🔧📜 Detailed Report of Errors & Fixes 🚀🐛

📝 Overview

This document 📄 captures all 🐞 errors encountered while working on the 📚 Gradio-based Book Recommender project on 📅 February 3, 2025, starting from 🕑 2 PM. Each 🛑 error is documented with its ⚠️ cause, 🔍 diagnosis, and 🛠️ resolution.

1️⃣🍺 Homebrew Not Found Error

❌ Error:

brew: command not found 🚫

⚠️ Cause:

Homebrew was ❌ not installed or 🛤️ not configured in the system PATH.

🛠️ Fix:

1️⃣Installed Homebrew 🍺:

/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"

2️⃣Added Homebrew to PATH 🛤️:

echo 'eval "$(/opt/homebrew/bin/brew shellenv)"' >> ~/.zprofile

eval "$(/opt/homebrew/bin/brew shellenv)"

3️⃣Verified installation ✅:

brew --version

2️⃣🔐 OpenSSL Library Not Found

❌ Error:

Library not loaded: /opt/homebrew/opt/openssl@3/lib/libssl.3.dylib 🔍🚫

⚠️ Cause:

The system was 🛑 missing OpenSSL or it was ❌ not linked properly.

🛠️ Fix:

1️⃣Installed OpenSSL 🔑:

```
brew install openssl@3
```

2️⃣Configured OpenSSL paths 🛤️:

```
echo 'export PATH="/opt/homebrew/opt/openssl@3/bin:$PATH"' >> ~/.zshrc
echo 'export LDFLAGS="-L/opt/homebrew/opt/openssl@3/lib"' >> ~/.zshrc
echo 'export CPPFLAGS="-I/opt/homebrew/opt/openssl@3/include"' >> ~/.zshrc
source ~/.zshrc
```

3️⃣Verified OpenSSL installation ✅:

```
openssl version
```

3️⃣📂 Pandas CSV Parsing Error

❌ Error:

ValueError: Unterminated quoted field at end of CSV line. 🚫

⚠️ Cause:

The CSV file 🗂️ had improperly formatted text 📝 with unclosed quotes ❌.

🛠️ Fix:

1️⃣Opened the CSV file 📝 in a text editor ✏️.2️⃣Removed unclosed quotes ❌ and fixed the affected rows 🔧.3️⃣Reloaded the CSV 📂 using:

```
books = pd.read_csv("books_with_emotions.csv", on_bad_lines="skip")
```

4️⃣❌ Bad Delimiter in `to_csv()`

❌ Error:

ValueError: bad delimiter value 🚫

🛠️ Fix:

Replaced `to_csv()` with a manual write operation 📝:

```
with open("tagged_description.txt", "w", encoding="utf-8") as f:
    f.write("\n".join(books["tagged_description"].dropna().astype(str).tolist()))
```

5️⃣🔬 TensorFlow Not Found & Compatibility Issues

❌ Error:

RuntimeError: At least one of TensorFlow 2.0 or PyTorch should be installed. 🚫

🛠️ Fix:

1️⃣Installed TensorFlow 🧠:

```
pip install tensorflow==2.17 keras==2.17 transformers==4.45.0
```

2️⃣Verified installation ✅:

```
python -c "import tensorflow as tf; print(tf.__version__)"
```

6️⃣🖥️ TensorFlow MPS Backend Error

❌ Error:

KeyError: ('', '/device:GPU:mps') 🚫

🛠️ Fix:

Forced TensorFlow 🧠 to use CPU 🖥️:

```
import tensorflow as tf
import os
os.environ["CUDA_VISIBLE_DEVICES"] = "-1"
os.environ["TF_ENABLE_MLIR"] = "0"
tf.config.set_visible_devices([], 'GPU')
```

7️⃣🎛️ Gradio Button Click Error

❌ Error:

ValueError: All arrays must be of the same length 🚫

⚠️ Cause:

The lists being used for creating a Pandas DataFrame had different lengths.

🛠️ Fix:

Ensured both lists were of equal length before creating the DataFrame:

min_length = min(len(isbns), len(prediction_cat))

isbns = isbns[:min_length]

prediction_cat = prediction_cat[:min_length]

missing_predicted_df = pd.DataFrame({"isbn13": isbns, "predict_categories": prediction_cat})

🔚 Final Summary 📜

🛑 Error	⚠️ Cause	🛠️ Solution
🍺 Homebrew Not Found	❌ Not installed or 🛤️ PATH missing	✅ Installed & configured PATH
🔐 OpenSSL Library Missing	❌ Not installed or 🔗 not linked	✅ Installed & configured
📂 CSV Parsing Error	📝 Improper formatting	✅ Cleaned CSV manually

❌ `to_csv()` Delimiter	🚫 Pandas issue	✅ Used `write()` instead
🔬 TensorFlow Not Found	⚠️ Incompatible installation	✅ Installed correct version
🖥️ MPS Backend Error	⚠️ TensorFlow GPU issue	✅ Forced CPU execution
📊 Sorting Error	🔢 Mixed data types	✅ Converted to strings
🔢 ISBN Parsing Error	❌ Contains non-numeric characters	✅ Removed invalid characters
🎛️ Gradio Button Click Error	📏 Mismatched list lengths	✅ Adjusted list lengths
🔒 Google Colab Repo	🛑 Private repo	✅ Changed to public

🚀 Outcome:

- ✅ Fixed all errors 🛠️.
- ✅ Gradio-based 📚 Semantic Book Recommender is now fully functional 🎯.
- ✅ All fixes documented for future 🔍 reference.

🎉 End of Report 📜✨