

Adobe Illustrator – Assets Export PNG

Artificial Intelligence Dept. – Maxima Apparel

Project Report: Bulk Asset Export in Adobe Illustrator

Department: Artificial Intelligence – Maxima Apparel

Publication Date: 05/16/2025

Report Version: V1.6.0

1. Executive Summary

The Bulk Asset Export project automates the process of extracting and converting grouped illustration elements into PNG files, significantly improving the design team's efficiency. Through a Python script that injects ExtendScript into Adobe Illustrator, layers are automatically renamed and filtered following the FRONT (F), BACK (B), S1, S2, and INSIDE (IN) conventions, exporting assets with a consistent naming scheme (ID Style)-(Key).

Key Benefits:

- Reduction of export time from approximately 25–35 minutes for file .ai to seconds.
- Standardized naming to facilitate integration with downstream systems.
- Detailed log records for auditing and quality control.

2. Project Overview

- Project Name: Bulk Asset Export in Illustrator
- Main Script: `export_assets_mac_70525_V1.6.0_JT.py`
- Current Status: Production
- Objective: Optimize and standardize the design export workflow, minimizing manual errors and design-team idle time.

3. Technical Description & Execution Flow

3.1 Overall Architecture

1. Configuration:

- Definition of constants and ID pattern (ID_REGEX).
- Preparation of the ExtendScript block to be injected into Illustrator.

2. Main Execution:

- Dynamic generation of a temporary .jsx file.
- Execution via `osascript` in Illustrator.
- Verification of the exit code to determine success or failure.

3. Result Handling:

- On success: read and count lines in `export_assets_log.txt`, display success message.
- On failure: print error message.
- Deletion of the temporary file at the end.

Adobe Illustrator – Assets Export PNG

Artificial Intelligence Dept. – Maxima Apparel

3.2 Flowchart

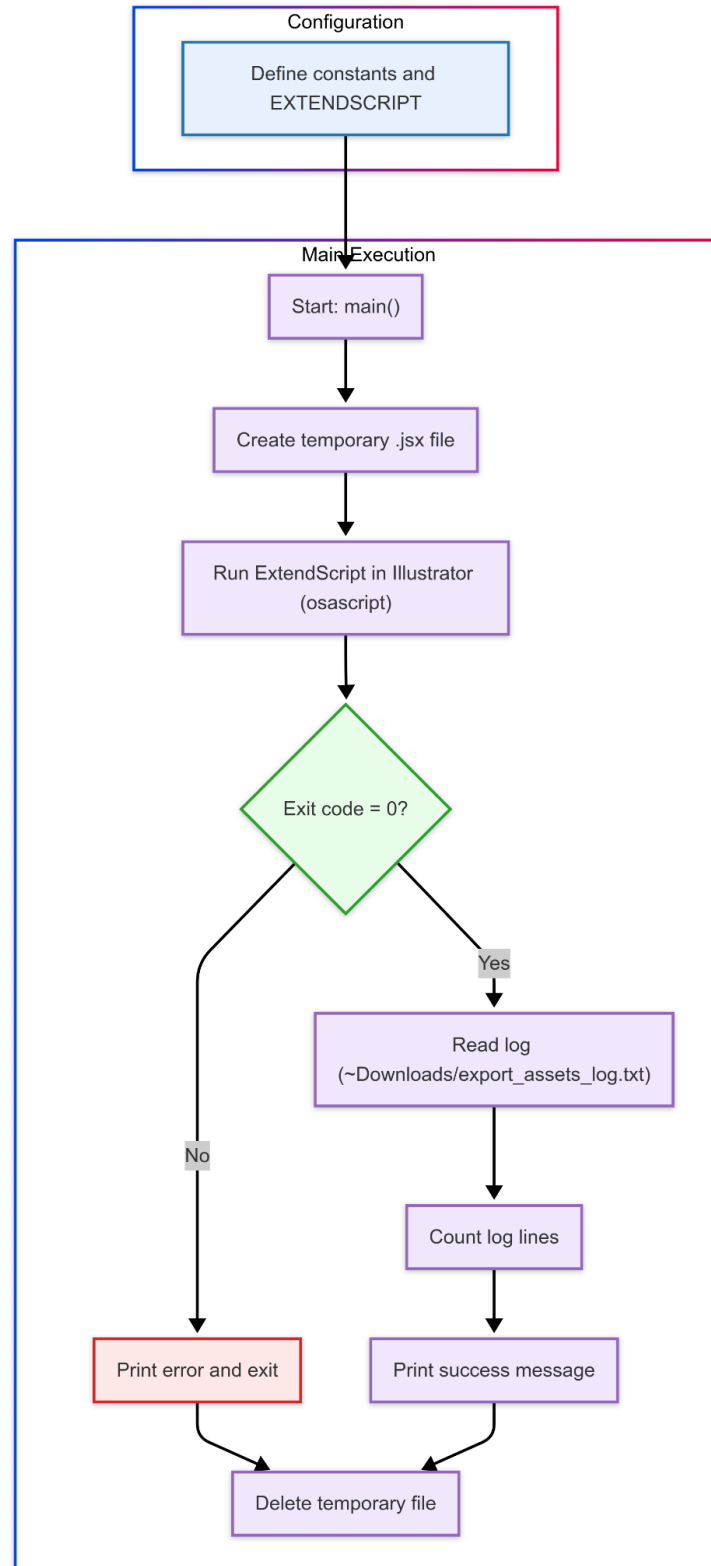


Figure 1 Operation flow of the bulk-export script.

Adobe Illustrator – Assets Export PNG

Artificial Intelligence Dept. – Maxima Apparel

4. Requirements & Configuration Parameters

- OS: macOS 14.4+ with Automation permissions enabled.
- Adobe Illustrator: 2023 or later (2025 recommended).
- Python: 3.10+.
- Permissions: Enable “Automation” for Illustrator in System Preferences if required.

Available CLI Parameters:

- `--scale` : Scale factor for asset export.
- `--output-dir` : Path to the output directory.
- `--preview` : Preview mode (no files written).
- `--log-file` : Custom path for the log file.
- `--group` : Filter by group type (F, B, S1, S2, IN).

5. Results & Validation

- Average execution time: ~12 s per batch of 20 assets (vs. ~4 min manually).
- Success rate: 100% in internal tests (✅).
- Logs generated: Prefixed with ✅/❌ for each asset, facilitating auditing.

Common Error Analysis:

- Unnamed groups: “Error: ID not detected” is automatically reported.
- Text-graphic distance > MAX_ID_DISTANCE: adjust the MAX_ID_DISTANCE parameter as needed.

6. Recommendations & Best Practices

- Naming Conventions: Maintain uniform layer and group names.
- File Organization: Group assets by type (F/B/S1/S2/IN) before execution.
- Log Monitoring: Periodically review the log file to detect error patterns.
- Versioning: Increment script versions (e.g., Vx.x.x) and document changes in a CHANGELOG.

7. Conclusions & Next Steps

- Achievements: The script has achieved seamless integration into the design workflow, reducing time and human errors.
- Proposed Enhancements:
 1. Incorporate exports to other formats (SVG, JPG).
 2. Develop a GUI for non-technical users.
 3. Implement a CI/CD pipeline for automated testing on each script update.

8. Author & Contact Information

Author: Jacob Tinoco

Department: Artificial Intelligence – Maxima Apparel

Email: jtinoco@maximaapparel.com