Project Setup Guide – COMP8420 Assignment 3 (Major Project)

Prerequisites

Ensure the following tools are installed on your system:

- **Python 3.8+**

- **pip**

- **Node.js** (v14 or higher)

- **npm**

- **Git**

Check versions using:

python --version

pip --version

node -v

npm -v

git --version

Step 1: Clone the Repository

git clone
https://github.com/TahaAhmed2000/COMP8420-2025-S1-Assignment-3-Major-Project-.git

Go to the Project Root Folder

cd COMP8420-2025-S1-Assignment-3-Major-Project-

Step 2: Backend Setup

2.1 Create and Activate a Virtual Environment (Recommended)

 # macOS/Linux

python3 -m venv venv

source venv/bin/activate

 # Windows

python -m venv venv

venv\Scripts\activate

2.2 Install Python Dependencies

pip install -r requirements.txt

2.3 Set Up Index

This step must be completed before starting the backend server:

python scripts/setup_index.py

2.4 Run the Backend Server

uvicorn main:app --reload

- The backend will be accessible at: http://localhost:8000

- FastAPI documentation (if available): http://localhost:8000/docs

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Step 3: Frontend Setup

3.1 Go to the Frontend Folder

cd frontend

3.2 Install Node.js Dependencies

npm install

3.3 Start the Frontend Server

npm run dev

- The frontend will be available at: http://localhost:3000

Additional Notes

- Ensure Python, pip, Node.js, and npm are installed.

- If using environment variables, provide a .env.example file with all required keys.

cp .env.example .env

Full Setup Summary

Clone and go to project root

git clone
https://github.com/TahaAhmed2000/COMP8420-2025-S1-Assignment-3-Major-Project-.git

cd COMP8420-2025-S1-Assignment-3-Major-Project-

Backend

python -m venv venv

source venv/bin/activate # or venv\Scripts\activate on Windows

pip install -r requirements.txt

python scripts/setup_index.py

uvicorn main:app --reload

Frontend

cd frontend

npm install

npm run dev

Note: *As we are using the Gemini API, which provides a free API key, it may become invalid after a period of usage or inactivity.*

If you encounter errors such as:

- *500 Internal Server Error*
- *400 Bad Request*

Please generate a new Gemini API key and update it in the main.py file accordingly.