

JUDCon

JBoss Users & Developers Conference

2012: Boston

Web-based BPM with jBPM 5

Tihomir Surdilovic

JBPM Core Developer

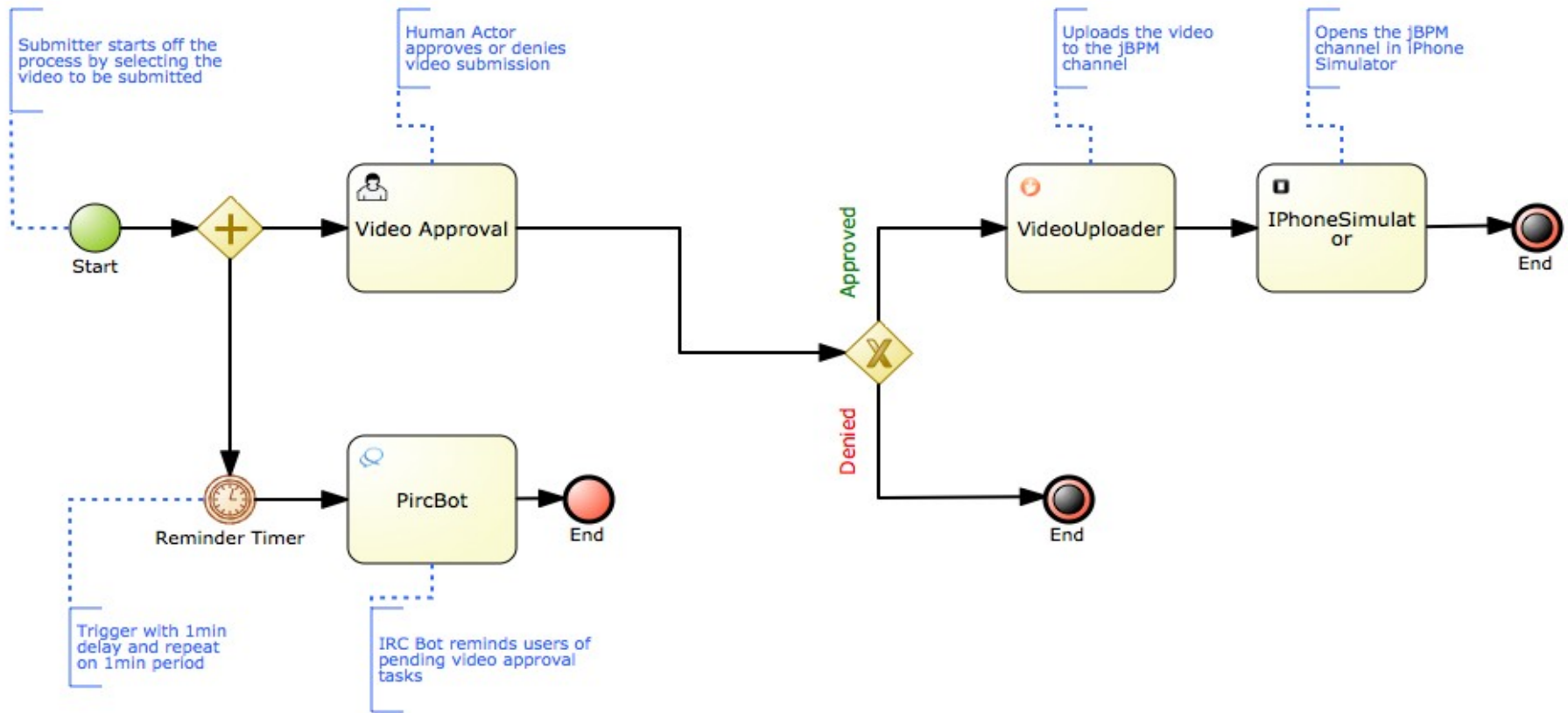
Jun 2012

Agenda

- Introduction
 - BPM / Web-based BPM
 - jBPM 5
 - jBPM 5 Web-based Tooling
- Demo
- Roadmap

Introduction

Business Process Management (BPM)



Business Process: describes a series of logically related work activities which need to be executed to accomplish a business goal. Depicted using a flow chart.

