

## VPBank Technology Hackathon 2025

Challenge Statement	Challenge 4: AI-Powered Banking Process Redesign
Team Name	Nhóm 247 (Update to SoftAI)

### Team Members

Fullname	Role	School Name	Contact
Nguyễn Văn Tú (Champions Web3 x AI Ideathon 2025)	Leader & AI Dev	University of Science, VNUHCM	nvtu2305@gmail.com
Dương Trung Nghĩa (Champions Web3 x AI Ideathon 2025)	<i>Backend &amp; AI Dev</i>	University of Science, VNUHCM	trungnghia.24904@gmail.com
Lương Xuân Thanh (Champions Web3 x AI Ideathon 2025)	<i>Devops &amp; Architecture Solution</i>	University of Science, VNUHCM	lxthanh235@gmail.com
Phạm Thành Nhân Champions Web3 x AI Ideathon 2025 Actors of ...)	<i>Frontend Dev</i>	University of Science, VNUHCM	ptnhanit230104@gmail.com
Đinh Nguyễn Lan Anh (Actor of Paper Published on International Fintech Conference )	<i>Data and Business Analyst</i>	University of Economics and Finance	anhdn122@uef.edu.vn

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## Addition Resources

[1]: Github Repository VPFlow: <https://github.com/Tuprott991/VPFlow>

[2]: Link Figma: <https://www.figma.com/design/TqFhfF3jqz4mKYxYzuDaaO/VPflow?node-id=0-1&p=f&t=dl3WqeKNlbS3pMj9-0>

[3]: Link Video demo figma: [https://www.youtube.com/watch?v=hY\\_JsGxNueI](https://www.youtube.com/watch?v=hY_JsGxNueI)

*Highly recommend watch better read the document*

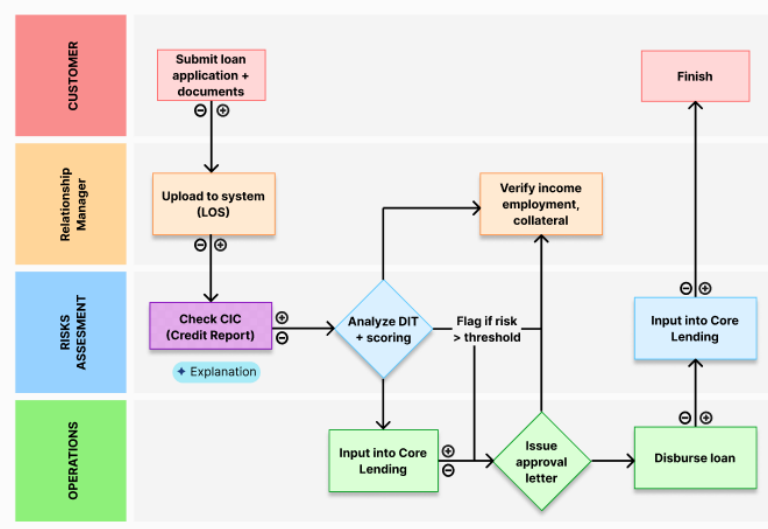


- Quick actions
- List of workflows
- Workflow with AI
- Workflow 1
- Workflow 2
- Records
- Pain Point Feedbacks

Workflows / Personal Loan Approval Process

This workflow has not yet been published (For manager to review) Publish workflow

Version 3.0 Error Auto Detection Pain Point




100%

**Tools**

Set the next block in the workflow

- Import file to generate workflow
- Search blocks...
- Generation
  - Import text to generate workflow
  - Delete workflow
- Interaction
  - Compare workflow
  - Find list entries
  - Give feedback
- AI
  - Pain Point Detection
  - AI suggestion
  - Global AI Assistant
  - Auto SOP Generator



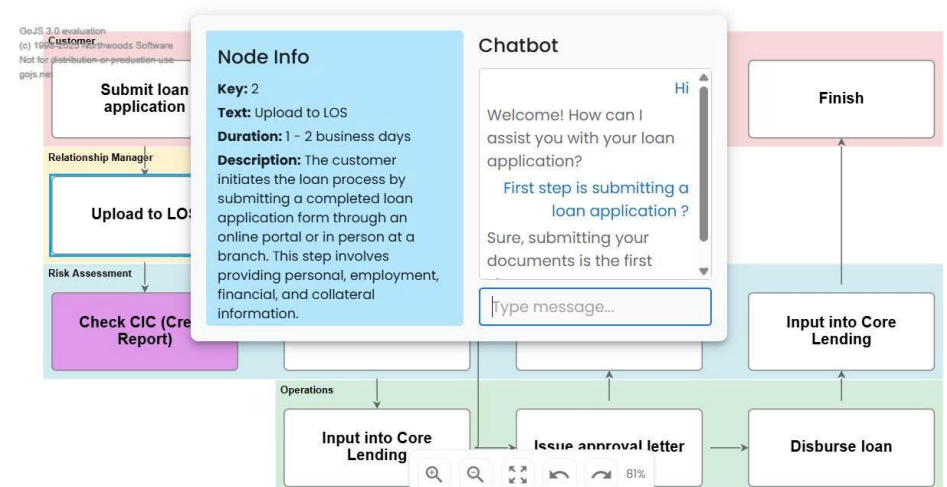
Search...

- List of workflows
- Workflow with AI
- Pain Point Feedbacks

Workflow Details

This workflow has not yet been published (For manager to review) Publish workflow

Pain Point



**Tools**

- Upload file to generate workflow
- Search blocks...
- Generation
  - Import text to generate workflow
  - Delete workflow
- Interaction
  - Compare workflow
  - Find list entries
  - Give feedback
- AI
  - Pain Point Detection
  - AI suggestion
  - Global AI Assistant
  - Auto SOP Generator

## A. GETTING STARTED

### Introduction

#### Project goals

This project aims to design and develop an AI-powered workflow platform tailored for the operational complexity of banking institutions in Vietnam.

The core objectives include:

- Enable banks to automatically extract, visualize, and analyze their operational workflows directly from unstructured documents (e.g., SOPs, guidelines).
- Provide an interactive platform where employees at all levels can explore workflows, ask questions, detect bottlenecks, and contribute feedback.
- Empower process owners and managers to simulate workflow changes (what-if scenarios) and receive AI-driven suggestions for optimization.
- Establish a foundation for continuous process improvement (CPI) and digital transformation, aligned with modern banking needs and compliant with operational requirements.

The solution leverages GenAI technology in combination with workflow visualization, metadata enrichment, and AWS cloud-native architecture to ensure scalability, flexibility, and ease of deployment.

#### Target users and beneficiaries

The primary users and beneficiaries of this solution include:

- **Operations staff (frontline bankers and back-office teams):** To view, understand, and navigate banking workflows easily, with AI support to answer questions at every step.
- **Process owners and quality assurance teams:** To analyze current workflows, detect inefficiencies, validate logic structures, and manage workflow versions and improvements.
- **Managers and executives:** To monitor overall operational performance, identify workflow-related risks, and approve proposed improvements.
- **IT administrators:** To manage access controls, maintain integration with internal systems (e.g., core banking, DMS), and ensure platform security and compliance.

Additionally, customers of banks indirectly benefit as the result of more efficient, streamlined, and transparent operational processes, leading to faster service delivery and reduced errors.

