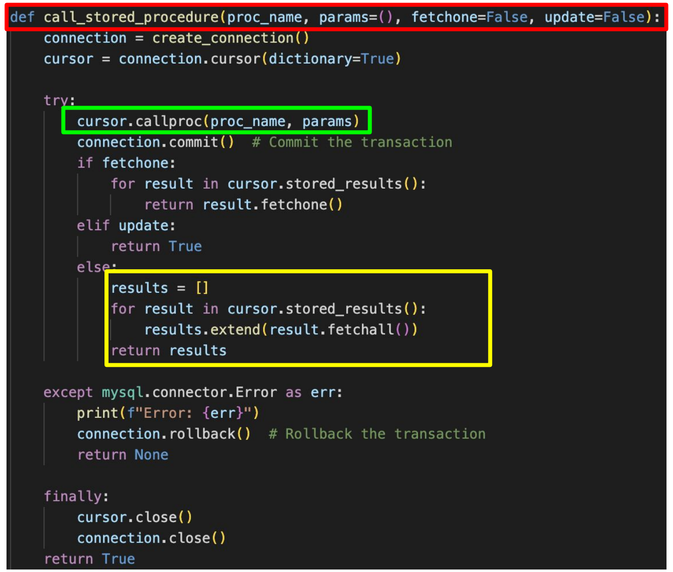
# Brewbean - Example - Generating products.html

## app.py



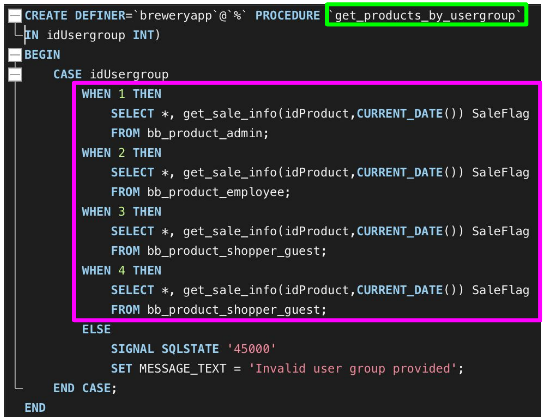
```python
@app.route('/products')
def products():
    if current_user.is_authenticated:
        products = sql.call_stored_procedure(
            'get_products_by_usergroup', (current_user.usergroup, ))
    else:
        products = sql.call_stored_procedure(
            'get_products_by_usergroup', (const.GUEST, ))

    # Render the products page with the retrieved products
    return render_template('products.html', data=products)
```

## sql.py



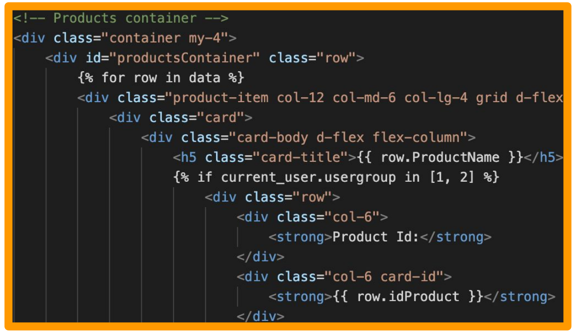
```python
def call_stored_procedure(proc_name, params=(), fetchone=False, update=False):
    connection = create_connection()
    cursor = connection.cursor(dictionary=True)

    try:
        cursor.callproc(proc_name, params)
        connection.commit()  # Commit the transaction
        if fetchone:
            for result in cursor.stored_results():
                return result.fetchone()
        elif update:
            return True
        else:
            results = []
            for result in cursor.stored_results():
                results.extend(result.fetchall())
            return results

    except mysql.connector.Error as err:
        print(f"Error: {err}")
        connection.rollback()  # Rollback the transaction
        return None

    finally:
        cursor.close()
        connection.close()
    return True
```

## MySQL DB



```sql
CREATE DEFINER=`breweryapp`@`%` PROCEDURE `get_products_by_usergroup`(
IN idUsergroup INT)
BEGIN
    CASE idUsergroup
        WHEN 1 THEN
            SELECT *, get_sale_info(idProduct,CURRENT_DATE()) SaleFlag
            FROM bb_product_admin;
        WHEN 2 THEN
            SELECT *, get_sale_info(idProduct,CURRENT_DATE()) SaleFlag
            FROM bb_product_employee;
        WHEN 3 THEN
            SELECT *, get_sale_info(idProduct,CURRENT_DATE()) SaleFlag
            FROM bb_product_shopper_guest;
        WHEN 4 THEN
            SELECT *, get_sale_info(idProduct,CURRENT_DATE()) SaleFlag
            FROM bb_product_shopper_guest;
        ELSE
            SIGNAL SQLSTATE '45000'
            SET MESSAGE_TEXT = 'Invalid user group provided';
    END CASE;
END
```

## products.html



```html
<!-- Products container -->
<div class="container my-4">
    <div id="productsContainer" class="row">
        {% for row in data %}
        <div class="product-item col-12 col-md-6 col-lg-4 grid d-flex
            <div class="card">
                <div class="card-body d-flex flex-column">
                    <h5 class="card-title">{{ row.ProductName }}</h5>
                    {% if current_user.usergroup in [1, 2] %}
                        <div class="row">
                            <div class="col-6">
                                <strong>Product Id:</strong>
                            </div>
                            <div class="col-6 card-id">
                                <strong>{{ row.idProduct }}</strong>
                            </div>
```

## Brewbean - Requested Tasks / Reports

**Tasks**

1. Create functionality to alter a product's description
2. Create functionality to add a product
3. Calculate tax on the order
4. Updating the order status
5. Add items to a basket
6. Identify and flag products on sale

**Reports**

1. Generate a report to show whether all items in a shopper's basket are in stock or not
2. Generate a report that calculates each shopper's total spend

## Brewbean - Bonus Features

1. Session Control
   - System facilitates logging users in and out
2. New (Shopper) Account Registrations
   - Stored passwords are hashed in the database
3. Auditing logon and employee actions (requires admin access to view)
4. Usergroups
   - Guest (anonymous): View homepage and products
   - Shopper: + Place orders, View basket data, Edit profile, View Stock Report
   - Employee: + Edit products, Update Order Status, View **all** basket data, View Purchase Report
   - Admin: + View Logon and Employee Audits
5. Edit profile
   - Personal information (shoppers)
   - Update password (everyone)
6. Multiview products page (List view & Grid View)
7. Searching Basket Data (Employees and Admins)

## Brewbean - Demo time!

brewbean.store