SharePoint 2010
Business Process, Workflow and Forms

June 11, 2010
Explicit vs. Tacit knowledge

Early 20th century activity

Explicit 80%  Tacit 20%

Early 21st century activity

Explicit 20%  Tacit 80%
Web 2.0 Technology Usage

How companies are benefiting from Web 2.0: Kinsey & Company, September 2009

Usage for business purpose

- Blogs
- Communities of...
- Video Sharing
- RSS
- Wikis
- Podcasts
- Rating
- Tagging
- Microblogging
- Peer to Peer
- Mashups
- Prediction...
Single Infrastructure for Intranet, Internet, and Extranet Portals
SharePoint 2010

**Intranet**
- Microsoft SharePoint Server 2010
- Enterprise Client Access License (CAL)
- Standard Client Access License (CAL)

**Internet / Extranet**
- Microsoft SharePoint Server 2010 for Internet Sites Enterprise
- Microsoft SharePoint Server 2010 for Internet Sites Standard

**Enabling Technologies**
- SharePoint Designer 2010
- SharePoint Foundation 2010
Microsoft SharePoint 2010
Web Enabled Business Process Automation Platform
News and external opinion to monitor and send to clients

Top information from Woodgrove…new market view report to send to clients

Set of Customers to explore

Experts to help, with availability and rating

View of information across different pivots, with drilldown

Immediate actions on selected items

Drilldown to single view with all clues about a customer: portfolio, holdings, communications, annual and quarterly customer plans, etc...

Finds customers beyond direct terms (REIT ~ real estate)

Start with a simple query, quickly find and explore
SharePoint Insights
Enhanced business insight with PerformancePoint Services

- Visual scorecards
- Detailed KPIs
- Integration with SharePoint, including: administration, scalability and deployment

Pre-Beta screenshots, subject to change
SharePoint Composites
Pervasive external data with Business Connectivity Services
The Standard CAL
Documents and people

Provides a collaboration platform across all types of content. Use the core capabilities of SharePoint manage content and business processes, find and share information and expertise, and simplify how people work together across organizational boundaries.

- Portal
  (Personalized Content and MySites)

- ECM, WCM, Rich Media Mgmt.

- Document/Records Mgmt.

- Social Computing
  (Enterprise Wikis, Ratings, Folksonomy)

- Enterprise Search

- Legal Holds, In-place Records Mgmt.
The Enterprise CAL
Documents, people... and data

Enables advanced collaboration scenarios for end users to locate, create, and act on data and documents in disparate sources from within a familiar and unified infrastructure.

- Excel Services
- Visio Services
- Client LOB Integration/LOB Web Parts
- Portal
- ECM, WCM, RMM
- PerformancePoint Services
- Access Services
- Custom Reports
- Doc/Records Mgmt.
- Enterprise Search
- Advanced Charting
- InfoPath Forms Services
- FAST Search Use Rights*
- Social Computing
- Legal Holds, In-Place Rec. Mgmt.

* Requires FAST Search Server 2010 for SharePoint
Introductions

• Erik Moll, Information Worker Solution Specialist, Microsoft
• Joe Seguin, Senior Consultant, Envision IT
• Peter Mackenzie, VP, Envision IT
• Peter Carson, President, Envision IT
Focused on complex SharePoint solutions, Envision IT is the “go-to” partner for Microsoft SharePoint, building integrated public web sites, Intranets, Extranets, and web applications that leverage your existing systems anywhere over the Internet.
Our Focus

• Building solutions for intranets, collaboration portals, extranets and internets with SharePoint

• Extending SharePoint past out-of-the-box features

• Supporting our focus:
  ➢ Custom .NET Development and Business Process Automation
  ➢ Business Intelligence
  ➢ Business Productivity Training
Microsoft SharePoint 2010

The Business Collaboration Platform for the Enterprise and the Web

- Connect and Empower People
- Cut Costs with a Unified Infrastructure
- Rapidly Respond to Business Needs
What is a Workflow?

**Human Workflow**

- Participants are **people**
- Flexible control flow, ad-hoc

**System Workflow**

- Participants are **services, apps**
- Prescriptive control flow, transactional

**Information Worker**

- Document Review
- Signature Collection
- Records Retention
- Expense Reporting
- Application Processing
- Many others…..