## Banking context in Vietnam

The banking industry in Vietnam faces several operational challenges:

- **Highly regulated and complex procedures:** Processes such as loan appraisal, eKYC, and compliance checks involve multiple actors, documents, and manual approvals.
- **Fragmentation of information and process ownership:** SOPs, guidelines, and process documentation are often distributed across different departments, stored in various formats, and lack centralized metadata for efficient retrieval.
- **Bottlenecks in key operational workflows:** Examples include delays in CIC credit report checks, redundant approvals, and dependency on legacy systems without real-time integration.
- **Growing demand for agility and digital transformation:** As customer expectations evolve and competition intensifies, banks must improve internal efficiency while maintaining compliance and service quality.

This solution addresses these challenges directly by providing an AI-enhanced platform that transforms how workflows are documented, visualized, improved, and governed within a modern banking environment

## Identified problems

### Dispersed SOPs and processes

In many Vietnamese banks today, operational processes are documented as Standard Operating Procedures (SOPs) and guidelines, but these documents are often scattered across different departments, stored in various formats (e.g., PDF, Word, email attachments), and lack a centralized repository or metadata classification.

As a result: Staff face difficulty in locating the correct version of the workflow for their task.

Process consistency is undermined due to different interpretations and outdated documents being used simultaneously.

Process improvement initiatives struggle to access a comprehensive and up-to-date map of current workflows.

This fragmentation creates a fundamental barrier to achieving operational excellence and a consistent customer experience.

### Operational bottlenecks and inefficiencies

In practice, operational bottlenecks frequently occur at critical stages of banking workflows. Common examples identified through research and interviews with banking practitioners include:

- **Delays in credit checking (e.g., CIC reports):** Dependence on external APIs, manual checks, and lack of real-time integration extend processing times significantly.
- **Redundant approvals and paperwork routing:** Multiple layers of approval without clear ownership increase time-to-completion and introduce risks of errors.
- **Misaligned incentives due to manual tracking:** Rewards and performance assessments based on incomplete or inaccurate workflow records lead to inefficiencies and conflicts.

These bottlenecks impact not only internal productivity but also slow down customer service delivery, directly affecting customer satisfaction and trust.

### Existing tool limitations

While tools such as Microsoft Visio, Lucidchart, and other BPMN platforms are available in the market, they exhibit significant limitations in addressing these banking-specific issues:

- **Manual diagram creation:** These tools require users to manually construct workflow diagrams based on their own understanding, leading to inconsistencies and errors when SOPs are complex or incomplete.
- **Lack of semantic understanding:** Existing tools cannot parse SOP documents or operational texts to automatically generate diagrams or detect logic gaps.
- **Static nature:** Most tools produce static diagrams, offering no support for live interaction, real-time assistance, bottleneck analysis, or simulation of changes.
- **Limited integration with banking systems:** Few tools offer seamless linkage between workflow steps and the actual documents, templates, or APIs used in daily banking operations.

As a result, banks continue to rely heavily on manual effort and expert reviews to map, understand, and improve their processes.

### Opportunity

These challenges reveal a clear opportunity for a solution that:

- Uses GenAI to bridge the gap between unstructured SOP documentation and interactive, structured workflow diagrams.
- Enables AI-powered analysis to proactively detect inefficiencies and logic issues.
- Provides an intuitive interface allowing both technical and non-technical staff to visualize, simulate, and optimize workflows in real time.
- Supports integration with core banking and document management systems while remaining scalable, secure, and compliant through AWS cloud infrastructure.

By addressing these needs, the proposed solution positions itself as a key enabler of digital transformation and continuous process improvement in the Vietnamese banking sector.

## Solution overview

VPFlow is an AI-powered, centralized platform built to help banks - especially in complex operational environments like VPBank - to comprehend, visualize, optimize, and continuously improve internal workflows. Instead of static flowcharts and disconnected SOP files, VPFlow turns our internal processes into interactive, intelligent diagrams, which we call Dynamic Swimlane diagram (footnote). Powered by Generative AI, LLMs, Knowledge-augmented generation and AWS infrastructure, VPFlow bridges the gap between traditional operations and intelligent automation.

## Concept and architecture

The proposed solution is an AI-powered workflow platform specifically designed for banking operations. It bridges the gap between dispersed, static SOPs and a dynamic, interactive process environment by combining several key components:

1. **GenAI document parsing engine:** Automatically reads and understands unstructured SOPs, guidelines, and operational manuals (PDF, DOCX) to generate structured, swimlane-based workflow diagrams, eliminating the need for manual diagramming.
2. **Interactive workflow visualization layer:** Modern UI enabling users to view workflows intuitively, with clear role separation (customer, teller, risk, compliance, etc.). Each node allows users to view details, metadata, or query the embedded AI assistant.

3. **AI-powered process analysis engine:** Detects bottlenecks, identifies logic errors (e.g., missing actor assignments, infinite loops), and suggests process optimizations based on operational patterns.
4. **Feedback and collaboration module:** Enables employees at all levels to submit feedback at individual process steps, contributing to a continuous improvement loop.
5. **Simulation module (what-if scenarios):** Allows managers to test workflow modifications and view operational impact prior to implementation.
6. **Secure, scalable architecture on AWS:** Built on AWS cloud-native services (Textract, Bedrock/SageMaker, DynamoDB/Neptune, API Gateway, Lambda) to ensure scalability, flexibility, and secure access control

## Value proposition

The solution delivers distinct value to banks operating in Vietnam:

- **Accelerated workflow understanding and digitization:** Reduces time and effort for onboarding, training, and alignment across departments.
- **Improved operational efficiency and consistency:** Systematic detection and resolution of bottlenecks, leading to faster and more reliable service delivery.
- **Enhanced collaboration and continuous improvement:** Integrates frontline feedback directly into workflows, reflecting real-world operational realities.
- **AI-assisted decision-making:** Provides process owners and managers with data-driven insights and actionable recommendations.
- **Cloud-native scalability and security:** Deployable with AWS infrastructure to ensure easy scaling, robust security, and seamless integration with banking systems.

VPFlow offers a comprehensive experience for both new and experienced banking professionals, streamlining complex operational processes into accessible visual models. Meanwhile, AWS services power the system's intelligence, scalability, and adaptability, making VPFlow a truly enterprise-grade solution for process intelligence.



## B. ACTORS & USER ROLES

### Internal actors

Definition of key internal actors within a bank who interact with or benefit from the solution, and clarification of their roles and responsibilities.

#### **Operations staff (frontline, back-office)**

These are employees directly responsible for executing day-to-day transactions and interacting with customers, both at physical branches and through back-office support. Their interaction with workflows includes:

- Searching for and referencing operational procedures quickly
- Understanding the correct steps and required documentation for transactions
- Providing feedback on workflow steps that cause delays or confusion
- Asking the AI assistant questions about process details, conditions, or requirements at each step

Their efficient use of the solution directly improves transaction accuracy, reduces handling time, and enhances customer service quality.

#### **Process owners / QA teams**

Process owners and quality assurance teams are responsible for defining, maintaining, and improving operational workflows. Their interaction with the solution focuses on:

- Analyzing workflow structure, logic, and efficiency
- Detecting bottlenecks or redundant steps using built-in analytics
- Reviewing user feedback collected at each step
- Using the what-if simulation capability to evaluate process adjustments
- Managing workflow versions and ensuring alignment with regulations and internal standards

They play a critical role in continuous process improvement and ensuring operational excellence.

#### **Management (Operations, Compliance, Risk)**

Managers and executives oversee operational performance, risk mitigation, and regulatory compliance.

Their use of the solution includes:

- Monitoring workflow health and performance metrics
- Reviewing and approving proposed changes to workflows
- Accessing reports on bottlenecks, inefficiencies, and user feedback trends
- Ensuring workflows comply with internal policies and external regulations

This group uses the solution primarily for oversight, governance, and strategic decision-making.

