AUTOMATING VBA MACRO DOCUMENTATION AND TRANSFORMATION

Objective: The goal is to develop a solution that automates the documentation and understanding of legacy VBA macros used in critical processes across DFIN, facilitating their transformation into modern technologies and IT platforms.

For the given objective,I have completed a few use cases as given in the example use cases.

Key Features:

1. **Macro Detection**: Identifies and extracts VBA macros from Excel files.
2. **Code Analysis**: Analyzes the logic, data flow, and process flow of the extracted macros.
3. **Documentation Generation**: Produces comprehensive documentation with detailed descriptions and visualizations of the macro's workings.
4. **Visualization**: Creates diagrams to represent the macro's logic and data flow
5. **Modernization Suggestions**: Provides recommendations for refactoring or rewriting the macros in modern programming languages.
6. **Security and Compliance Checker:** VirusTotal,Olevba,mraptor analysis are used for verifying the susceptibility of the macros extracted from the uploaded file.Hash of the file is found for carrying out the security measures.

Implementation:

- **Libraries Used**: `oletools.olevba` for macro extraction, `vba2graph` for visualizations,`langchain_google_genai` for natural language explanations, `hashlib` for finding hash of the files and all other regular libraries like `pandas,re,requests,json,os,shutil.`
- **Framework used:** Flask is used for hosting the application.
- **Automation**: The tool processes the macros automatically, requiring minimal user intervention
- **AI Module Used:** langchain-genAI
- **Output**: Generates readable and accessible documentation, including both textual explanations and visual representations as a single pdf file. A .zip file consists of the pdf file,image file and all other inferences made from the process.

Github Link: https://github.com/Guru-Prasanna/Societe-Generale-

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