

Activity Duration Estimates

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Activity Duration Estimates

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Activity Duration Estimates

Project: ADPA - Advanced Document Processing & Automation Framework
Prepared by: Project Management Office
Date: July 2025

1. Purpose and Scope of Duration Estimates

This document provides comprehensive activity duration estimates for the implementation and enhancement of the ADPA (Advanced Document Processing & Automation) Framework, reflecting its roadmap, architecture, and integration requirements. The estimates support planning for major milestones—particularly the Adobe Creative Suite Phase 2 integration, enterprise features, and collaboration capabilities.

2. Estimation Methodology

Techniques Used

- **Expert Judgment:**
Inputs from senior Node.js/TypeScript developers, enterprise architects, and DevOps engineers with experience in similar automation and integration projects (e.g., Adobe, Azure, SharePoint, Confluence, PMBOK/BABOK frameworks).
- **Analogous Estimating:**
Benchmarked against comparable enterprise automation and document generation projects (e.g., prior Phase 1 PDF pipeline, typical REST API/CLI tool integrations, multi-provider AI orchestration).
- **Parametric Estimating:**
Applied to activities with repeatable patterns (e.g., template development, API endpoint creation).
Example: Avg. 2 days per API endpoint (incl. test/validation).
- **Three-Point Estimating:**
PERT (Program Evaluation and Review Technique) formula:
Expected Duration (E) = (O + 4M + P) / 6
Used for all key activities.

Estimation Factors

- **Resource Productivity:**
 - Senior engineers (FTE), supported by business analysts and QA.
- **Resource Availability:**
 - 1–2 FTE per technical workstream, additional part-time support for compliance and documentation.
- **Work Environment:**
 - Remote/distributed teams, cloud-based dev/test environments, robust CI/CD.
- **Complexity Factors:**
 - High for multi-provider AI orchestration, Adobe API integration, and enterprise authentication.
 - Moderate for template and API endpoint development.

Assumptions and Constraints

- Core team is available and ramped up.
 - Major dependencies (SDKs, API docs) are accessible.
 - Integration environments (Adobe, Azure, SharePoint) are provisioned on time.
 - No major external blockers (e.g., API changes, compliance delays).
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3. Duration Estimates by Activity

ACT-001 - Adobe Creative SDK Setup

Work Package: WP-ADOBE-01

Phase: Implementation – Phase 2

Three-Point Estimate:

- **Optimistic (O):** 3 days
- **Most Likely (M):** 5 days
- **Pessimistic (P):** 8 days
- **Expected Duration (E):** $(3 + 4 \times 5 + 8) / 6 = 5.33$ days

Estimation Basis:

- Prior experience with SDK registration and OAuth implementation.
- Dependent on prompt access to Adobe developer portal.

Assumptions:

- All API keys and documentation are available.
- Environment configuration can be automated.

Dependencies:

- None (prerequisite for all Adobe integration work).
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ACT-002 - InDesign API Integration

Work Package: WP-ADOBE-02

Phase: Implementation – Phase 2

Three-Point Estimate:

- **O:** 4 days
- **M:** 7 days
- **P:** 12 days
- **E:** $(4 + 4 \times 7 + 12) / 6 = \mathbf{7.33 \text{ days}}$

Estimation Basis:

- Analogous to prior PDF pipeline; increased complexity for layout/typography.

Assumptions:

- InDesign server access is stable.
- Branding assets/templates are ready.

Dependencies:

- ACT-001 completed.
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ACT-003 - Illustrator API Integration

Work Package: WP-ADOBE-03

Phase: Implementation – Phase 2

Three-Point Estimate:

- **O:** 3 days
- **M:** 6 days
- **P:** 10 days
- **E:** $(3 + 4 \times 6 + 10) / 6 = \mathbf{6.17 \text{ days}}$

Estimation Basis:

- Similar complexity to InDesign; fewer dependencies.

Assumptions:

- Sample data visualizations are available.

Dependencies:

- ACT-001 completed.
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ACT-004 - Photoshop API Integration

Work Package: WP-ADOBE-04

Phase: Implementation – Phase 2

Three-Point Estimate:

- **O:** 2 days
- **M:** 5 days
- **P:** 8 days
- **E:** $(2 + 4 \times 5 + 8) / 6 = 5$ days

Estimation Basis:

- Based on image enhancement automation in similar projects.

Assumptions:

- Image assets are provided.
- Photoshop API access is reliable.