IT team (integration, infrastructure support)

The IT team is responsible for deploying, maintaining, and integrating the solution within the bank's technology landscape. Their key responsibilities include:

- Managing system access and permissions according to roles
- Ensuring integration with core banking systems, document management systems (DMS), CRM, and CIC APIs
- Monitoring system performance, availability, and scalability
- Ensuring data security, audit logging, and compliance with IT policies

This actor group ensures the solution operates reliably, securely, and in alignment with the bank's enterprise architecture.

## External actors

External actors refer to individuals or organizations outside the bank's internal staff who interact with, are affected by, or influence the workflows managed and visualized through VPFlow.

### Customers

- Individuals or businesses engaging with the bank for financial services, such as:
  - Account opening
  - Loan applications and approvals
  - Card issuance
  - Transactions and payments
  - Customer support interactions

- Their information, requests, and documents are inputs into many workflows (e.g., KYC, loan appraisal).

## **Guarantors and Co-applicants**

- Third parties involved in banking processes (e.g., guarantors in a loan process) whose information must be captured, verified, and processed.

## **Government Agencies and Regulators**

- Agencies that banks must interact with as part of regulated processes:
  - CIC (Credit Information Center) for credit history checks
  - Tax authorities for verification or reporting
  - State Bank of Vietnam and other regulatory bodies for compliance-related workflows

## **External Service Providers**

- Vendors or partners who provide outsourced services that form part of bank workflows:
  - Courier services for document delivery
  - Appraisers or valuation firms involved in collateral assessment
  - External auditors or consultants contributing to process verification or advisory steps

## **Third-party Platforms and Data Sources**

- External systems that integrate into bank workflows via APIs:
  - eKYC service providers
  - Anti-fraud or sanction screening platforms
  - Payment gateways

## **Role in VPFlow**

While external actors do not directly access VPFlow, their interactions define key workflow steps and data requirements. VPFlow ensures that:

- External actor roles are clearly represented in workflow diagrams.
- Process designers can model external dependencies (e.g., turnaround times from external agencies).

- Managers can identify workflows heavily dependent on external actors to monitor and optimize service levels.

**Objective:** The inclusion of external actors in workflow design ensures that VPFlow provides an accurate, end-to-end representation of real-world banking operations, supporting efficiency, compliance, and customer service excellence.

## C. PLATFORM FEATURES

### Workflow Management

Aiming to provide bankers with the ability to upload, extract, and manage workflow processes from multiple document formats (e.g., SOPs, DOCX, PDF), while supporting version control over time

#### Upload / Search Workflow

The system allows users to upload workflow-related materials, such as:

- Standard Operating Procedures (SOPs)
- Process maps or descriptions
- Related PDF or DOCX documents

Once uploaded, workflows can be searched using:

- Keyword search (with support for Vietnamese language and no-diacritic queries)
- Semantic search to match user intent, even if terminology differs
- Tag- or metadata-based filtering (e.g., department, process owner, last updated)

This feature ensures that users across roles can quickly locate relevant workflows without sifting through disparate file repositories.

#### Parse SOP / PDF / DOCX

VPFlow includes an AI-powered parser that transforms unstructured documents into structured workflow representations.

Core capabilities:

- Extract process steps, actors, conditions, and sequence from natural language descriptions.
- Automatically generate workflow diagrams (e.g., swimlane format) from text-based documents.
- Identify and highlight incomplete or ambiguous areas requiring expert validation.

This parsing function reduces manual effort in digitizing legacy processes and accelerates the creation of interactive, analyzable workflows.

## Version Control & History

To maintain governance and accountability, VPFlow provides:

- **Version tracking** for all workflows, recording who made changes, when, and what was modified.
- Ability to view historical versions, compare differences (diff view), and restore previous versions if needed.
- Audit-ready change logs, supporting compliance with internal and external regulatory requirements.

This capability ensures that organizations can manage workflows as living documents, balancing flexibility with traceability.

### Objective

The Workflow Management module lays the foundation for a scalable and controlled process ecosystem. By combining document ingestion, AI-assisted parsing, and robust version control, VPFlow ensures that banks can manage their operational workflows efficiently, transparently, and in alignment with best practices.

## Workflow Visualization

Providing an interactive, user-friendly interface to visualize, interact with, and analyze business workflows. The focus is on clarity (via swimlanes), interactivity (node insights), and optimization (pain point detection).

### Interactive Diagram (Swimlane)

VPFlow automatically generates workflow diagrams in swimlane format, providing a clear, structured representation of processes.

Key characteristics: Each swimlane corresponds to a distinct role or department, showing clear task ownership and handoffs.

A visual sequence of steps makes it easy to grasp end-to-end process flow at a glance.

Supports complex processes involving multiple roles with parallel and conditional paths.

This visualization helps users of all levels, from frontline staff to managers, quickly understand how work moves through their organization.

## Clickable Node

Every step (node) in the workflow diagram is interactive:

- Clicking a node opens a detail panel that includes:
  - Step description
  - Responsible actor
  - Expected completion time or SLA
  - Linked documentation (e.g., SOP, templates, forms)

Additionally, users can ask context-aware questions directly on a node using the embedded AI assistant, improving comprehension and reducing reliance on separate training materials.

## Highlight Pain Points

VPFlow automatically analyzes workflow metadata and user feedback to **identify and highlight pain points**.

Characteristics of pain points may include:

- Steps with excessive average duration
- Steps involving too many handoffs
- Steps frequently flagged by staff as problematic or unclear

These steps are visually distinguished in the diagram (e.g., with colored outlines or badges) so users and process owners can immediately focus attention where improvements are needed.

## Pain Point Explanation

For each highlighted pain point, VPFlow provides a concise, accessible explanation describing why the step is considered problematic.

Explanations can include:

- Statistical reasons (e.g., "This step takes 2x longer than the average across similar workflows")
- Structural insights (e.g., "This step involves three different departments, increasing complexity")
- Feedback insights (e.g., "Frequent staff reports indicate this step is unclear")

This feature empowers both operational teams and process owners to understand the root causes of inefficiency before taking corrective action.

## Objective

The Workflow Visualization module ensures that workflows are not just documented but **brought to life as interactive, analyzable assets**. By providing clear diagrams, actionable highlights, and integrated explanations, VPFlow makes workflow understanding accessible, fosters collaboration, and supports continuous process improvement.

## GenAI-powered Analysis & Assistant

Leveraging Generative AI to analyze workflows at multiple levels - from high-level assessments to step-specific insights - enabling users to understand, validate, and improve complex processes through natural language interaction.

### Global AI Assistant

The Global AI Assistant is available throughout the VPFlow platform, enabling users to ask natural-language questions about:

- The overall structure and purpose of a workflow
- Roles and responsibilities across departments
- Process dependencies and conditions
- General banking operations context as it relates to the workflow being viewed

The assistant helps users of all levels quickly understand complex workflows without needing to refer to lengthy documentation or seek expert guidance.

### Node-Level Q&A

In addition to global assistance, VPFlow offers **contextual AI support at the node level**:



- When users click on a specific step in the workflow diagram, they can ask detailed questions related to that step.
- The AI assistant provides explanations based on the step's description, responsible actor, conditions, linked documentation, and metadata.

This ensures that staff can clarify their tasks quickly and correctly at the point of execution.

## Smart Error Detection

VPFlow automatically analyzes workflows to identify structural and logical errors, including:

- Steps that lack an assigned actor or owner
- Circular dependencies or infinite loops without exit conditions
- Inconsistent branching logic or unclear conditions for decision points
- Workflow gaps or dead ends

Detected issues are flagged for review, helping process designers ensure that workflows are robust, executable, and compliant before deployment.

