

Automated Receipt Processing and Normalisation with Scan2x



1. Use Case Overview



Goal

To ingest, analyze, and extract data from receipts captured in multiple formats (photos from mobile devices, scanned images, PDFs, etc.), normalise the data into a consistent format, and provide it to downstream systems or spreadsheets for expense reporting and management.



Primary Actor

- **Expense Submitter** (employee, business traveler, or user who needs to claim expenses)



Supporting Actors

- **Mobile Devices** (via Scan2x Android or iOS apps, phone camera photos)
- **Scan2x Desktop/Web Interface** (for bulk scanning or drag-and-drop uploads)
- **Downstream Systems** (expense management software, spreadsheets, accounting systems)

2. Stakeholders and Interests



Employees or Business Travelers

- Require a quick, easy way to submit receipts for reimbursement.
- Want to minimise the time spent on manual data entry.

Finance/Expense Management

- Needs accurate, timely receipt data to process reimbursements.
- Seeks to reduce administrative overhead and improve compliance.

IT Department

- Maintains the integration between Scan2x and downstream systems or spreadsheets.
- Ensures data security and process reliability.

Line Managers / Approvers

- Need visibility into expense claims for approval.
- Want to ensure expenses are legitimate, properly categorised, and consistent with policy.

3. Preconditions



System Configuration

- Scan2x is installed, configured, and accessible to authorised users via desktop, web, or mobile apps.
- Normalised receipt data fields (e.g., date, merchant name, total amount, tax/VAT, category) are defined in the system.



Mobile Devices

- The Scan2x Android/iOS apps are available and configured for employees to capture receipt images.
- Alternatively, employees can use their phone camera (without the app) and later upload images to Scan2x.



Downstream System Integration

- Proper mappings exist between Scan2x’s normalised receipt fields and the fields in the downstream expense report system or spreadsheet template.
- Network or API connectivity is established between Scan2x and the target systems (if applicable).



User Access

- Employees and expense submitters have valid credentials to Scan2x or the mobile app.

4. Triggers



Manual Trigger

- An employee opens the Scan2x mobile app, takes a photo of a receipt, and taps “Submit.”
- Alternatively, an employee scans or drags-and-drops receipt images/PDFs into the Scan2x desktop/web interface.



Automated Trigger

- Receipts sent to a monitored email inbox or folder (e.g., employees email their receipt photos) are automatically imported by Scan2x.

5. Main Success Scenario (Basic Flow)



Receipt Capture

- The user captures a receipt photo using the Scan2x mobile app or a phone camera.
- If taken outside the app, the user uploads the image to Scan2x (e.g., via desktop upload or web interface).



Document Classification

- Scan2x identifies the document as a receipt based on layout, text cues, or user selection.



Data Extraction

- Scan2x uses OCR and/or machine learning algorithms to extract key fields:
- Merchant name (e.g., restaurant, taxi company)
- Date of purchase
- Expense category (if identifiable)
- Tax/VAT amounts
- Net and total amounts



Data Validation

- The system checks for anomalies or missing fields (e.g., invalid dates, unrecognized merchants).
- Suspected errors trigger a user notification or a prompt to correct any ambiguous data.



Normalisation

- Scan2x automatically formats extracted data into a consistent schema (e.g., standard date format, currency format, and naming conventions).

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Mapping to Downstream Systems or Spreadsheets

- Using existing mappings, Scan2x aligns the normalized receipt fields with the corresponding fields in the expense management system or spreadsheet template.

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Export/Posting

- The normalized receipt data is exported to the downstream system in real-time via API or saved to a standardized file (e.g., CSV, Excel).
- A confirmation or reference ID may be returned to Scan2x, indicating successful submission.

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User Notification

- The employee or expense submitter receives a notification on their mobile device or desktop that the receipt was processed successfully.
- The receipt details are now viewable both in Scan2x and the downstream system/spreadsheet

6. Alternative Flows and Exceptions



Poor-Quality Image (Alternative Flow)

- **Trigger:** The photo is blurry or the text is partially cut off.
- **Action:** Scan2x requests a new image or flags the receipt for manual review. The user can re-capture or re-upload a clearer image.



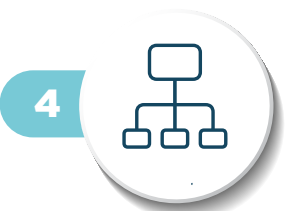
Unrecognised Fields (Alternative Flow)

- **Trigger:** Scan2x cannot extract certain information (e.g., unknown currency or missing totals).
- **Action:** The system flags the receipt. A user or admin manually corrects the details within Scan2x before proceeding.



System Integration Failure (Exception)

- **Trigger:** Network or API issues prevent data from posting to the expense system or spreadsheet.
- **Action:** Scan2x queues the data and retries automatically. If repeated failures occur, the user is alerted to resubmit or check system status.



Receipt Categorisation

- **Trigger:** The system is unsure of the correct expense category (e.g., "Travel" vs. "Meals").
- **Action:** User is prompted to select or confirm the category before finalising submission.

7. Postconditions



Successful Posting

- The system has processed and normalized the receipt data, transferring it accurately to the downstream expense platform or spreadsheet.
- The user can track, review, and edit their receipts within Scan2x as needed.



Error Handling and Notifications

- Any problematic receipts remain in a flagged queue for manual intervention.
- All errors are logged, and relevant personnel (e.g., finance or IT) receive alerts if necessary.

8. Benefits and Outcomes



- **Time Savings:** Eliminates manual entry of receipt details, accelerating the expense reporting process.



- **Improved Accuracy:** Automated OCR and data validation ensure minimal errors.



- **Greater Visibility:** Real-time access to receipt data for employees and finance teams.








- **Streamlined Workflow:** Seamless integration with expense management systems or spreadsheets, reducing the need for manual uploads.

Use Case Summary

By harnessing Scan2x's powerful OCR and data extraction capabilities, organizations can efficiently handle expense receipts from a variety of sources—mobile photos, scanned images, or emailed attachments. The result is an automated workflow that normalizes receipt information, forwards it to the appropriate finance or spreadsheet application, and provides complete transparency and auditability for expense tracking.



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