Dependencies:

- ACT-001 completed.
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ACT-005 - Template-Driven Document Generation Enhancements

Work Package: WP-ADPA-01

Phase: Implementation – Phase 2

Three-Point Estimate:

- **O:** 3 days
- **M:** 6 days
- **P:** 9 days
- **E:** $(3 + 4 \times 6 + 9) / 6 = 6$ days

Estimation Basis:

- Analogous to prior template work; increased by new Adobe output types.

Assumptions:

- Existing templates are extensible.
- No major schema changes required.

Dependencies:

- ACT-002, ACT-003, ACT-004 completed.
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ACT-006 - Enterprise Integration & Security Enhancements

Work Package: WP-ENT-01

Phase: Q2 2025

Three-Point Estimate:

- **O:** 5 days
- **M:** 10 days
- **P:** 16 days
- **E:** $(5 + 4 \times 10 + 16) / 6 = \mathbf{10.17 \text{ days}}$

Estimation Basis:

- Multiple integration points (Confluence, SharePoint, OAuth2, SSO).

Assumptions:

- SSO/IDM teams are responsive.
- Existing integration points are stable.

Dependencies:

- None (runs in parallel with Adobe integration).
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ACT-007 - DMBOK 2.0 Module Implementation

Work Package: WP-DMBOK-01

Phase: Q2 2025

Three-Point Estimate:

- **O:** 7 days
- **M:** 14 days

- **P:** 21 days
- **E:** $(7 + 4 \times 14 + 21) / 6 = \mathbf{14 \text{ days}}$

Estimation Basis:

- Parametric: 2 days/module \times 7 modules; increased for data governance complexity.

Assumptions:

- Data management SMEs are available.

Dependencies:

- None (modular workstream).
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ACT-008 - Collaboration Tools and Real-Time Editing

Work Package: WP-COLLAB-01

Phase: Q3 2025

Three-Point Estimate:

- **O:** 10 days
- **M:** 18 days
- **P:** 28 days
- **E:** $(10 + 4 \times 18 + 28) / 6 = \mathbf{18.33 \text{ days}}$

Estimation Basis:

- High complexity for real-time sync, conflict resolution, and user management.

Assumptions:

- WebSocket and backend infrastructure is ready.

Dependencies:

- Core admin interface stable.
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4. Duration Summary

Activity Duration Table

Activity ID	Activity Name	Optimistic	Most Likely	Pessimistic	Expected
ACT-001	Adobe Creative SDK Setup	3 days	5 days	8 days	5.33 d
ACT-002	InDesign API Integration	4 days	7 days	12 days	7.33 d
ACT-003	Illustrator API Integration	3 days	6 days	10 days	6.17 d
ACT-004	Photoshop API Integration	2 days	5 days	8 days	5.00 d
ACT-005	Template-Driven Generation Enhancements	3 days	6 days	9 days	6.00 d
ACT-006	Enterprise Integration & Security	5 days	10 days	16 days	10.17 d
ACT-007	DMBOK 2.0 Module Implementation	7 days	14 days	21 days	14.00 d
ACT-008	Collaboration Tools & Real-Time Editing	10 days	18 days	28 days	18.33 d

Duration Analysis

- **Total Project Duration (sum of sequential critical path):**
ACT-001 → ACT-002/003/004 (parallel) → ACT-005 → ACT-008

- SDK Setup: 5.33 d
- $\text{Max}(7.33, 6.17, 5.00) = 7.33$ d (integration, parallel)
- Template Enhancements: 6.00 d
- Collaboration: 18.33 d
- **Critical Path Total:** $5.33 + 7.33 + 6.00 + 18.33 = 36.99$ days

- **Concurrent Streams:**

- Enterprise Integration and DMBOK module work can run in parallel; not on the critical path unless delayed.

- **Recommended Project Buffer (contingency):**

- **15% of critical path:** ≈ 5.5 days
- **Total with buffer:** ≈ 42.5 days

5. Assumptions & Constraints Review

- Timely access to all 3rd-party APIs and developer resources.
- Core team(s) available for the duration.
- No major scope changes or unforeseen integration blockers.
- Buffer may be adjusted for high-risk integrations or if dependencies are externally managed.

6. References

- [ADPA Project README](#)
- [Adobe Phase 2 Implementation Guide](#)
- [BABOK Enterprise Demonstration Guide](#)
- [Collaboration Tools Roadmap](#)
- [Azure/SharePoint Integration Guides](#)

Prepared for project planning and scheduling purposes. For detailed WBS, dependencies, and schedule network diagrams, refer to the full project plan.

