FORMS & WORKFLOW
SHAREPOINT 2010

Practical Discussion
Agenda

- Introduction
- Workflow
  - Business Problems
  - General Scenarios / Approaches
  - What Is It?
  - Specifics, Pitfalls, and Recommendations
- Forms
  - Business Problems
  - General Scenarios / Approaches
  - What Is It?
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Overview

SharePoint has the capability to provide functionality in hundreds of different capacities.

Forms and Workflow are just tools to solve a problem

What’s my business problem?:

What are my pain points where SharePoint can fit in?
How can we improve and manage the process and in our organization?
What are the tools for the job?
SharePoint Workflow
Visio, Designer, and Visual Studio
What’s a Workflow Project?

- *There isn’t one 😊*
- *Sometimes it’s obvious, sometimes it’s not*
- *Don’t ask, if it’s a workflow project ask if I should utilize the workflow tools?*
- *What is the business process?*
  - *Repeatable*
  - *Definable*
Business Problem – Ad Hoc Tracking

Scenario

Fluid Process, Assignment and/or Status Based

- Utilize “Task” as a list template to leverage the built in email ability for assignment.
- Workflow “process” simply managed by users assigning and re-assigning to next person
- Enable versioning to keep track of changes and assignments
- Use a manual “status” or state column (e.g. Complete, In Review)
Business Problem – Structured Process

Defined Process
  e.g. Reviewed by Staff, Assigned to Auditor, Approved by Manager

- Use SP Workflow to manage process, assignments and approvals
- Hardest part is getting the business users to define/explain the process completely
- Use Visio to map out process at business level
**SharePoint Workflow Tools**

**Microsoft Visio 2010**
- Business Analyst/Process Designer
- Design skeleton workflow processes
- View workflow visualizations

**Microsoft SharePoint Designer 2010**
- Designer/IW/Power User
- Declarative Workflows

**Microsoft Visual Studio 2010**
- Professional developer
- Code Workflows
- Event Receivers
- Custom Activities

*VORIAN Technologies*
Functionality vs. Tools

Out-of-Box Workflows
- Ready to use
- Common approval scenarios

Out-of-Box Customization
- Association and initiation settings
- Modify logic in SharePoint Designer
- Design forms in InfoPath

Custom Declarative
- Start from scratch or from existing
- New actions
- Task process framework
- More types of workflows

Custom Activities
- Encapsulate custom code in new action
- Deploy in full or partial trust (as user code)

Custom Non-Declarative
- Import solution into Visual Studio
- Advanced modeling
- Hook up workflow to events

Increasing Functionality

Browser → SharePoint Designer → Visual Studio
Workflow Management in SP 2010

- **Advantages**
  - Easy to create, modify and publish sequential workflows
  - New features for visual authoring and tracking and new steps and functional improvements
  - Flexible and extensible platform built on WWF
  - Form customization is pretty easy

- **Disadvantages**
  - Lack of interoperability between standard tools
  - SharePoint Designer workflows can be only sequential and UI is not user-friendly
  - Need strong technical knowledge to create complex workflows
Creating Workflows in Visio 2010

- Visio has SharePoint Workflow template
  - Allows you to create workflow design in Visio
  - Workflow can be exported to SharePoint Designer
Creating Workflows in Visio 2010

- Pro’s
  - Can “Round-trip” between SP and Visio
  - Allows you to visually see the process

- Con’s
  - Steps are very granular, so in reality not necessarily that great for business users
  - Not directly connected to SP list, so you must complete the workflow once you import!
SharePoint Designer Workflows

- New “Full Screen” declarative workflow designer
Types of Workflows

- **List Workflow**
  - Associated with a list
  - Much like MOSS 2007 Workflows
  - Can be created in SPD 2010
  - Can be imported/exported from Visio

- **Reusable Workflow**
  - Can be assigned to content type
  - Can be exported to `.wsp` for use in other sites
  - Can be imported/exported from Visio
  - Can be created in SPD 2010 & VS2010

- **Site Workflow**
  - Not bound by a list
  - Manually Started or via OM
  - Can be created in SPD 2010 & VS2010
Types of Workflows

- **Sequential Workflows**
  - Step by Step workflows
  - Always moving forward can not going back in time
  - Out of the box workflows are sequential
    - Approval
    - Collect Feedback
    - Collect Signatures
    - Three State

- **State Machine Workflows**
  - Can go back in time
  - Must use Visual Studio 2010
SharePoint Designer OOTB Actions

- **Core Actions**
  - Send Email, Set WF Status...

- **Document Set Actions**
  - Send to Repository, Start Approval...

- **List Actions**
  - Check In/Out Item, Declare Record...

