

VIRGINIA COMMONWEALTH UNIVERSITY

Statistical analysis and modelling (SCMA 632)

**A7 - BUILD A WEB APPLICATION USING STREAMLIT**

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**Date of Submission: 28-07-2024**

**INSTRUCTIONS ON HOW TO USE THE STREAMLIT FILE:**

**Prerequisites**

* **Python**: Ensure you have Python installed.
* **Packages**: You need Streamlit and pandas.

**Step-by-Step Instructions**

1. **Install Required Packages**

Open your terminal or command prompt and run:

bash

pip install streamlit pandas

1. **Create the Streamlit App**

Create a new file named expense\_tracker.py and paste the following code:

python

import streamlit as st

import pandas as pd

# Initialize the session state

if 'expenses' not in st.session\_state:

st.session\_state['expenses'] = pd.DataFrame(columns=['Date', 'Description', 'Category', 'Amount'])

# App title

st.title('Expense Tracker')

# Input form for new expenses

st.header('Add a New Expense')

with st.form(key='expense\_form'):

date = st.date\_input('Date')

description = st.text\_input('Description')

category = st.selectbox('Category', ['Food', 'Transport', 'Utilities', 'Entertainment', 'Others'])

amount = st.number\_input('Amount', min\_value=0.0, format="%.2f")

submit\_button = st.form\_submit\_button(label='Add Expense')

if submit\_button:

new\_expense = pd.DataFrame({

'Date': [date],

'Description': [description],

'Category': [category],

'Amount': [amount]

})

st.session\_state['expenses'] = pd.concat([st.session\_state['expenses'], new\_expense], ignore\_index=True)

st.success('Expense added!')

# Display all expenses

st.header('Expense History')

st.dataframe(st.session\_state['expenses'])

# Display total expenses

st.header('Total Expenses')

st.write(f"Total: ${st.session\_state['expenses']['Amount'].sum():,.2f}")

1. **Run the Streamlit App**

In your terminal, navigate to the directory where expense\_tracker.py is located, and run:

bash

Streamlit run expense\_tracker.py

1. **Interact with the App**
   * **Add Expenses**: Use the form to enter the date, description, category, and amount for each expense.
   * **View Expenses**: The app will display a table of all expenses and show the total amount spent.
2. **Access the App**

After running the command, your default browser should open automatically with the app. If not, check the terminal for a URL that you can open manually (usually something like http://localhost:8501).