

# UN's Workflow-Engine

## Developed by

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## Goal

- to automate workflow functionality at a high level within any Lotus-Notes application
- no extra installation (vs. IBM-Lotus-Workflow) – standard Lotus-Notes capabilities
- easy to understand, minor training required
- reduce development time of Workflows up to 80%

## Project Versions

Version 1.00 in 2005; Current Version 3.09 released 10/2008 (LN 6.5-8.0)

## Project Impact (USER-COMMUNITY)

Currently we have 61 globally deployed applications developed by using the Workflow. This is >40% of all UNODC's LN-Applications (1400 users).

Furthermore we deployed 7 applications in UN office of Nairobi/Kenya (approx. 1000 users) and also applications to UNHQ/New York and ESCWA/Beirut.

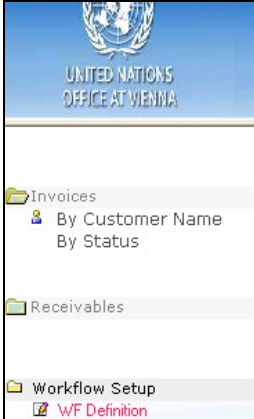
## Description

The idea was to separate Workflow-Business-Logic from the rest of the Lotus-Notes application (**INNOVATION**). The Workflow-Definition should be residing within the application but designed with the Engine by developers (not programmed).

The developer **does not have to write a single line of code** for Workflow functionality! (**HIGH AUTOMATION**)

The developer can define all possible stages (=“Status”) for Notes-forms. And then per status more actions (=“Decision”) which are shown as buttons for the user on the form (see screenshot below).

## Workflow-Definition done by developer



Workflow Name	Status	Target Status	Read Mode
1. Invoice Process (1.01)			
Definition			
Start	Draft		
	Waiting for Approval		
	[ trigger ] Creator		
	Approve	Approved	
	Decline	Draft	
	Change Approver	Waiting for Approval	
	Preview Print	Waiting for Approval	
	Approved		
	Invoiced		
	Closed (Not fully paid)		
	Paid in Full		
	Cancelled		
2. Receivable Process (1.0)			
3. Credit Note Process (1.0)			
4. Item Process (1.0)			
5. Signature (1.0)			

### Result for User

<input type="button" value="Approve"/> <input type="button" value="Decline"/> <input type="button" value="Change Approver"/> <input type="button" value="Preview Print"/> <input type="button" value="Save &amp; Close"/> <input type="button" value="Close"/>	
Thomas MAYERL/VIENNA/UNO 31/10/2008 <b>Waiting for Approval</b>	<b>Invoice 200</b>
Invoice Number: 200709-289643-3 Date Invoice: 31/10/2008 16 Prepared By: Thomas MAYERL/VIENNA/UNO	Due Date: 31/10/2008 16 Extension: 5108 Room: 01104

Decisions can be shown/hidden according to certain access-roles and/or @formulas.

Per Decision the following actions can be defined:

- User-Interactions
- Set Field-values @formula-based
- Change access-rights
- Send Mail(s)
- Check Mandatory Fields
- Field-Validations
- Run Agent(s) (if specific actions needed)

### Example Workflow-E-Mail

Recipients	Mail Content	Mail Options	Set Fields
Send accumulated <input type="radio"/> Yes <input checked="" type="radio"/> No			
<b>SUBJECT TEXT*</b> Invoicing Application: Invoice approved. No: <Invoice_No_1> - <Invoice_No_Running> <a href="#">Use Placeholder</a>			
<b>BODY</b> Dear Drafter! Please proceed with this invoice. Invoice No: <Invoice_No_1> Payor: <Payee Name> Open the document by clicking the link below.			
Append Doc Link <input checked="" type="radio"/> Append <input type="radio"/> Not Append			
Append Signature from mailfile <input checked="" type="checkbox"/> Append			

Also automated time-based background-jobs (=“Triggers”) can be defined. They run on certain conditions with the following features

- Send Mail(s)
- Run Agent(s)
- Perform Workflow-Decisions

Features * <input checked="" type="checkbox"/> Mail Notification <input checked="" type="checkbox"/> Perform Decision <input checked="" type="checkbox"/> Start Agent		
Mail Notification   Perform Decision   Run Agent		
<input type="button" value="Add New Mail"/>		
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It turned out that this approach drastically increased our productivity. We develop quicker, have reduced the number of bugs and we can maintain each others application without having to read documentation.

From experience we know that developers rather take pieces which they have produced before and change it than creating something from scratch.

Our strategy is to provide a standard-template for new applications containing standard design-elements.

Developers derive new applications from this so-called 'Workflow-Starter-Template' with all Workflow-Engine functionality including a standard corporate-design for forms, views, agents, etc.

We manage now even prototyping with the Workflow-Engine since it is faster than creating a new application from scratch for a prototype.

It showed that a major part for each of our Lotus-Notes applications could be done with the Workflow-Engine. We reduced the development time up to 80% per application.

**Advantages (BUSINESS VALUE):**

- easy maintenance of applications from other teams
- changes are transparent and without programming
- high quality – major part of the application is designed with tested Workflow-Engine functionality
- developers don't have to write code for workflows anymore (which they have done a lot previously) -> improves motivation since they can focus on new things & individual application logic (design, agents, calculations, etc.)
- look-and-feel for users is similar through usage of common Workflow-Starter-Template
- less documentation required
- included analysing features help to determine bottlenecks
- automated graphical Workflow-charts (see below)

