

Collaborative Planning

Putting the Workflow User Back in the Driver's Seat

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Overview

- **Introduction & Purpose**
 - » (Why go to all this bother anyway?)
- **Example of Ad Hoc Planning**
- **Discussion and Comparison**
- **Demonstration**
- **7 Design Principles**
- **Summary**

Good Automation Candidates

- If process involves a number of people
- If a large number of instances must be tracked
- If process lasts a long time
- If mistakes are expensive
- If people are located far from each other

Be Careful...

When automating work processes we must be very careful, because:

- Workers enjoy a lot of freedom in interpreting corporate procedures.**
- Workers don't want to lose control over their activities and status reports.**
- Ability to handle exceptions is critical to an efficient organization.**
- The workplace environment is very important to workers.**

Questions for Coordination

Work

- What needs to be done now?
- What are the supporting materials?

Plans

- Who wants it done?
- What are the options at this point?
- What will happen after this?
- What has led up to this point?
- Who else is involved?

Plans are the Key

- **Expression of future possible actions.**
- **Tell who might do those actions.**
- **Communicates current status.**
- **Keep a list of past actions.**

Situated Action

“[The term ‘Situated Action’] underscores the view that every course of action depends in essential ways upon its material and social circumstances. Rather than attempting to abstract the action away from its circumstances and represent it as a rational plan, the approach is to study how people use their circumstances to achieve intelligent action.”

» Lucy Suchman, 1988

Keeping Workers Involved

“Technological design embodies assumptions that can either invite or extinguish a human contribution”

“There is a need to create organizational environments that support the quality of effort and the kinds of relationships in which intellectual competence can be demonstrated.”

» Shoshanna Zuboff, 1988

Story - step 1

- *Jack decides to submit a paper to a conference.*
- *He will make a plan to do it.*
- *He looks for a template, but doesn't find one, so he starts creating one*

Ad Hoc Behavior

- **Many of our daily activities lack the rigorous repeatability required for a predefined process, yet have elements of process.**
- **Work is seen as a collection of activities, some of which are enabled at the current time.**
- **Activities are a universal concept.**

Story - step 2

- **Creates a process representing the goal.**
- **Doesn't know how to get there yet.**
- **Doesn't know exactly who will be involved.**
- **Starts with Get conference info, write paper**
- **All assigned to himself at this point.**
- **Recognizes that he will have to decided whether to go or not - if not, then abort**
- **Causes tasks to appear on his task list.**

Partial Plans

- **Ability to add activities and options to a plan on the fly means that the plan does not have to complete from the start.**
- **All possible exceptions do not need to be accounted for in advance.**
- **Activities are situated in the context of the plan and need only enough details to make sense in that situation.**

Story - step 3

- **Call for papers arrives, decides that this is a good prospect.**
- **Chooses go ahead.**
- **Fills in review activity, gives two options, assigns to Tom.**
- **Adds expense report activity to end -- I always forget this.**

Requesting Activities of Others

- The activation of a stage assigned to another user causes a work item appears on that user's work list.
- They may decline to do it.
- They may not be able to do it.
- The owner may handle this "exception" by either changing the activity, or assigning it to a different user.

Story - step 4

- **After review, two activities will be started in parallel: reserve tickets and submit to conference committee.**
- **Attend conference added to end.**
- **If accepted, and tickets reserved, then add two more parallel tasks: make camera ready copy, and actually purchase tickets and book hotel rooms. Of course both of those need to be done before you actually go.**

Parallel Activities

- **People work simultaneously.**
- **All participants should be aware of each other's status. Information about process needs to be shared.**
- **Need for synchronization.**

Story - step 5

- **Tom accepts, and brings in his own plan because he routinely reviews documents.**
- **he delegates parts of the activities to others to do work in parallel.**
- **Result of sub-plan feeds back into decision in upper-plan.**

Collaborative Planning

- **Both Jack and Tom are involved in the planning activity.**
- **Each can modify their own parts of the overall plan.**
- **If Jack asked Mary to review the paper, Mary's plan would be used.**
- **The ultimate complete process is in this way optimized for the specific situation.**

What is Workflow?

- **Grew out of office automation, and paperless office movements.**
- **Earliest implementation: Michael Zisman**
 - PhD thesis, Wharton School, 1977
- **Significant contribution: Clarence Ellis**
 - Xerox PARC, around 1980
- **FileNet may have coined the term**
 - around 1984

What is B.P.R.?