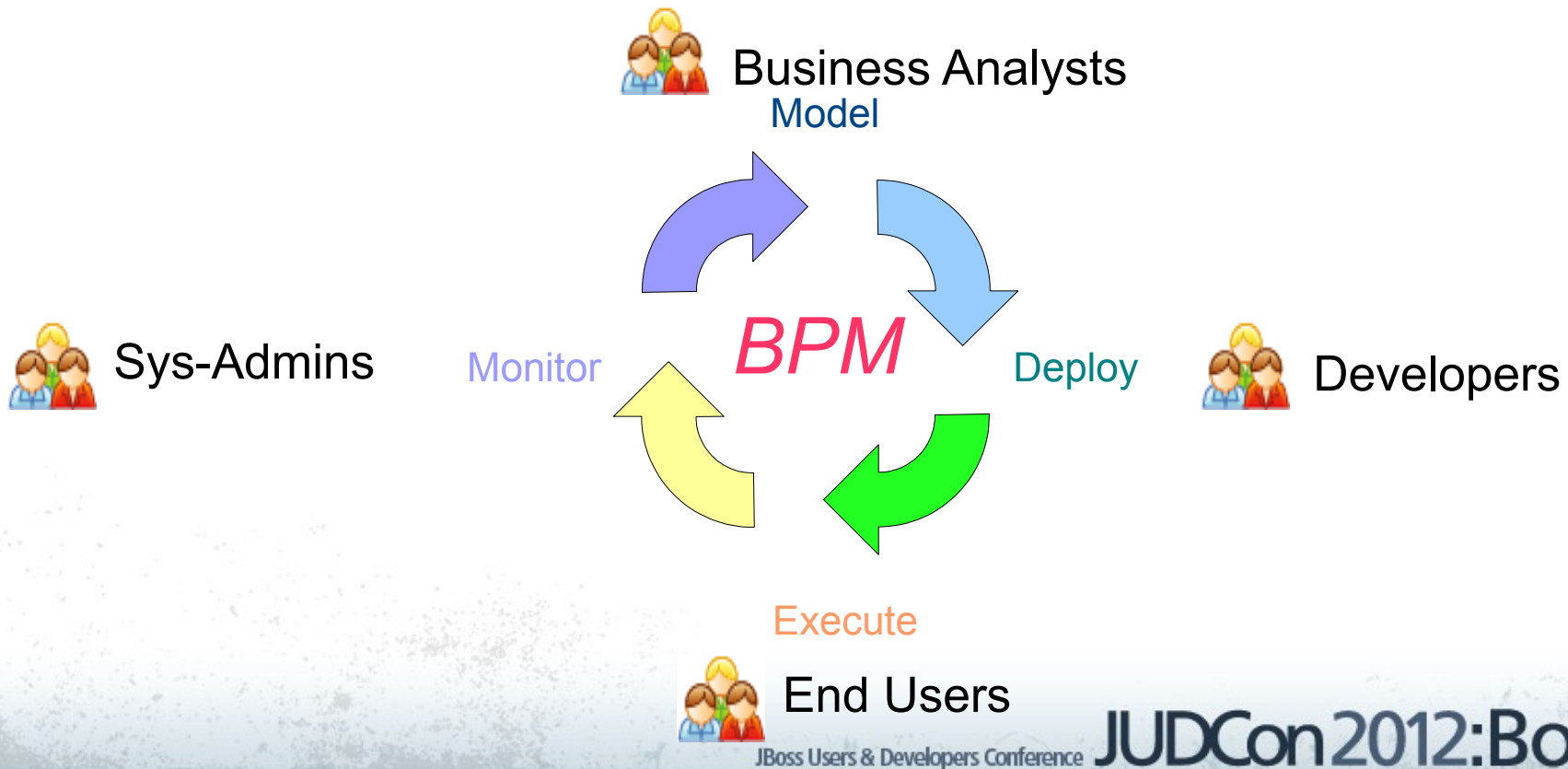
Business Process Management (Cont.)

