

HOW TO REPLICATE THE FLOW APP

Project Name: Forwarding learning, opening worlds

Acronym: FLOW

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1. Executive Summary

The FLOW Ecosystem is an integrated digital management solution developed to address the administrative complexities faced by Non-Governmental Organizations (NGOs). By leveraging the Microsoft 365 (M365) stack, this project replaces high-cost custom software with a low-code, high-security architecture. The ecosystem comprises two distinct SharePoint Site Collections: **FLOW** (Internal Management) and **FLOWMATES** (Volunteer/Participant Engagement), both driven by advanced Power Automate workflows.

2. Project Vision & Strategic Objectives

The FLOW platform is engineered as a comprehensive, end-to-end solution for international youth mobilities. Its primary function is to guide learners and organizations through the three critical phases of mobility: **Pre-departure, During-mobility, and Post-mobility**.

2.1 Core Objectives

- **Operational Hub:** A centralized collaborative environment for partner organizations to synchronize documentation, calendars, and project timelines.
 - **Volunteer Empowerment:** A streamlined, user-friendly portal (FlowMates) providing volunteers with immediate access to schedules, mentoring, and administrative resources.
 - **Administrative Optimization:** Utilizing "light automation" to reduce the manual workload associated with recurring European project cycles.
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3. Comparative Analysis & Platform Selection

During the discovery phase, two primary paths were identified: custom application development or M365 integration.

3.1 Custom Application Development vs. SaaS

Custom development was rejected due to several factors:

- **High Total Cost of Ownership (TCO):** Development and hosting costs exceeded NGO budgets.
- **Maintenance Debt:** Custom code requires dedicated security patching and updates.
- **Security Risks:** Building a secure authentication system from scratch is prone to vulnerabilities.
- **Compliance Complexity:** Sensitive data such as IDs and project documents require rigorous security and compliance management.



3.2 The Microsoft 365 Solution

Microsoft 365 provides NGOs with high-capacity licensing at zero or subsidized costs through the "Tech for Social Impact" program. Within the €11,000 budget, M365 provides the highest return on investment (ROI) and the most secure environment for sensitive project data.

4. Technical Architecture: The Dual-Site Strategy

The ecosystem is built on a SharePoint Online backbone, partitioned into two primary site collections to ensure data security and functional clarity.

4.1 Security Framework: Data Siloing & RBAC

To ensure the integrity of sensitive partner data and protect participant privacy, the ecosystem follows a Siloed Architecture.

- **Site Collection Separation:** The division into FLOW and FLOWMATES ensures a physical and logical separation of data. This prevents "Permission Creep," where a volunteer might accidentally gain access to sensitive financial project data.
 - **Role-Based Access Control (RBAC):** Users are categorized into Owners, Members, or Visitors.
 - **Audience Targeting:** Web parts and navigation links are conditionally rendered based on user roles. A volunteer in "Project A" will only see buttons and resources for "Project A," even if they share the same site collection.
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5. Hub 1: FLOW (Management Dashboard)

The FLOW hub is a SharePoint Communication Site designed for internal stakeholders and partner organizations.

5.1 UI/UX Components (Web Parts)

The landing page serves as an Operational Command Center featuring:

- **M365 Group Integration:** Shared Outlook calendars and Teams channels.
- **Automated Action Center:** Embedded buttons linked to provisioning flows.
- **Site Activity Stream:** A real-time audit trail of document modifications.
- **Microsoft Planner:** Visual task tracking for project deliverables.

5.2 Automation Workflows

- **Workflow A: Project Registration (Microsoft Lists):** Every project is logged into a Master Registry via Microsoft Forms to ensure data persistence and auditability.
 - **Workflow B: Structural Provisioning (Folder Automation):** Manual folder creation is replaced by a "One-Click" provisioning flow. A Switch control evaluates the "Project Type" (e.g., ESC, Youth Exchange) and clones a standardized directory structure from a Templates library.
 - **Dynamic Renaming (REST API):** To overcome the limitations of standard actions, a SharePoint REST API call is executed.
 - **Method:** POST.
 - **URI:**
`_api/web/getfolderbyserverrelativeurl('[Path]')/ListItemAllFields.`
 - **Headers:** X-HTTP-Method: MERGE, IF-MATCH: *.
 - **Body:** Updates the `FileLeafRef` to the project-specific title using the `concat()` expression.
 - **Workflow C: Site Page Provisioning:** Automates the cloning of an .aspx template, updates metadata via REST API, and programmatically triggers the checkout and publish endpoints to ensure immediate live status.
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6. Hub 2: FLOWMATES (Volunteer & Participant Hub)

The FLOWMATES hub is optimized for external engagement, focusing on 1,000+ unlicensed NGO accounts for volunteers.

6.1 Volunteer Provisioning & Administrative Flow

When a volunteer joins an ESC (European Solidarity Corps) or Youth Exchange program, they complete an "Onboarding Form".

- **File Management:** The flow creates a dedicated volunteer folder and retrieves file attachments (IDs/Passports) via the SharePoint `Create File` action.
- **Data Synthesis:** The volunteer's "Fears, Expectations, and Contributions" are processed through a `concat` expression and saved as a .txt file within their private directory.
- **Dynamic Reporting:** Volunteers complete Microsoft Forms for evaluations; Power Automate then generates a PDF record automatically, archiving the data for project transparency.

6.2 Interactive Features

- **Microsoft Bookings Integration:** A direct interface for volunteers to schedule mentorship sessions.
- **Document Visibility:** Using the "File Viewer" web part, volunteers have instant access to Infopacks and Activity Agreements.

7. Technical Specifications Table

Component	Technology	Role
Identity	Microsoft Entra ID	Authentication & Security Groups
Logic Layer	Power Automate	REST API triggers & File Manipulation
Data Layer	Microsoft Lists	Metadata registry and statistics
UI Layer	SharePoint Online	Communication Sites & Modern Web Parts
Integration	REST API/ OData	Cross-app communication & Page Publishing

8. Maintenance & Future Scalability

The FLOW Ecosystem is built for evolution using modular Power Automate flows.

1. **Integrate Power BI:** For automated reporting on volunteer impact and project budgets.
2. **AI Integration:** Use AI Builder within Power Automate to automatically extract data from volunteer ID uploads.
3. **Governance:** Maintain the system through the M365 Admin Center with minimal specialized IT knowledge once the initial templates are set.

9. Final Summary



The implementation of the FLOW and FLOWMATES hubs provides a robust, professional, and cost-effective solution for NGO management. By automating administrative tasks—folder creation, page publishing, and registry logging—the organization is freed to focus on its primary mission: creating impactful international mobilities.