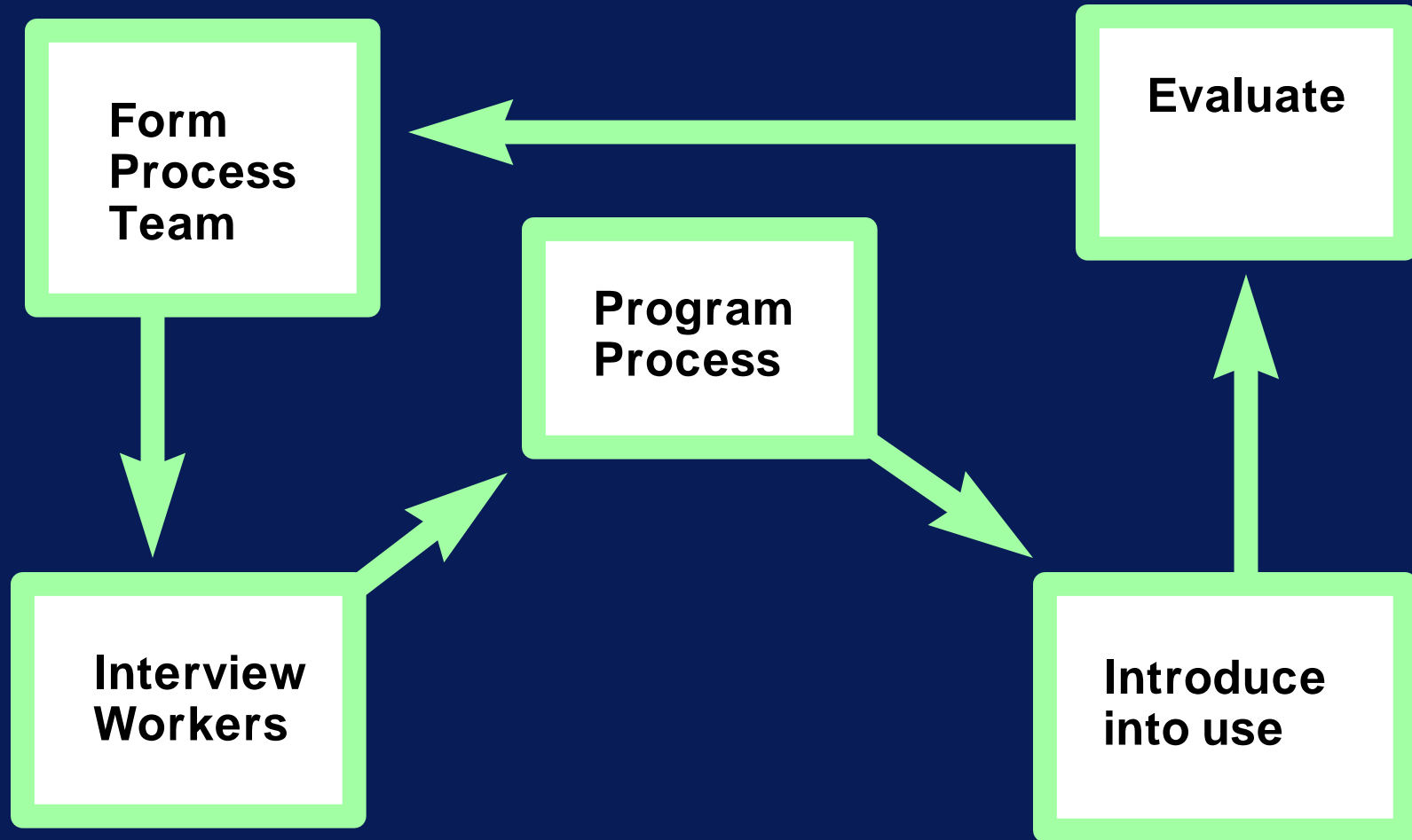
- **Business Process Re-engineering - Michael Hammer**
 - Sloan Management Review July 1990
 - Reengineering the Corporation 1993
- **Process Innovation - Tom Davenport**
 - Process Innovation 1993

Management in the 90's

“In order to gain the improvements in productivity that we seek, it is necessary to rethink the processes that are currently being used and, in many cases, to transform the organization dramatically to gain the improvements in productivity that IT makes possible.”