## Suggest Redesign

The system goes beyond detection by proactively suggesting improvements to workflow design:

- Recommendations to merge redundant steps
- Suggestions to parallelize tasks that can occur simultaneously
- Identification of opportunities to simplify decision branches
- Highlighting steps suitable for automation

These suggestions are tailored to the structure and characteristics of the specific workflow being reviewed, supporting efficient, data-driven process redesign.

## Objective

The GenAI-powered Analysis & Assistant module transforms workflows from static diagrams into intelligent, interactive assets. By providing automated analysis, validation, and suggestions, VPFlow reduces the dependency on manual expertise, shortens improvement cycles, and helps banks maintain optimized, high-quality processes.

## Knowledge & Document Support

Connecting workflow steps with relevant documents and automates the generation of SOPs in multiple languages, ensuring that all process knowledge is consistently accessible and up-to-date.

### Link to SOP / Forms / Templates

VPFlow allows each workflow step (node) to be linked directly to supporting materials, including:

- Standard Operating Procedures (SOPs)
- Internal forms and templates
- Policy documents and related guidelines

This feature ensures that operations staff and managers have immediate access to the correct, most up-to-date documents required for task execution. It eliminates the need for users to search across separate repositories, improving accuracy and efficiency.

### Auto SOP Generator

Based on a completed workflow diagram, VPFlow can automatically generate a structured SOP document.

Key characteristics:

- The generated SOP includes clear descriptions of each step, responsible actor, conditions, and supporting documentation references.
- The output can be exported in commonly used formats such as DOCX, PDF, or Markdown.
- The generated SOP serves as a formal, auditable record of the workflow, ready for review, distribution, and training purposes.

This function significantly reduces the manual effort required to document or update processes, ensuring alignment between documented procedures and actual workflows.

### Multi-language Support

VPFlow provides built-in support for multi-language environments, allowing workflows and related SOP documentation to be presented in multiple languages (e.g., Vietnamese and English).

Features include:

- Automated translation of workflow step descriptions and SOP content.
- Support for language-specific terminology and conventions to maintain clarity and compliance.
- Ease of switching between languages to accommodate diverse teams across branches, regions, or cross-border operations.

This capability ensures inclusiveness, reduces misunderstandings, and supports standardized operations in organizations with multilingual staff.

## Objective

The Knowledge & Document Support module ensures that workflows in VPFlow are seamlessly integrated with the knowledge assets needed for their execution. By linking documentation, automating SOP generation, and supporting multiple languages, VPFlow helps organizations maintain operational consistency, regulatory compliance, and training readiness.

## Feedback & Improvement Loop

Introducing mechanisms to continuously refine workflows through expert-driven feedback, crowdsourced insight on pain points, and controlled updates.

### Receive User Feedback

VPFlow allows operations staff and other users to submit feedback directly within the workflow interface:

- Feedback can be submitted at the overall workflow level or attached to specific steps (nodes).
- Users can report unclear instructions, inefficiencies, or suggest improvements based on their day-to-day experience.
- All feedback is logged with context, including the step, timestamp, and user identity (if required), creating a traceable improvement history.

This feature ensures that frontline staff, who interact with processes daily, have an easy, structured way to communicate practical insights to process owners and designers.

## **Crowd-vote Pain Point**

VPFlow aggregates user feedback and enables crowd-voting functionality to highlight common pain points:

- Steps that receive repeated feedback or votes indicating difficulties are automatically prioritized for review.
- Aggregated statistics help managers and process experts identify systemic issues rather than isolated incidents.
- Visual indicators in the workflow diagram help stakeholders focus improvement efforts where operational challenges are most significant.

This promotes collaborative process improvement by giving voice to a broad base of operational users.

## **Edit Workflow from Community Feedback**

Process experts can view, analyze, and act on feedback trends directly within VPFlow:

- Suggestions with significant feedback or votes can be reviewed, discussed, and approved for integration.
- The platform supports version control, so approved edits based on community input can be incorporated systematically, maintaining an auditable change history.
- This feedback-driven editing approach ensures workflows evolve continuously in line with operational realities.

## **Objective**

The Feedback & Improvement Loop module transforms workflow management from a top-down activity into a collaborative process where input from the entire organization is valued and acted upon. By capturing feedback, crowd-sourcing insights, and enabling controlled edits, VPFlow supports continuous improvement, enhances employee engagement, and drives operational excellence.

## **Access Control & Role-Based View**

Ensuring that users only see, edit, and interact with workflow elements relevant to their roles and responsibilities - promoting compliance, simplicity, and data protection.

## Role-Based Diagram Filtering

VPFlow supports dynamic filtering of workflow diagrams based on user roles:

- Users only see workflow steps relevant to their responsibilities.
- Sensitive steps or branches intended for managerial or specialized teams can be hidden or abstracted for other roles.
- This simplifies workflow comprehension for frontline staff while maintaining full detail for managers and process experts.

Role-based filtering ensures that each user interacts with workflows at the appropriate level of detail, reducing information overload and maintaining confidentiality where required.

## Edit Permissions by Role

Editing workflows is strictly governed by role-based permissions:

- Only authorized users (e.g., process designers, QA teams, workflow administrators) can edit workflows.
- Permissions can be defined granularly to allow editing of entire workflows or selected workflow segments.
- Role-based edit control helps enforce organizational policies, ensures accountability, and prevents unauthorized modifications.

This ensures the integrity and consistency of workflows while supporting decentralized process improvement where appropriate.

## Audit Trail

VPFlow maintains a comprehensive audit trail for workflow-related activities:

- All edits, feedback incorporation, version changes, and access events are logged with user identity, timestamp, and description of the action taken.
- The audit history is accessible to authorized users for compliance, security reviews, and internal audits.
- Audit logs support regulatory requirements for process governance and operational risk management.

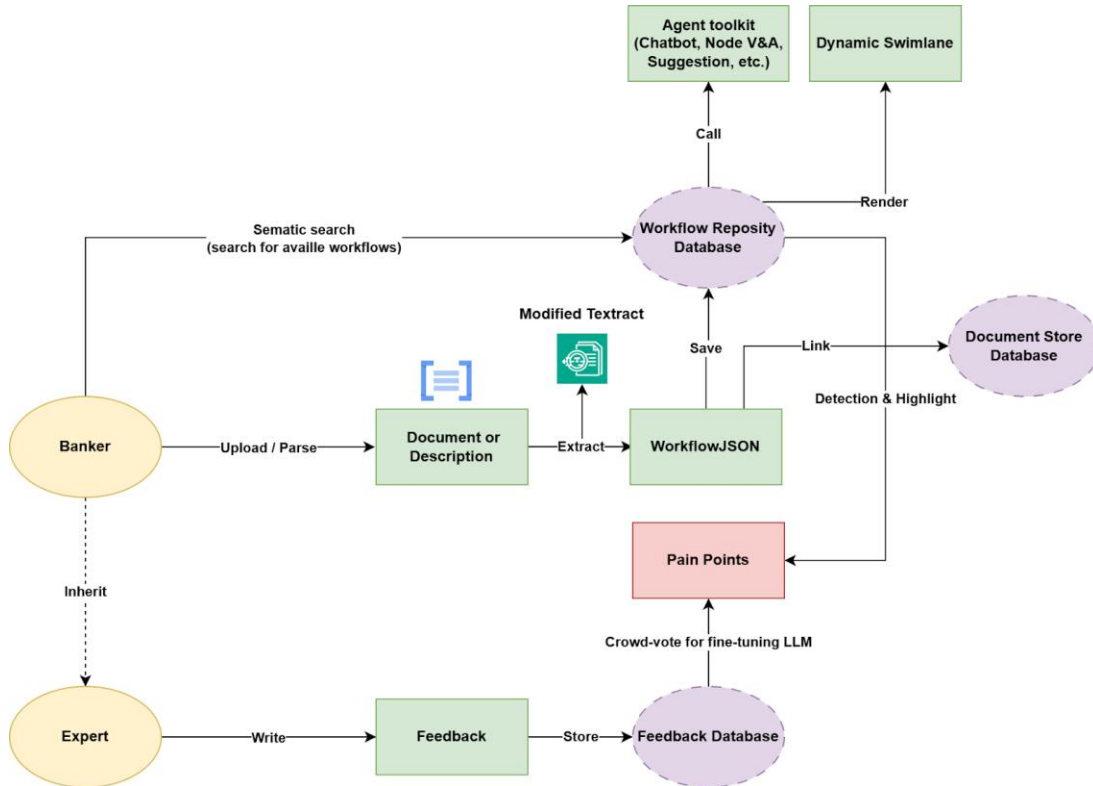
The audit trail provides transparency and trust in workflow governance by allowing retrospective analysis of how and why workflows have evolved.