- **BPM Goals:**
 - Unified methodology for **creating, improving, understanding, and controlling the execution** of business processes.
 - **Abstract** business processes from their existing technology infrastructure (code, various metadata, etc).
 - Increase **visibility** into and **access** to business processes
 - Establish a **common language** for business-IT alignment



BPM Life Cycle

- BPM is not a one-time exercise
- BPM enforces collaboration of multiple participants
- Life Cycle promotes continuous improvements

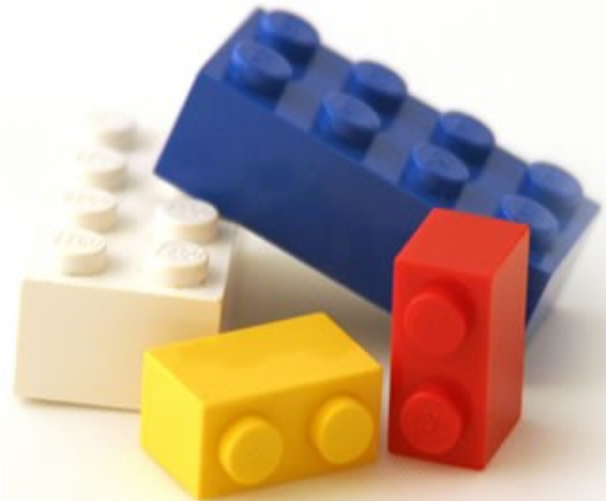


Web-based BPM

- Traditional BPM systems are IT centric, monolithic, difficult for business users.
- Converge BPM and Web to reach **highly modular, reusable, and reconfigurable** systems (“plug-and-play” instead of “programming”)

Building blocks of different complexity levels:

- components (Human Task, Persistence, etc)
- services (REST, JS, Twitter, etc)
- reusable subprocesses
- constructs (Approval, Error Handling, etc)
- task forms
- ...



Web characteristics relevant for BPM

- Collaboration and info/ideas sharing
 - Increased participation level and content sharing

Metadata

Title: **demo2**
Categories: +
Last modified 2012-06-19 02:33
by: admin
Note:
Created on: 2012-06-18 21:22
Created by: admin
Package: defaultPackage
Is Disabled:
Format: bpmn2
UUID: 44512170-86e9-48da-a2a9-291dee610fac

Other meta data
Version history
Description
Discussion

Comment by admin on Tue Jun 19 14:45:24 GMT-400 2012:
Thanks! Let me know when you have any info...

Comment by admin on Tue Jun 19 14:45:13 GMT-400 2012:
OK, looking at it now

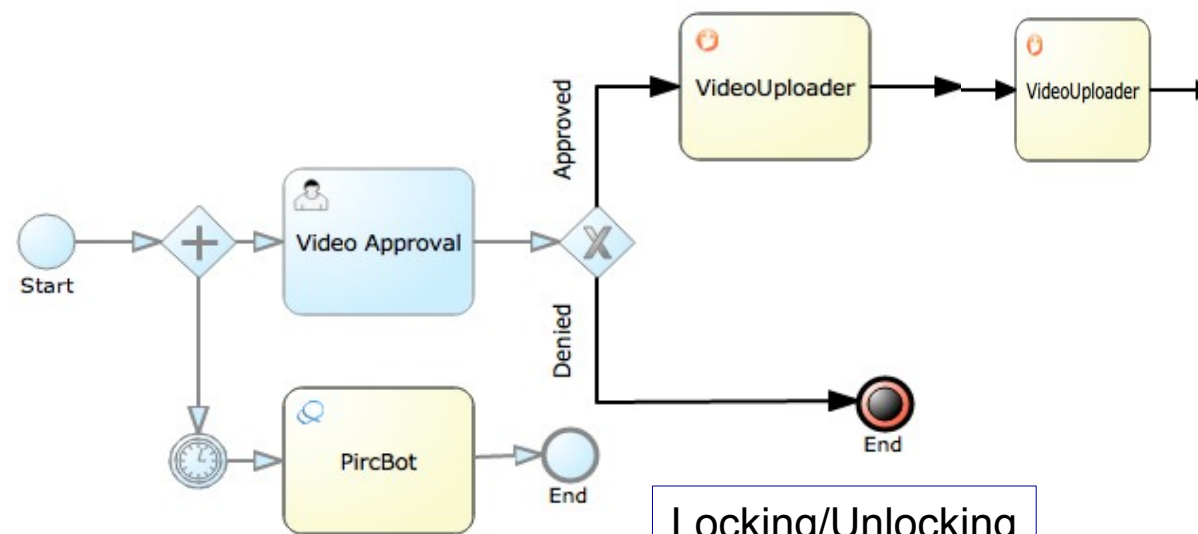
Comment by admin on Tue Jun 19 14:45:05 GMT-400 2012:
Just updated the initial model, please look at and revise