» Stuart E Madnick, 1991

Standard Process Creation



Interviewing is Problematic

“The skilled carpenter knows just how a given variety of wood must be handled, or what type of joint will best serve his purpose at a particular edge. To say that he ‘knows’ these things is not to say that he can put these ideas into words. That is never entirely possible. ... The practitioner’s knowledge of the medium is tacit.”

Ulric Neisser, 1983

No Fixed Plan

“To fill this gap between formal theory and wisdom, we need a framework that recognizes that the set of activities to be performed is not given in advance, except in a most general way - that one of the very important processes in organizations is the elaboration of this set of activities, and determination of which precise activities are to be performed at which precise times.”

» March & Simon, 1959

Active Listening

“Our communications succeeds in such disruptive circumstances not because we predict reliably what will happen and thereby avoid problems, or even that we encounter problems that we have anticipated in advance, but because we work, moment by moment, to identify and remedy the inevitable troubles that arise.”

» Lucy Suchman, 1988

Collaborative Planning

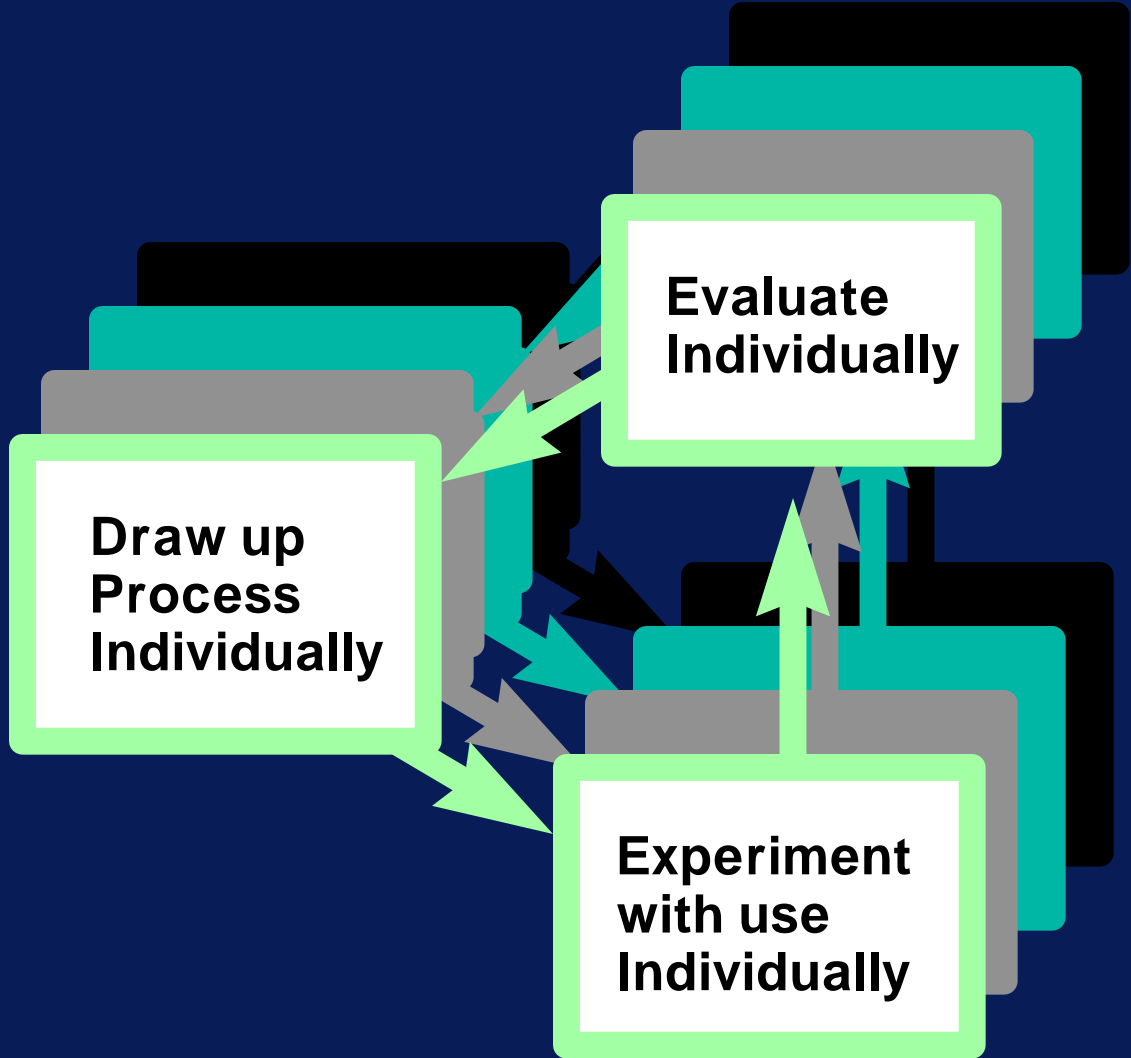
~~Form
Process
Team~~

~~Interview
Workers~~

Draw up
Process
Individually

Evaluate
Individually

Experiment
with use
Individually



Principle #1

**People work for people,
not for machines.**

Authority

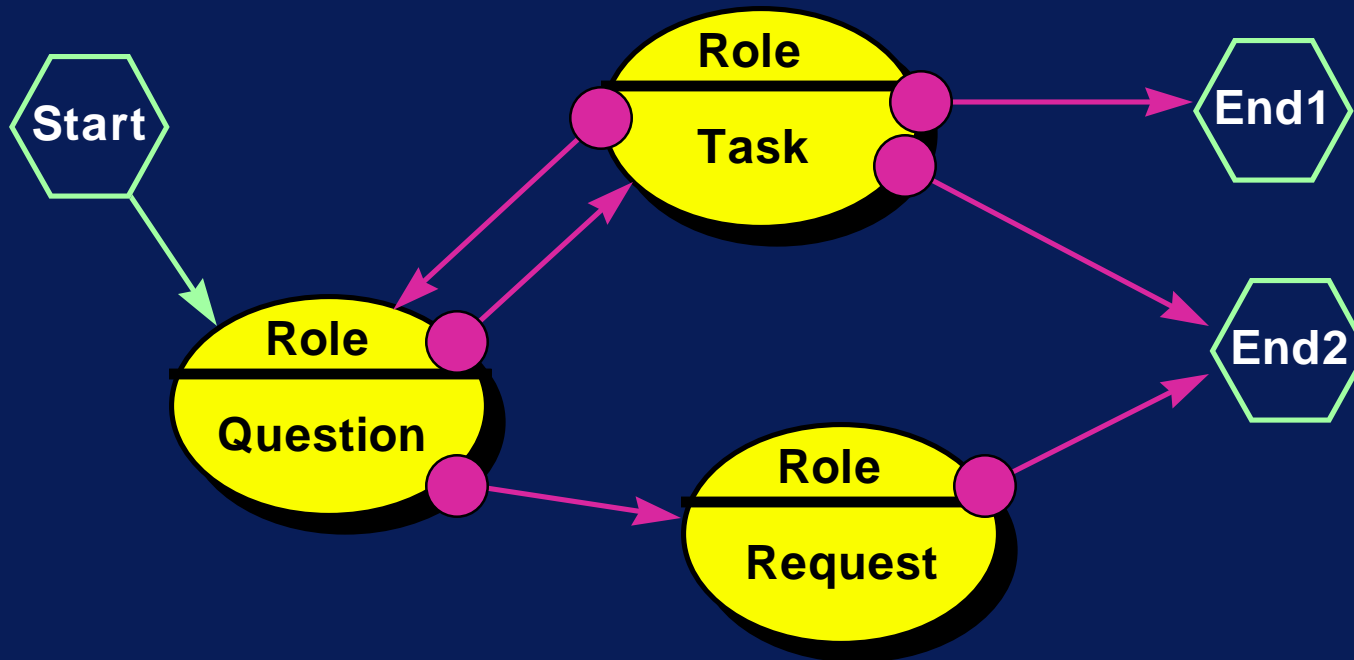
- **Activities may be created in the plan only by the owner.**
- **Therefore the assignee of the activity should see that each activity is effectively a request from the owner.**
- **System must assure that someone can not make an activity that is “forged” to appear to come from someone else.**

Principle #2

**People are good at
making decisions,
Machines are good at
communicating them.**

Stages and Options

Process Plan - Owner



Principle #3

Plans change.

Project Management Software?