- **Relational Actions**
  - Lookup Manager of User

- **Utility Actions**
  - Substring operations, Interval between dates

- **Task Actions**
  - Start Approval, Assign a To-Do...
How It Works: The “OfficeTask”

- Workflow activity
- Approval start behavior
- Approval in progress
- Approval end behavior
- Task start behavior
- Task in progress
- Task end behavior
- Exit conditions

For each task...
Example: Expense Reporting

- Workflow activity: Check metadata on uploaded report
- Approval in progress: Set status to either Approved or Rejected, and notify submitter
- If anyone rejects, cancel the approval
- Task start behavior: Send daily reminders when due date passes
- Task end behavior:
Task Process Designer

- View all task information
- Customize the whole process, or individual tasks (or both)
- Build robust behaviors
  - “If 50% agree, auto-approve”
  - “If user is unavailable, escalate to manager”
  - “If this task wasn’t meant for me, let me reassign it to another user”
Visio Visualization

- Visualize a single workflow instance
  - Not for aggregation, reporting or auditing
  - Only for SharePoint Designer
Designer Workflows: Tips

- Try to work through the whole process
  - Don’t “jump into code” in designer
  - Map each part of the process to a corresponding workflow activity
  - Define any dashboard, reporting or notification requirements before workflows are designed.
    - Since many of these require reporting or information of “in-process” state of workflows they often need to be part of the workflow itself, or have information provided by the workflow

- Know the Actions well! What’s Easy and What’s Hard
Designer Workflows : Gotchas

- Who do I work for again?
  - Manager – Organizational hierarchy
  - Active Directory usually not even close
  - Requires a Custom User Profile Import

- Standard Designer Workflows Encourage lots of “Tasks”
  - 2 or more places to go – confusing user experience
  - Use Status or other tracking items in primary list to assist in providing status
What Happens When I Can’t Do What I Want?

- This is why you want to scope out the process!
- Custom Actions
  - Code based “add-ins” for Designer
  - Must be deployed to individual computers
- Re-Write Workflow in Visual Studio
  - You can import WSP for re-usable workflow to VS 2010
- Use Event Handlers or other custom code to augment workflow
SharePoint Forms

Forms, Forms, Forms
Business Problems

What’s a Forms Project?

- Every project 😊
  - All projects have some user interface components that could be classified as a “form”

- Can I use the OOB List Forms or do I need more?

- What is the business process?
  - Do I have a literal paper form that I am automating?
  - Many, many times there is a workflow component of a forms project!
Business Problem – Data Collection

Get Information from Employee, Customer, etc.

- Utilize standard list forms (survey, custom)
- Define data entry rules
- Configure list security
- Use workflows if needed
- Customize using designer if needed
Automate a Paper Form.

Use InfoPath

- Is it web based?
- Use all your workflows skills
- Design with InfoPath Designer
- Integrate with 3rd party (non-sharepoint data)
SharePoint Forms Tools

Business Analyst
Form Designer/Power User

Setup Lists and Columns
Design Data Rules

Microsoft SharePoint Designer 2010
Form Designer
Designer List Forms
InfoPath List Forms

Microsoft Visual Studio 2010
Professional developer
Web Parts
ASP.NET Forms
Web Services

VORIAN Technologies
InfoPath 2010

- InfoPath Designer 2010
- InfoPath Filler 2010
- InfoPath Forms Services
InfoPath - Usage in SharePoint

- **Custom List Forms**
  - Customize the OOB list forms
  - Limit which information users can change
  - Provide alternative views

- **Form Libraries**
  - Paper Form Automation
  - Integrated 3rd Party Data
  - Complex data structure within the form

- **Workflow: Association, Initiation, Tasks etc.**
  - For building forms within a workflow

- **External List Forms**
  - UI for editing data from external systems
InfoPath Forms vs. Form Templates

- Form Templates are form designs
  - Empty Form
  - Created using InfoPath Designer
  - Hosted or standalone

- Forms are “Filled Out Forms”
  - XML documents
  - Includes data entered
  - Filled using InfoPath Filler or browser
  - Can be submitted anywhere
  - Contain link to Form Template
InfoPath in SP2010 - Advantages

- Easy and quick way to generate forms for Custom and External Lists
- Decent WYSIWYG form designer
- Extensibility
Common InfoPath Limitations

- Browser-enabled forms lack true Web experience
- More or less complex scenarios require strong technical knowledge
- Printing capabilities
- Reporting (especially with repeating sections)

Form Libraries:
- Need to create a form library though it’s not always a business requirement
- For columns of type Person there is not standard way of passing the values
Limitations of Custom List Forms

• No support for document libraries
• No support for managed metadata columns
• No way to publish somewhere else and/or reuse
• No way to generate form for content type
• No support for custom code
InfoPath Forms: Gotchas

- Extracting and Reporting on Form Information
  - Many times data in embedded within XML Competed form
  - Example: Expense Report

- “WorksOnMyMachinitis”
  - Authentication problems for 3rd party data
  - Even accessing SP data can be problematic
  - “Double Hop” when deploying to production farm

- Printing
  - Printing Completed Forms not what it should be
3rd Party Products

SharePoint Add-Ons
3rd Party Add-Ons - K2

- Visual Designer based in SharePoint
- Implement workflow logic without code
  - Also has Visual Studio integration
- Rich visual designer from SharePoint
- Connect to AD or LOB data sources
3rd Party Add-Ons - Nintex

- Expand workflows beyond SharePoint Designer
- Implement workflow logic without code
- Rich visual designer from SharePoint
- Connect to AD or LOB data sources