## Objective

The Access Control & Role-Based View module provides a secure, compliant foundation for workflow governance. By combining visibility management, strict edit permissions, and comprehensive audit logging, VPFlow ensures that workflows remain controlled, transparent, and aligned with organizational structure and regulatory expectations.

## D. TECHNICAL ARCHITECTURE

### VPFlow Data Flow



*VPBank Workflow Automation*

VPFlow outlines the process of transforming raw banking documents into structured, actionable workflows that can be leveraged by **AI agents**, visualized in **dynamic swimlane**, and continuously improved through expert feedback and user voting.

**Our system divided into 7 phases:**

#### 1. Input Phase: Document Collection

- Banker uploads or parses a Document or Description of a workflow (e.g., standard operating procedures).
- The system optionally supports semantic search to find similar or available workflows in the repository.

## 2. Extraction & Structuring

- The **Document or Description** is processed using **Modified Textract**, which extracts key information.
- This output is converted into a structured **WorkflowJSON** format

## 3. Workflow Repository Storage

- The **WorkflowJSON** is saved into the **Workflow Repository Database**.
- It is also **linked** with the **Document Store Database** where original documents are stored. The system performs **Detection & Highlight** of relevant sections in the document for traceability.

## 4. Visualization & AI Integration

- The **Workflow Repository Database** powers two key modules:
  - **Agent Toolkit** (Chatbot, Node V&A, Suggestions, etc.): Enables AI-based interactions and assistance using stored workflows.
  - **Dynamic Swimlane Renderer**: Converts structured JSON workflows into dynamic visual diagrams.

## 5. Expert Feedback & Iteration

- **Experts** (who may inherit domain context from Bankers) provide **Feedback** on workflows.
- This feedback is stored in the **Feedback Database**.

## 6. Pain Point Identification & Improvement

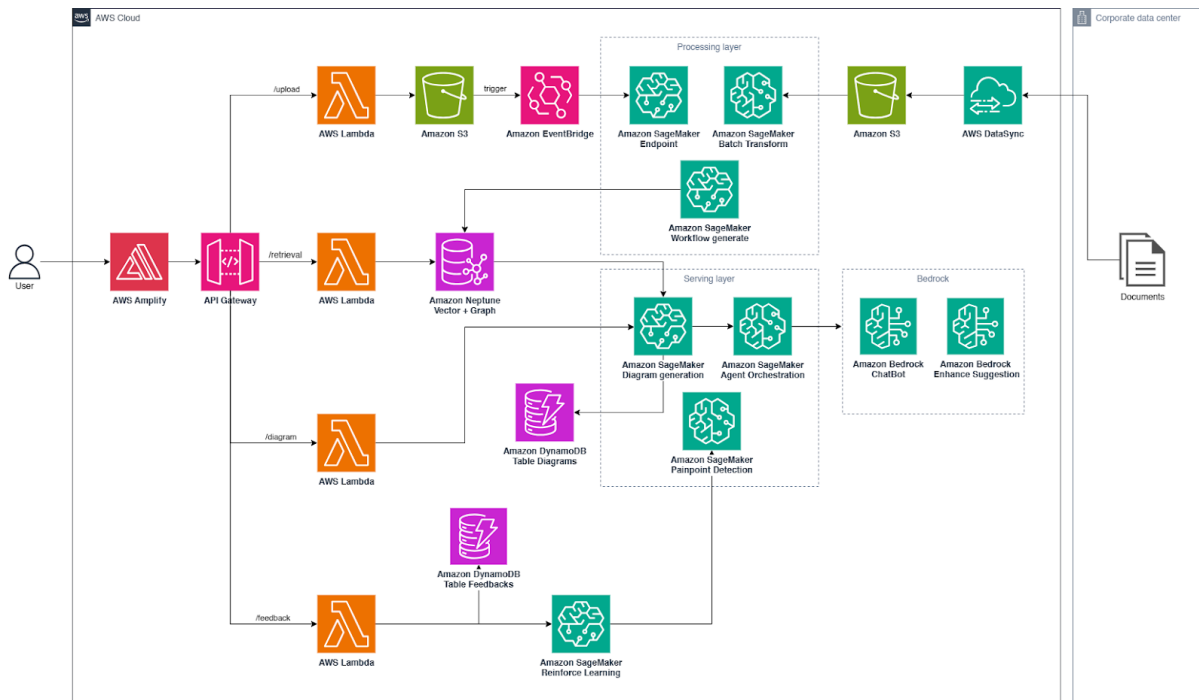
- Pain points in workflows are identified and tracked.
- Users can **crowd-vote** on pain points to prioritize them for fine-tuning the language model (LLM).
- This helps in refining both workflow generation and agent interactions over time.

## 7. Feedback Loop

- The **Feedback Database** informs the **Pain Points** module.
- Feedback and user engagement help improve the overall system performance, enhancing the quality of AI responses and workflow accuracy.



## AWS Cloud Architecture



VPFlow AWS Architecture

Our solution utilizes a robust combination of AWS services across **processing**, **serving**, and **feedback learning layers** to provide a seamless, scalable, and intelligent document processing pipeline. This architecture is designed to integrate document upload, AI-powered processing, vector-based retrieval, diagram generation, and reinforcement learning for feedback improvement. Here's how we effectively use and combine AWS services to achieve this:

(`/diagram`, and `/feedback`) that serve as entry points for various user actions. These endpoints orchestrate service invocation using **AWS Lambda** functions.

### 1. Frontend Interface and API Integration

**AWS Amplify** hosts the frontend application, providing users with a secure and responsive interface to interact with the system. Amplify integrates directly with **API Gateway**, allowing RESTful communication to backend services.

**Amazon API Gateway** exposes multiple endpoints (`/upload`, `/retrieval`), ensuring a scalable and serverless backend.

## 2. Document Upload and Processing (Processing Layer)

When a user uploads a document (`/upload`), an **AWS Lambda** function handles the request and stores the file in **Amazon S3**.

An **Amazon EventBridge** rule monitors this S3 bucket and triggers the processing pipeline.

The uploaded document is first passed through:

- **Amazon SageMaker Endpoint** for real-time predictions or quick metadata extraction.
- **Amazon SageMaker Batch Transform** for large-scale or batch processing of document content.

The output is stored back into **Amazon S3**, from where **AWS DataSync** transfers it to an on-premises corporate data center if needed.

This tightly coupled flow ensures automation, scalability, and near real-time availability of processed documents.

