How MSU Automated Decentralized HR Processes Using the FPM Forms User Interface

Debbie Lake-Hafke, Denise O'Dras, Murtaza Lokhandwala, Srikanth Chandru
Why MSU implemented an Alternate UI?

ALTERNATE UI
MSU Business Requirements

- Implement automated de-centralized HR Processes with in-built electronic approval.
  (e.g. Hire, Re-Hire, Additional Assignment, Termination etc.)

- ~40,000 employees
  - 5 major types – Faculty/Academic, Support Staff, Temp/On-Call, Student Employees and Graduate Assistants
  - Large population concurrently employed
  - 10 unions

- Numerous complex business rule requirements unique by employee type

- Solution to replace multiple highly evolved de-centralized web based legacy applications.

- 1,000+ HR unit administrators from 450 departments on campus
MSU User Community Requirements

- User friendly intelligent UI solution
  - Interactive
  - Easy to use
  - Minimum training requirement

- Performance
  - Faster load time

- Wizard based processing
  - Guided activity
MSU Technical Team Requirements

- Develop a UI solution with minimum customization and leveraging standard SAP technologies:
  - HCM Process & Forms Framework (HCM P&F)
  - Adobe Interactive Forms
  - Floorplan Manager (FPM) WebDynpro
  - SAP Workflow

- Solution must support:
  - Infotype based processing
  - Partial / Complete validations
  - Attachment type validation
  - Pure browser solution
  - Platform independent

- Use existing technical skills
## FPM WebDynpro vs Adobe Form

<table>
<thead>
<tr>
<th>Category</th>
<th>FPM WebDynpro</th>
<th>Adobe Form</th>
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</thead>
<tbody>
<tr>
<td>Simplify Complex Process</td>
<td>✔️</td>
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<tr>
<td>Performance</td>
<td>✔️</td>
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<tr>
<td>Usability</td>
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<td>Mirrors paper process</td>
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<td>Guided activity (Wizard)</td>
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<td>Printer friendly</td>
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<tr>
<td>Independent of Adobe Reader</td>
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<td>Platform Independent</td>
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<td>Attachment Type Validation</td>
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## Technical Skill Comparison

<table>
<thead>
<tr>
<th>FPM WebDynpro</th>
<th>SAP Interactive Forms by Adobe</th>
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<tbody>
<tr>
<td>ABAP</td>
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<tr>
<td>FPM WebDynpro</td>
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<tr>
<td>JavaScript</td>
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<td>FormCalc</td>
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<td>Adobe LiveCycle Designer</td>
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</table>
MSU Design Approach

- Switch Adobe UI with FPM WebDynpro UI
  - Using standard HCM P&F Framework
  - Re-Use HCM P&F Form Scenario in FPM
  - Backend Services (SAP PA, PD, Generic and Advance Generic services)
  - De-coupled and Check classes

- Integrate HCM P&F and FPM WebDynpro using “Feeder Class”
SAP Standard Approach

HCM Processes and Forms Framework (HCMP&F)

- Form Scenario
- SAP PA/PD, Generic Services
- WebDynpro Application
  - Adobe Interactive Form
    - Business Process
MSU Approach

HCM Processes and Forms Framework (HCMP&F)

- Form Scenario
- SAP PA/PD, Generic Services

WebDynpro Application

FPM WebDynpro Form

Business Process
Demo MSU Temp On-Call (TOC) Hire Process

DEMO
MSU’s Technical Approach to implement an Alternate UI.

TECHNICAL SOLUTION
FPM for Web Dynpro ABAP

- FPM provides most commonly used floorplans for consistent structuring and presentation of the application content
  - All Forms UI applications will look alike
- The new UIs provided by SAP are built using FPM
- UIs are very flexible and easy to adapt to the needs of the individual customers
- Rapid application composition using predefined floorplans and UI building blocks
FPM UI Adaptation Techniques

FPM provides different options at different levels for customer adaptations of the SAP Delivered UI. Same approach as WDABAP

- Configuration
- Customizing
- Personalization

Diagram Source SDN
Floorplans as Templates

- Floorplans are UI templates helping design consistent layouts
- Among the various floorplans that FPM provides **Guided Activity Floorplan (GAF)** is the focus of this session
- GAF is implemented using a Standard Webdynpro(WD) Component called FPM_GAF_COMPONENT
The standard FPM GAF component implements the common behavior required as per SAP UI guidelines for all applications.