- **Traditional Planning software assumes that the real planning happened in a meeting somewhere else.**
- **Assumes that assignee agrees to do the task.**
- **Single-user bottle neck for use.**
- **Need enactment of plans to tell participants when something is expected of them.**

Principle #4

Person responsible for a result, is also responsible for the process to produce that result

Plans as Resources for Action

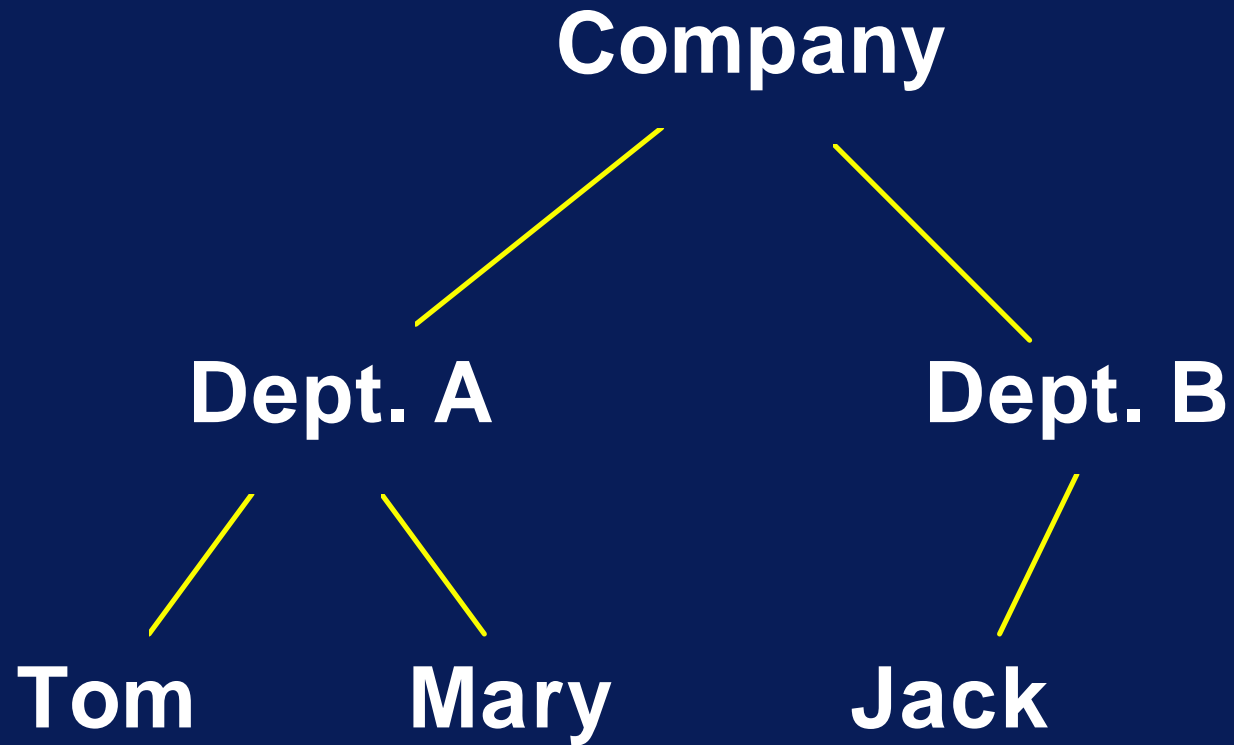
“Just as it would seem absurd to claim that a map in some strong sense controlled the traveller’s movements through the world, it is wrong to imagine plans as controlling actions.”

» Lucy Suchman, 1988

Principle #5

Different individuals or groups work differently.

Organizational Tree for Templates



Principle #6

**"Location Independence"
is the major benefit of
Information Technology.**

**We should not model process as if
we were using paper that flows from
location to location.**

Principle #7

Keep It Simple

- **Stage represents activity**
- **Activity is described in English (or whatever) without restriction.**

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more....

Guiding Principles

- **People work for people, not machines**
- **People are good at making decisions**
- **Plans change**
- **Responsible for result => responsible for plan**
- **Different groups work differently**
- **Location independence is a key benefit**
- **Keep it simple**

Collaborative Planning

- + Every member can share in planning
- + Different parts owned by different people
- + Plan composed from reusable pieces
- + Loops, branches, decisions allowed
- + Creating the plan can be part of plan
- + Continuously up to date task list

Regatta Technology

- Support the coordination of business processes.
- Help users understand their processes
- Support the change and improvement of processes.