## 3. Semantic Retrieval and Vector Search

- Upon a retrieval request (`/retrieval`), the corresponding Lambda function queries **Amazon Neptune**, which is used to manage both **graph-based relationships** and **vector similarity search** between documents and concepts.
- This integration allows for more **intelligent retrieval** based on context, similarity, and entity relationships- an essential part of our knowledge graph implementation.

## 4. Intelligent Diagram Generation and AI Orchestration (Serving Layer)

For requests to generate diagrams (`/diagram`), a Lambda function fetches diagram data from **Amazon DynamoDB**, which stores metadata and previously generated diagrams.

**Amazon SageMaker Diagram Generation** processes this data to create visual representations, powered by trained ML models.

These diagram insights are fed into **Amazon SageMaker Agent Orchestration**, which coordinates multiple SageMaker tasks including:

- **Painpoint Detection** (e.g., identifying potential data issues or missing insights),
- Interfacing with **Amazon Bedrock** components such as:
  - **Bedrock lightRAG-ChatBot** – Provides conversational explanations with Retrieval Augmented Generation for accurate result.
  - **Bedrock Enhance Suggestion** – Offers improvement suggestions based on document structure and content.

This seamless combination of vector search, generation models, and LLMs ensures rich and context-aware outputs for end users.

## 5. Feedback Loop and Reinforcement Learning

Users (e.g., Banker, Diagram expert) can submit feedback on suggestions or diagram quality via the `/feedback` endpoint.

This data is written to **Amazon DynamoDB (Table Feedbacks)** and then processed by **Amazon SageMaker Reinforcement Learning**, which retrains or fine-tunes models to improve future responses.

This loop makes the system **self-improving**, adapting to user preferences and enhancing model performance over time.

## 6. End-to-End Seamless Integration

Our architecture is carefully crafted to ensure **tight integration across components**:

- **Event-driven orchestration** (EventBridge + Lambda) ensures real-time responsiveness.
- **Data-centric services** (S3, DynamoDB, Neptune) serve as persistent and efficient stores.

- **AI/ML integration** (SageMaker + Bedrock) brings intelligence to processing, generation, and feedback.
- **Cloud-to-on-prem** connectivity via **DataSync** supports hybrid workflows with corporate data centers.

Each AWS service plays a specific role, but they're connected in a way that enables **automatic transitions, minimal latency, and AI-augmented intelligence** across the entire document lifecycle.

## TechStack

**Frontend:** ReactJS + Vite, Material UI, GoJS

**Backend:** FastAPI, Python, Langchain, Ollama

**AI:** Deepseek R1 with chain-of-thought

**AWS:** Bedrock, Aurora PostgreSQL, S3, Sagemaker, Amplify, API Gateway, Lambda, datasync

## E. BUSINESS CASE & IMPACT

### Benefits for banking operations

Key benefits the solution brings to banking operations, focusing on efficiency, transparency, compliance, and operational excellence.

#### Operational efficiency

The solution reduces the time and effort required for bankers and process owners to understand, execute, and optimize workflows. Key impacts:

- Faster access to operational workflows thanks to semantic search and interactive visualization.
- Elimination of manual effort in reading and interpreting lengthy SOP documents.
- AI-powered assistance reduces dependency on human experts for procedural clarification.
- Transparency and consistency
- By transforming disparate SOPs and process descriptions into unified, interactive swimlane diagrams, the solution ensures that all employees work from a single source of truth.

Key impacts:

- Clear assignment of roles and responsibilities at each step.
- Reduced risk of errors or omissions due to outdated or inconsistent documentation.
- Improved ability for auditors and compliance teams to review current operational practices.

#### Bottleneck detection and improvement

The platform automatically analyzes workflow logic and highlights bottlenecks, empowering process owners to continuously refine processes.

**Key impacts:**

- Proactive identification of inefficiencies (e.g., redundant approvals, long-duration steps).
- Ability to simulate changes (what-if scenarios) before implementing in production environments.
- Data-driven recommendations for redesigning workflows based on real-world performance and feedback.

#### Enhanced compliance support

For a highly regulated industry such as banking, the solution reinforces compliance by ensuring that operational workflows remain aligned with regulatory requirements.

**Key impacts:**

- Version-controlled workflows enable traceability of process changes.
- Clear documentation of approvals, role assignments, and procedures facilitates audits.
- Easier onboarding and training for new employees with up-to-date workflows readily accessible.

**Improved collaboration and feedback integration**

The system promotes a culture of continuous improvement by enabling feedback from all user levels and crowd-voting to prioritize pain points for workflow enhancement.

**Key impacts:**

- Captures frontline operational pain points quickly and systematically.
- Ensures that improvement initiatives reflect actual operational challenges and user experiences.
- Empowers employees at all levels to contribute to process excellence.

**Cloud-native scalability and flexibility**

Leveraging AWS infrastructure allows the solution to scale dynamically according to the bank's operational needs.

**Key impacts:**

- Rapid deployment and minimal infrastructure overhead.
- Enterprise-grade security, availability, and scalability built-in.
- Seamless integration with both legacy systems (e.g., core banking) and modern digital services.

## Competitive advantage

Key competitive differentiators that set this solution apart from existing market offerings and ensure relevance for modern banking operations.

**Automatic workflow generation from unstructured documents**

Unlike traditional workflow tools (e.g., Lucidchart, Signavio, Camunda) that require manual modeling, this solution automatically reads, parses, and converts SOPs, operational manuals, and descriptions into structured swimlane diagrams using GenAI and AWS Textract.

**Advantage:**

- Minimizes manual effort and dependency on specialized process designers.
- Democratizes access to workflow visualization for all levels of staff.
- AI-powered operational intelligence

The solution goes beyond static visualization to embed AI analysis directly into the workflow environment:

- Detects logic errors (e.g., missing actors, infinite loops).
- Identifies bottlenecks automatically using time indicators and interaction patterns.
- Suggests workflow improvements tailored to banking contexts.

**Advantage:**

- Enables proactive, data-driven process optimization.
- Reduces reliance on anecdotal observations or time-consuming manual reviews.

**Real-time interactive assistance**

Integrated conversational AI (Amazon Bedrock ChatBot) allows users to:

- Ask questions about any workflow or specific node.
- Retrieve clarifications without leaving the interface or consulting multiple documents.
- Enable self-service operational support for all staff levels.

**Advantage:**

- Increases process literacy and reduces training/onboarding time.
- Improves frontline staff confidence and execution accuracy.

**Embedded feedback and learning loop**

The system incorporates feedback collection at the workflow and node level, with a crowd-voting mechanism to prioritize pain points. This feedback directly informs AI model fine-tuning (via Amazon SageMaker Reinforcement Learning).

**Advantage:**

- Creates a living, continuously improving workflow environment.
- Ensures that improvements are grounded in real user experience and operational challenges.

## Cloud-native, banking-optimized architecture

Purpose-built for banking workflows and deployed entirely on AWS cloud services:

- Fully serverless architecture (Lambda, API Gateway, DynamoDB, Neptune) ensures scalability, availability, and cost-efficiency.
- Tight integration with banking infrastructure (e.g., core banking, CIC, DMS) ensures relevance for Vietnamese banking operations.
- Secure by design: encryption, IAM-based access control, audit-ready.

### Advantage:

- Ready for immediate deployment and scaling across branches and business units.
- Reduces total cost of ownership (TCO) compared to traditional BPM platforms or bespoke solutions.