**Business to Business**

- Supply Chain Mgmt…

**Line of Business Apps**

- Sales Automation…

Leaders in SharePoint Solutions
Workflow Scenarios

Structured to Ad Hoc Complexity

LOB Integration
Purchase Order Processing
Product lifecycle management

Custom Tracking Apps
Service Requests
Asset Tracking

Custom Form Actions
Email Notification

Application Task and Issue Tracking

Document Processes
Weekly Status Report

Routing & Approval
Review
Approval
Signature collection

Out-of-the-Box (via SharePoint GUI)

SharePoint Designer workflows

Microsoft Visual Studio and workflow SDK
Types of Workflows

- Attached directly to a List
- Can be associated to many Lists or Content Types
- Site based – not associated to a List or Content Type
Built-In Human Workflows

• Approval, Collect Feedback, Signatures
• Track the process from start to finish
  - Workflow tasks assigned to people in stages
  - Specify due dates and other simple behaviors
• Showcase platform enhancements
  - Reusable declarative workflows
  - Rich/reach forms leveraging InfoPath
  - Visualization of running workflow
  - Task process design (more later)
Tailor to Meet Your Needs

• Simple IW customizations on the server
  ▪ Adjust the association and initiation settings
  ▪ Attach it to a list, library, or content type

• If it still doesn’t do exactly what you want...
  ▪ Open it up in SharePoint Designer!
  ▪ Internal logic is fully customizable in the revamped workflow designer
  ▪ Update look & feel, add rules to forms using InfoPath Designer
Integrated Workflow Designer

Step 1

If title field contains **Meeting**

- Log **Meeting being held** to the workflow history list

Else if title field contains **Picnic**

- Log **Picnic planned** to the workflow history list

Else

- Log **No budget for anything this year** to the workflow history list
Business Analysts can start by creating Workflows in Visio
Easily transfer workflows from Visio to SPD and back
• Silverlight driven visualization of status of your workflows
Extend out-of-box workflow

Get a Jumpstart by building on top of the out-of-box workflows
What is InfoPath?

Form Designer & Filler

- Browser and Client forms

Visual Layout

Form Logic

Data Connection
Demonstration
Package Workflows as Solutions (WSPs) to extend further in Visual Studio
The Connected Enterprise

• Collaboration happens on SharePoint
  ▪ People at work
  ▪ Data they make and use
• Workflows to manage it
• Two flavors
  ▪ System – move data in and out of SharePoint
  ▪ Human – support people with long-running processes
Human Workflow

• Managing how people work
  ▪ Document approval & feedback
  ▪ Collaborative reviews & discussions
  ▪ Gathering signatures

• Business logic in action
  ▪ Rules for SharePoint content
  ▪ Applied automatically or on demand
  ▪ “Glue” used to build common business apps
Example: Expense Reporting

- Many variations depending on business
- But most tend to follow a similar archetype
- In our context, employees interacting with a document library on SharePoint

1. Report filled out and uploaded to server
2. Send to manager(s) for their approval
3. If successful, reimburse the expenses
Workflow Solution Spectrum

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
SPD’s Rules-Based Designer

• Core tooling improvements
  - New workflow types: site, c-type, reusable
  - Constructs: nested logic, impersonation step
  - Enhanced data binding, on-demand columns
• Use new and improved actions
  - Manager, user profile lookups
  - Doc set and record management
  - Read/write to external lists
• Visio as a graphical designer
• Solution packaging for portability
Departmental Document Approval

- SPD 2007
  - Individual workflow tasks
  - Scoped to user or group
  - Stitch it together with data binding

- SPD 2010
  - Tasks are part of a larger approval process
  - Hierarchical assignments
  - Automatic data binding for common lookups
The Task Process Designer
Foundation of the Out-of-Box Workflows

- View all task information at a glance
- Customize the whole process, or just what happens to individual tasks (or both)
- Easy to build in 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”
How It Works: The “OfficeTask”

1. Workflow activity
2. Approval activity (OfficeTask)
3. Workflow activity
How It Works: The “OfficeTask”

Workflow activity → Approval activity (OfficeTask) → Workflow activity

Approval start behavior → Approval in progress → Approval end behavior
How It Works: The “OfficeTask”

- Workflow activity
- Approval activity (OfficeTask)
- Approval start behavior
- Approval in progress
- Approval end behavior
- Task start behavior
- Task in progress
- Task end behavior
How It Works: The “OfficeTask”

Workflow activity

Approval start behavior

Approval in progress

Approval end behavior

For each task...