- For example: All Guided activity applications consist of:
  - Header
  - Guided Activity Steps
  - Toolbar for buttons
  - UI Building Block (UIBB): Content Area for embedding Application Data
Application specific settings for the UIs are made using FPM Configurator tool accessed via SE80 transaction.
FPM Configurations

- Application-specific settings are stored by creating configurations based on FPM_GAF_COMPONENT
  - Creating specific steps of the guided activity, buttons and embedding the UIBB components to display application data
### UI Building Block (UIBB) Types

<table>
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<th>UIBB (1)</th>
<th>WDABAP Component (Free Style UIBBs)</th>
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<tr>
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<tr>
<td>Attributes</td>
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- WDABAP Component (Free Style UIBBs)
- FPM Generic Form UIBB
- FPM Generic List UIBB
- FPM Tabbed UIBB
- FPM Search UIBB
- FPM Tree UIBB
- FPM Search UIBB
FPM Form Generic UIBB (GUIBB)

- Form Generic UIBBs (GUIBBs) implement the common behavior required in all Form based UIs as given by the UI guidelines.
- Applications specific layouts of the Form GUIBBs are designed in the FPM Configurator tool and stored as configurations.
- They primarily contain the Layout information for the UI as well as a link to the Feeder Class, which in turn is the interface to the backend functionality.
- Application-specific code is written in the Feeder class for Form GUIBBs.
An FPM-based application is fundamentally defined by a tree of configurations and some specific coding interfacing UI to the backend.

Diagram Source: SDN
Integrate FPM Forms with HCM P&F
Form Feeder Class

- Form Feeder class feeds data to the Form GUIBB.
- It is primarily responsible for exchanging data between FPM Form GUIBB and the HCM P&F Framework.
- **ISR_PROCESS_EVENT RFC** is the gateway to HCM P&F Framework.
- Feeder interacts with HCM P&F via the Key information ‘Form Scenario name’ as the parameter.
- Form Scenario and Process are created in the HCM P&F’s IMG activity - Design Time Tool transaction HRASR_DT.
Form Feeder Class

- Feeder class implements the following methods of interface IF_FPM_GUIBB_FORM
  - GET_DEFINITION
  - FLUSH
  - PROCESS_EVENT
  - GET_DATA
Form Feeder Class

- **GET_DEFINITION**
  - Is invoked by the FPM Configurator tool at Design time while building the Form. This method is implemented to provide the list of required fields, field catalog info and actions to be part of the Form UI.
  - Also invoked at run time when the configuration is loaded for the first time.

- **FLUSH and PROCESS_EVENT**
  - Is invoked at runtime by the FPM framework on user input. This method is implemented to process after user input.

- **GET_DATA**
  - Is invoked at runtime just before rendering the UI. This method is implemented to process the UI before output.
HCM P&F Application with Adobe Interactive Form

Fill Out Form: Temporary and On Call Hire

SAP Delivered FPM Configuration

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<tr>
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Position Description

Additional Personal Data

Veteran Status

Ethnicity

Disability Status

Please select at least one status as well as all that apply

Emotional Stress, Family Caregiver, Physical Disability, Posttraumatic Stress Disorder, Raynaud's Phenomenon

Real Experience. Real Advantage.
**HCM P&F Application with FPM Form GUILBB**

**Fill Out Form: Temporary and On Call Hire**

<table>
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<tr>
<th>Personnel Number: 10022286</th>
<th>Effective Date: 03/11/2012</th>
<th>Initiator Name: Srikant Chandra</th>
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<td>Review Organizational Details</td>
<td>Enter Contact Information</td>
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<tr>
<td>Enter Planned Working Time</td>
<td>Enter Pay and Cost</td>
<td>Additional Information</td>
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<tr>
<td>Attachments and Comments</td>
<td>Summary Form</td>
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</tr>
</tbody>
</table>

**Organizational Assignment**

- **Start Date:** 03/11/2012
- **Position ID:** 30141357
- **Job ID:** 30002581
- **Personnel area:** MSU1
- **Employee group:** 2
- **Personnel subgroup:** RT
- **Position Description:** DSS

**Personal Details**

- **Title:** Mr.
- **First name:** Aug
- **Middle name:**
- **Gender:** Male
- **Citizenship:**
- **Suffix:** Jr.
- **Last name:** Demo
- **Date of birth:** 03/11/1982
- **Social Security Number:**
- **APD:**

**MSU’s FPM Configuration**
How to create FPM Forms using the form scenario from SAP HCM P&F

DEMO
Return on Investment

- Reduced training requirements
- Faster development
- End user satisfaction
- Reduced total cost of ownership (TCO)
- Improved performance
- Platform Independence
Key Learnings

- How to implement alternate UI, leveraging standard SAP technologies.

- How to create FPM Forms using the form scenarios from SAP HCM P&F.

- How to integrate the FPM forms with the standard SAP HCM P&F WebDynpro application.

- Key advantages of FPM forms in the area of usability, flexibility, performance, reduced total cost of ownership and platform independence.
### Contact Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Organization</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Michigan State University</td>
<td><a href="mailto:odras@msu.edu">odras@msu.edu</a></td>
</tr>
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<td>Murtaza Lokhandwala</td>
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<td>Michigan State University</td>
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</tr>
<tr>
<td>Srikanth Chandru</td>
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<td>Value Consulting LLC</td>
<td><a href="mailto:srikanth.chandru@valconus.com">srikanth.chandru@valconus.com</a></td>
</tr>
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Thank you for participating.

Please remember to complete and return your evaluation form following this session.

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