## Societal and industry impact

### Impact on the Banking Industry

Our solution contributes directly to the modernization of banking operations by:

- **Accelerating internal digital transformation:** enabling banks to digitize and visualize legacy workflows quickly without requiring extensive BPM expertise or manual diagramming.
- **Enhancing operational efficiency:** streamlining workflows, reducing processing times, and minimizing human errors — which are common pain points in banking operations such as loan appraisal, KYC verification, and CRM workflows.
- **Promoting continuous improvement culture:** empowering not only process designers but also frontline staff to provide feedback, simulate improvements, and optimize workflows collaboratively.

This fosters a more agile, transparent, and data-driven banking environment, helping banks in Vietnam keep pace with evolving market demands and international best practices.

### Societal Impact

Our solution creates positive societal value by:



- **Improving the quality and speed of customer service:** optimized workflows mean shorter processing times for account opening, loan disbursement, and dispute resolution, leading to higher customer satisfaction.
- **Reducing operational risks that could affect consumers:** enhanced process control reduces the likelihood of errors that impact end-users, such as delays or miscommunication.
- **Upskilling the banking workforce:** providing intuitive, AI-assisted tools empowers employees at all levels to engage in process innovation without needing deep technical expertise, supporting workforce development.

By promoting transparency, efficiency, and inclusiveness in banking operations, our solution contributes to the broader agenda of digital and financial inclusion in Vietnam.

### **Alignment with AWS and modern cloud-native transformation**

By leveraging AWS native services (Textract, Bedrock, Lambda, DynamoDB), the solution:

- Demonstrates how cloud-native GenAI can solve traditional banking challenges in a scalable, cost-efficient manner.
- Provides a blueprint for future digital transformation projects in the Vietnamese financial sector.

## F. ROADMAP & FUTURE DIRECTIONS

### Present

At the current stage, we have developed a **working prototype** with key foundational features, including:

- **Interactive workflow diagrams:** automatically generated from unstructured SOP documents, displayed as swimlane charts for clarity and usability.
- **AI-powered workflow analysis:** the system can analyze workflow logic, detect common design flaws (e.g., missing actors, potential loops), and highlight these issues visually.
- **Node-level interactivity:** users can click on any step to view relevant documentation or ask AI-driven contextual questions.
- **Feedback collection mechanism:** staff members can submit feedback directly at the workflow node level, supporting continuous improvement.
- **Document linking:** each workflow step can link to related SOPs, forms, or templates for quick reference.

This prototype establishes the technical groundwork for an intelligent, scalable platform tailored to banking operations. It already delivers clear value by transforming static procedural documents into **interactive, analyzable, and improvable digital workflows** — a significant step forward for banks pursuing operational excellence and digital transformation.

### What - if Simulation & Optimization

This milestone focuses on introducing a **What-if Simulation & Optimization engine** to the platform, allowing users to:

- **Simulate process changes in real time:** Users can experiment with modifications such as removing steps, reassigning actors, or merging tasks directly on the interactive workflow diagram.
- **Analyze potential impact before deployment:** For every simulated change, the system will provide estimated effects on process performance metrics such as average duration, complexity, and potential risk exposure.
- **Visualize alternative workflows:** The platform will show a clear “before vs after” comparison, helping managers and process designers make informed decisions.

- **AI-powered recommendations:** The system will suggest optimization scenarios automatically, highlighting steps that could be streamlined or parallelized based on workflow structure and historical metadata.

**Objective:** To empower banking process owners to assess improvements proactively - before actual implementation - reducing operational risk, increasing efficiency, and enabling a culture of data-driven continuous improvement.

## API orchestration and RPA integration

This phase extends the platform beyond workflow visualization and analysis by enabling **process automation readiness** through two key capabilities:

### API Orchestration

- **Integration with core banking systems and third-party services** (e.g., CRM, eKYC, CIC credit check) via API endpoints.
- Allowing workflow nodes to act as “actionable points” that can trigger or receive API calls.
- Establishing seamless interoperability between workflow design and actual operational systems, reducing manual intervention.

### RPA Integration

- **Identification of automation candidates:** The system will analyze workflow structures to suggest steps that could be automated using Robotic Process Automation (RPA) tools (e.g., repetitive data entry, reconciliation tasks).
- Providing documentation or templates that help teams convert identified tasks into RPA scripts.
- Future-ready: creating a foundation for banks to migrate from semi-manual workflows to fully automated operations.

**Objective:** This milestone bridges the gap between workflow design and execution, empowering banks to operationalize workflow improvements efficiently while preparing for deeper automation adoption. By surfacing **automation opportunities**, the platform becomes not just an analysis tool but a driver of operational excellence and transformation.

## Fully autonomous GenAI-driven process design

This phase envisions transforming the platform into a **fully autonomous process design engine**, where Generative AI takes an active role in not just assisting, but **leading workflow creation from scratch**.

Key capabilities:

- **Natural language-driven workflow creation:** Users will describe a process in plain language (e.g., “Describe the loan approval process for retail customers with eKYC and credit check”), and the system will automatically generate a complete, structured workflow diagram with defined actors, steps, decision points, and linked documentation.
- **Embedded best practices and compliance logic:** The system will incorporate industry-standard templates, regulatory requirements, and banking-specific best practices into generated workflows, ensuring correctness and readiness for production use.
- **Self-improving workflows:** Generated workflows will continuously learn and improve over time by analyzing real-world usage patterns, feedback, and operational data.

Objective:

This milestone aims to unlock **next-generation process automation capabilities**, enabling banks to move from manually designed workflows to **AI-native workflows that can be created, refined, and optimized with minimal human effort**. This future vision aligns with the long-term transformation goals of autonomous banking operations and fully digital enterprise workflows.

## G. USER GUIDE

### VPFlow for Bankers (Operations staff)

This guide explains how operations staff in banking institutions can effectively use VPFlow in their day-to-day work.

#### Purpose for Operations Staff

VPFlow is designed to help bankers:

- Understand the complete workflow relevant to their tasks.
- Locate and access related documents such as SOPs, forms, and templates directly from the workflow diagram.
- Obtain instant answers to operational questions using the embedded AI assistant.
- Submit feedback on unclear or inefficient workflow steps to support continuous improvement.

#### Key Features for Operations Users

**Interactive Workflow Diagrams:** Bankers can view workflows in an intuitive swimlane format, showing clear task ownership and sequence across departments or roles. Each step in the workflow is clickable for more detailed information.

**Linked Documentation:** Relevant documents, templates, and guidance are attached to specific workflow steps, allowing staff to access correct versions quickly without searching multiple systems.

#### AI Assistant for Contextual Help

An AI assistant is available to answer questions related to both the entire workflow and individual steps. For example, staff may ask:

- What documents must be collected at this step?
- What is the expected SLA for this task?
- Who is responsible if this condition fails?

#### Feedback Mechanism

Staff can submit feedback directly within VPFlow when they encounter unclear steps or inefficiencies. This feedback is logged and made available for process owners to review and address.

## Typical Usage Flow

1. Search for or select the relevant workflow (e.g., loan approval process, account opening process).
2. Review the swimlane diagram to understand task flow and assigned responsibilities.
3. Click on assigned steps to:
  - View detailed instructions.
  - Download associated templates or SOPs.
  - Ask questions using the AI assistant for clarification.
4. Submit feedback where improvements or clarifications are needed.

## Best Practices

- Always work with the most current version of workflows shown in VPFlow.
- Use the AI assistant to reduce reliance on informal queries to supervisors or colleagues.
- Actively submit feedback to support continual process improvement across the organization.

## Objective

VPFlow enables operations staff to work more efficiently and autonomously by providing clarity, reducing errors, shortening training time, and ensuring adherence to standardized procedures.

