
Answer-Sheet-Studio

發佈 0.0

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CHAPTER 1

English

Answer Sheet Studio lets teachers generate printable answer sheets and run local OMR recognition (no cloud upload):

- **Download page** —choose title, subject, class, number of questions (up to 100), and choices per question (ABC/ABCD/ABCDE). Generates a single-page PDF template (macOS/Windows compatible).
- **Upload page** —drop a multi-page PDF scan. Recognition exports `results.csv` (questions as rows, students as columns), `ambiguity.csv` (blank/ambiguous/multi picks), plus `annotated.pdf` that visualizes detections.
- **Launcher** —double-click (`start_mac.command` or `start_windows.vbs`) to create a virtual env, install dependencies, start the local server, and open `http://127.0.0.1:8000`.
- The web UI supports **English** and **Traditional Chinese**. Use the language tabs in the header.

1.1 Requirements

- macOS ≥ 13 or Windows 11
- Python **3.10+** (3.11 recommended; 3.10–3.13 supported). If you’re on Python 3.14 and installs fail, use Python 3.10–3.13.
- On Windows, ensure “Add python.exe to PATH” during installation (and keep the `py` launcher enabled if offered).
- Internet access the first time to download Python packages (FastAPI, PyMuPDF, OpenCV, NumPy, etc.).

1.2 Quick Start

1.2.1 macOS

1. Double-click `start_mac.command` (or run `chmod +x start_mac.command` once if prompted).
2. First run creates `.venv` and installs requirements; later runs reuse the existing `.venv` (unless requirements changed).
3. Your browser opens `http://127.0.0.1:8000`. Close the browser when you're done; the server auto-exits after a period of inactivity.

1.2.2 Windows 11

1. Install Python 3.10+ (3.11 recommended; 3.10—3.13 supported) from python.org and check “Add python.exe to PATH”.
2. Double-click `start_windows.vbs`.
3. First run installs requirements; later runs reuse the existing `.venv` (unless requirements changed). If Windows Defender prompts for network access, allow it so the server can bind to localhost.

1.3 Important Notes

- For recognition, the **number of questions** and **choices per question** must match the generated answer sheet.
- For more stable results: use a darker pen/pencil, scan at **300dpi**, and avoid skew/rotation.

1.4 Output Files

After recognition, files are written under `outputs/<job_id>/`:

- `results.csv`
- `ambiguity.csv`
- `annotated.pdf`
- `input.pdf` (original upload)

1.5 Updating

- Open `http://127.0.0.1:8000/update` and upload the latest ZIP (from GitHub Releases or `main.zip`). The app will restart automatically.

1.6 Debug Mode

- Open `http://127.0.0.1:8000/debug` and enter the Job ID (the folder name under `outputs/`) to download diagnostic files (including `ambiguity.csv`).

1.7 Troubleshooting

- **pip install failed** —Check the launcher log; ensure network access and Python 3.10+. If you're on Python 3.14, try Python 3.10—3.13.
- **Port already in use / permission denied** —The launcher checks port availability. If macOS firewall blocks Python, allow incoming connections in System Settings > Network > Firewall.
- **Server not opening** —Use the launcher log to identify crashes; you can also run `python run_app.py` inside `.venv` manually for debugging.

Answer Sheet Studio 讓老師可以產生可列印的答案卡，並在本機進行 OMR 辨識（不上傳到雲端）：

- **下載答案卡**：輸入標題、科目、班級、題數（最多 100 題）、每題選項（ABC / ABCD / ABCDE），產生單頁 PDF。
- **上傳辨識**：上傳多頁 PDF（每頁一位學生）。會輸出 results.csv（題號為列、學生為欄）、ambiguity.csv（空白/模稜兩可/多選）、以及 annotated.pdf（標註辨識結果）。
- **Launcher**：雙擊啟動器（start_mac.command 或 start_windows.vbs）即可建立虛擬環境、安裝套件、啟動伺服器並開啟 <http://127.0.0.1:8000>。
- 網頁介面支援 English / 繁體中文，可用頁首的語言切換。

2.1 系統需求

- macOS 13+ 或 Windows 11
- Python 3.10+（建議 3.11；支援 3.10—3.13）
- Windows 安裝 Python 時請勾選「Add python.exe to PATH」（並保留 py launcher）
- 第一次安裝需要網路下載 Python 套件（FastAPI、PyMuPDF、OpenCV、NumPy 等）

2.2 快速開始

2.2.1 macOS

1. 雙擊 start_mac.command（若提示權限，先執行一次 chmod +x start_mac.command）。
2. 第一次會建立 .venv 並安裝依賴套件；之後會重用既有 .venv（除非 requirements.txt 有變更）。

3. 瀏覽器會自動開啟 `http://127.0.0.1:8000`。用完關閉瀏覽器即可；伺服器會在一段時間無操作後自動結束。

2.2.2 Windows 11

1. 從 `python.org` 安裝 Python 3.10+ (建議 3.11；支援 3.10—3.13)，並勾選「Add python.exe to PATH」。
2. 雙擊 `start_windows.vbs`。
3. 第一次會安裝依賴套件；之後會重用既有 `.venv` (除非 `requirements.txt` 有變更)。若 Windows Defender 詢問是否允許網路連線，請允許 (只會綁定 `localhost`)。

2.3 使用注意事項

- 進行辨識時，題數與 每題選項 (ABC/ABCD/ABCDE) 必須與答案卡一致。
- 想要結果更穩定：建議用較深的筆、掃描 300dpi，並避免歪斜/旋轉。

2.4 輸出檔案

辨識完成後，檔案會寫入 `outputs/<job_id>/`：

- `results.csv`
- `ambiguity.csv`
- `annotated.pdf`
- `input.pdf` (原始上傳檔)

2.5 更新

- 開啟 `http://127.0.0.1:8000/update`，上傳最新 ZIP (GitHub Releases 或 `main.zip`)。更新後會自動重新啟動。

2.6 Debug Mode (回報問題用)

一般使用者不需要使用 Debug Mode。

- 開啟 `http://127.0.0.1:8000/debug`，輸入 Job ID (`outputs/` 底下的資料夾名稱)。
- 下載 `results.csv`、`ambiguity.csv`、`annotated.pdf` (必要時再下載 `input.pdf`)，提供給開發者協助排查。

2.7 排除問題

- **pip install failed** — 檢查 launcher log，確認有網路、Python 版本為 3.10+；若你是 Python 3.14，建議改用 3.10—3.13。
- **Port already in use / permission denied** — 啟動器會檢查 port；若 macOS 防火牆阻擋 Python，請到 System Settings > Network > Firewall 放行。
- **Server not opening** — 先看 launcher log 找出錯誤；也可以在 .venv 裡直接跑 `python run_app.py` 方便除錯。