Task start behavior

Task in progress

Task end behavior

Exit conditions
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
Extending the Platform

• Plug in your own custom activities
  ▪ Fully trusted deployment model, or...
  ▪ Sandboxed code in the user solution gallery
• Or build on top of existing activities
  ▪ OfficeTask exposed in Visual Studio
  ▪ An example: Document Set Approval
• Get the flexibility of custom code
• But leverage in existing workflows
Flexibility to Scale Up

• Import a workflow package to Visual Studio
  ▪ Graphically design state machines, add looping
  ▪ Custom forms and code-beside
  ▪ Farm-wide deployment
• Handle workflow events
• Pluggable services that enable external channels to talk to your workflow
“[Companies] are losing more than $8 million annually because of data quality issues. ... other organizations [when] observed provide evidence that the actual magnitude of the problem is typically far greater (often by orders of magnitude) than is perceived by business and IT leaders.”

Ted Friedman, Gartner Vice President
“Organizations Perceive Significant Cost Impact From Data Quality”
August, 2009
What is InfoPath?

Form Designer & Filler
- Browser and Client forms with form logic & data connectivity

Forms for SharePoint
- Lists, External Lists, Form Libraries & Workflow forms

Forms integrated into Office
- SharePoint Workspace, Outlook, Word, PowerPoint, Excel
Building applications using Office

**Spectrum of applications** - from customizing SharePoint list forms to building Office Business Applications

**Beyond paper** - secure, interactive, workflow-enabled applications

**Complete application lifecycle** - design, package and reuse

**Web & Office client applications** - in browsers and offline in SharePoint Workspace, InfoPath Filler or Outlook

**Within reach of everybody**

**Rapid design** - interactive, visually appealing forms with business logic connected to external system

**“Fluent” User Experience** - Easy to use InfoPath Designer and Filler. Browser forms with SharePoint UI
Customizing SharePoint List Forms

Created By

- Information workers solve own problems, freeing up IT

How

- Layout form using pre-built tables
- Use rules to conditionally format, validate data & show/hide sections
- Bring in data from SharePoint Lists
- Take offline in SharePoint Workspace

Examples

- Project Contact List, Issue Tracking List, Feedback Form, Event Sign-up

### Recruiting at Hemlock University

<table>
<thead>
<tr>
<th>Interviewer</th>
<th>Olivar Kiel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discipline</td>
<td>Development</td>
</tr>
<tr>
<td>University/College</td>
<td>Hemlock University</td>
</tr>
<tr>
<td>Date</td>
<td>10/12/2009</td>
</tr>
<tr>
<td>Requested Discipline</td>
<td># Days</td>
</tr>
</tbody>
</table>

### University/College Details

<table>
<thead>
<tr>
<th>ADDRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Street:</td>
</tr>
<tr>
<td>City:</td>
</tr>
<tr>
<td>ZIP/Postal Code:</td>
</tr>
<tr>
<td>State/Province:</td>
</tr>
<tr>
<td>Country:</td>
</tr>
</tbody>
</table>
Creating Mashups with Form Web Parts

Created By

- Information Workers & IT

How

- Connect InfoPath Web Part to other Web Parts: Excel, Silverlight, List etc.
- Customize form in InfoPath
- Design web part page in browser or SharePoint Designer
- Package as reusable template (WSP)

Examples

- Mortgage Calculator (with Excel)
- Master-detail (with List)
InfoPath Drives Business

FROM

Customizing SharePoint List Forms within Minutes

TO

Designing Office Business Applications
Improved Digital Signatures

Signature Line Control

Digital signatures with Cryptography Next Generation

Digital signatures with trusted third party time-stamps
New Browser Forms Functionality

**New Controls:**
- People Picker
- Rich Text
- Combo Box, Multiple-Selection List Box, Bulleted List, Numbered List, Plain List
- Picture Button, Picture
- Hyperlink, File Attachment

**Sandboxed Solutions**

**Filtering**

**REST Web Service**
Browser Forms Performance

- Configuration:
  - 4 Web Frontends
  - 1 Backend
- Passport Application Base Form requires two requests
- # Requests per Second for Base form = 1200
- # of Base Forms per Second = 600
- # of Base Forms per Hour = 2.1 M
Browser Forms are Standards Compliant

- XHTML 1.0 and strict CSS
- Web Content Accessibility Guidelines (WCAG) 2.0 AA
- Web Accessibility Initiative - Accessible Rich Internet Applications (WAI-ARIA)
• Seamless Integration into SharePoint Admin Experience
• Windows PowerShell
• Backup, Restore and Upgrade
• SharePoint Maintenance Manager (SPMM) Rules

- Rules and Monitors
Questions?
Contact Info

Peter Mackenzie (905) 812-3009 x244

pmackenzie@envisionit.com