# Excel Data Masker - Architecture Overview

## Overview

The Excel Data Masker is a modular Python application designed to anonymize sensitive data in Excel spreadsheets. The application uses a spreadsheet-like interface built with Tksheet, fuzzy logic for field suggestions, and masking logic to obfuscate selected fields. It is self-contained and runs entirely on a local machine.

## Module Breakdown

1. main\_app.py – Launches the main UI and initializes workflows.

2. ui\_field\_selector\_grid.py – Visual selector using tksheet to choose which fields to mask.

3. mask\_logic.py – Core masking logic including full, partial, and replace strategies.

4. requirements.txt – Defines dependencies needed to run the application.

5. example\_input.xlsx – A sample spreadsheet for demo purposes.

## Flow Diagram (Logical)

1. User selects an Excel file to evaluate.  
2. System applies fuzzy logic to suggest fields.  
3. UI presents selectable grid with options to include/exclude fields.  
4. User confirms fields and chooses global masking type.  
5. Preview and final masked files are generated and saved.

## Extensibility

This modular design allows for easy updates, integration of additional masking strategies, and eventual migration to a web-based frontend using Flask or FastAPI.