## VPFlow for Process Experts

Provides guidance for process experts, including process designers, QA teams, and operations managers, on how to use VPFlow as a tool for workflow governance, optimization, and continuous improvement.

## Purpose for Process Experts

- VPFlow empowers process experts to:
- Visualize and review end-to-end workflows across departments.

- Identify inefficiencies and potential bottlenecks using AI-powered analysis.
- Simulate process changes and evaluate their impact prior to formal adoption.
- Maintain an up-to-date, standardized repository of workflows integrated with relevant documentation.
- Capture and analyze feedback from operations staff to inform data-driven improvements.

## Key Features for Process Experts

**Workflow Review and Validation:** Process experts can examine workflows generated from SOPs and operational documents to ensure consistency, accuracy, and adherence to policy. Workflows are visualized in swimlane format to clearly show roles, responsibilities, and sequence.

**Bottleneck Detection and Optimization Suggestions:** VPFlow uses built-in analytics to automatically detect workflow steps with characteristics of a bottleneck, such as excessive duration or multiple handoffs. The system highlights these steps and suggests possible improvements.

## Logic Error Detection

The platform assists process experts in identifying common workflow design flaws, including:

- Missing assigned actors for specific steps.
- Infinite loops or unclear branching conditions.
- Inconsistent decision logic.

## What-if Simulation

Process experts can modify workflows in a simulation environment to test hypothetical changes, such as:

- Removing redundant steps.
- Changing responsible roles.
- Adjusting process sequence.

VPFlow provides immediate feedback on potential impacts to performance metrics such as total duration or complexity.

## Document Linkage and Maintenance

Process experts can attach and update relevant SOPs, forms, and templates at the step level, ensuring that operations staff always access the most current and approved documents.

## Feedback Analysis

VPFlow aggregates feedback submitted by operations staff at each workflow node, allowing process experts to identify frequently reported issues and prioritize areas for improvement.

## Typical Usage Flow

1. Access a workflow to review structure and swimlane assignments.
2. Use bottleneck and error detection tools to identify improvement opportunities.
3. Simulate changes and assess their impact on workflow performance.
4. Update linked documentation where necessary.
5. Analyze feedback trends and incorporate findings into workflow revisions.
6. Finalize and publish updated workflow versions with full audit history.

## Best Practices

- Regularly review workflows for accuracy, efficiency, and compliance.
- Engage with feedback from operations staff as a key input for continuous improvement.
- Use what-if simulation tools to validate changes before implementing them in production environments.
- Ensure all linked documents are maintained and version-controlled to reduce risk of outdated guidance.

## Objective

VPFlow enables process experts to manage, analyze, and improve workflows with confidence and efficiency. The platform ensures that workflows remain transparent, compliant, and continuously optimized based on real operational data and insights.

## VPFlow for Managers

Provides guidance for managerial users on how VPFlow supports oversight, decision-making, and strategic process improvement initiatives.

## Purpose for Managers

VPFlow helps managers to:



- Gain an overview of complex, cross-departmental workflows in a clear and accessible format.
- Identify operational inefficiencies and monitor potential risks proactively.
- Simulate changes before implementation, reducing the risk of disruption.
- Promote continuous improvement by leveraging insights from both AI analysis and frontline staff feedback.
- Maintain process consistency and governance across teams, branches, and business units.

## Key Features for Managers

**Workflow Oversight:** Managers can access a consolidated view of all workflows relevant to their areas of responsibility. This provides transparency into how tasks are distributed, sequenced, and executed across teams or departments.

**Bottleneck Monitoring:** VPFlow highlights process steps that represent potential bottlenecks based on metadata, feedback trends, and AI analysis. Managers can quickly pinpoint areas that require managerial attention and intervention.

## What-if Simulation for Decision Support

Managers can use simulation tools to:

- Assess the impact of potential policy or process changes.
- Compare current workflows with proposed alternatives.
- Make data-driven decisions with visibility into operational trade-offs.

**Feedback Aggregation:** VPFlow collects feedback from operations staff at the step level and aggregates it into actionable reports. Managers can monitor trends, common issues, and areas of concern raised by staff.

**Document Consistency and Compliance Support:** The system ensures that all workflows are linked to current, approved documentation and templates. This supports regulatory compliance, minimizes operational risk, and facilitates training and onboarding for new staff.

## Typical Usage Flow

1. Review workflows under managerial oversight to understand their structure and key metrics.

2. Monitor bottleneck reports and analyze workflow performance.
3. Evaluate feedback reports from staff to identify patterns or recurring issues.
4. Use simulation tools to preview the effect of proposed changes before rollout.
5. Ensure documentation consistency and audit readiness across teams.

## Best Practices

- Regularly review workflow performance metrics and feedback reports to stay informed.
- Engage with process experts and operations staff in identifying and addressing inefficiencies.
- Leverage simulation capabilities to test proposed improvements before approving implementation.
- Ensure that governance standards are maintained across all workflows under management.

## Objective

VPFlow provides managers with a comprehensive, data-driven platform for workflow oversight and improvement. It enhances managerial decision-making, supports operational excellence, and contributes to building a culture of continuous improvement within the organization.

## VPFlow for Admin / IT

Outlines the responsibilities and usage of VPFlow for system administrators and IT teams responsible for deployment, integration, maintenance, and security.

### Purpose for Admin / IT

Admin and IT teams play a critical role in:

- Configuring the VPFlow platform for organizational needs.
- Managing user roles, permissions, and secure access control.
- Ensuring system integration with internal infrastructure and banking systems (e.g., CRM, eKYC, Core Banking APIs).
- Monitoring platform performance, availability, and security.
- Supporting process experts and business teams in workflow lifecycle management.

## Key Responsibilities and Features

### Platform Configuration and Deployment

- Provision the VPFlow system in a secure, scalable environment, typically leveraging AWS infrastructure components such as API Gateway, Lambda, DynamoDB, and S3.
- Configure environment-specific settings such as authentication methods, logging policies, and integration endpoints.

### User and Role Management

- Define and manage user groups and roles:
  - Operations staff
  - Process experts
  - Managers
  - Admin roles
- Assign access rights based on least privilege principles to ensure secure and compliant operation.

### Integration Management

- Enable API orchestration between VPFlow and internal systems (e.g., document management systems, credit scoring systems, customer databases).
- Maintain API security including encryption, authentication, and audit logging.

### Monitoring and Maintenance

- Continuously monitor system health and performance.
- Ensure platform uptime meets agreed service level objectives (SLOs).
- Manage version control and software updates to keep the platform secure and up-to-date.

### Data Security and Compliance

- Ensure sensitive data is protected according to internal policies and regulatory requirements.
- Implement audit trails for workflow updates and user activities.
- Support export and archival requirements for audit or regulatory review.

## Typical Usage Flow

1. Deploy and configure VPFlow on AWS or hybrid infrastructure.
2. Set up authentication, authorization, and role-based access control.
3. Integrate with existing systems for real-time data exchange and workflow automation.
4. Monitor platform usage, respond to incidents, and perform regular maintenance.
5. Support business users with technical issues and workflow management requests.

## Best Practices

- Enforce strict access control policies and conduct periodic permission audits.
- Monitor API usage and implement rate limiting to protect system integrity.
- Maintain secure, encrypted backups and ensure disaster recovery readiness.
- Collaborate closely with process experts to understand integration needs and workflow updates.

## Objective

VPFlow provides Admin / IT teams with a robust, cloud-native platform that integrates seamlessly into modern banking environments. Proper configuration and maintenance by Admin / IT ensures the platform remains secure, scalable, and performant, supporting business and operational teams effectively.