Discussion comments

Shape Repository
Change Perspective
Select a perspective...
jBPM BPMN2 (Full)
Start Events
Catching Intermediate Events

Share Process Image
Share Process PDF
Share Embeddable Process

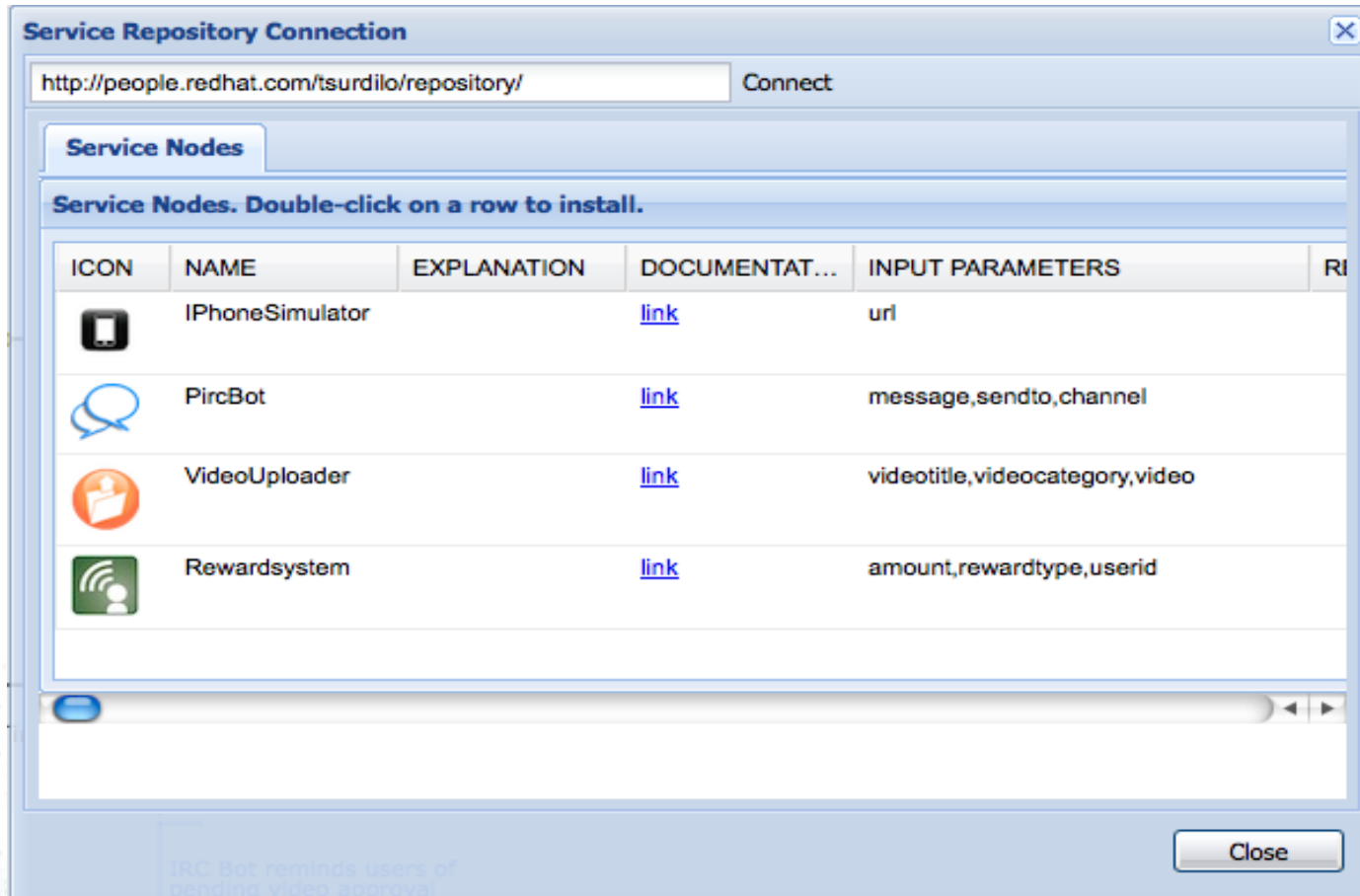
Process Info Sharing



Locking/Unlocking

Web characteristics relevant for BPM (2)

- Ability to put together information from various services (Meshups)

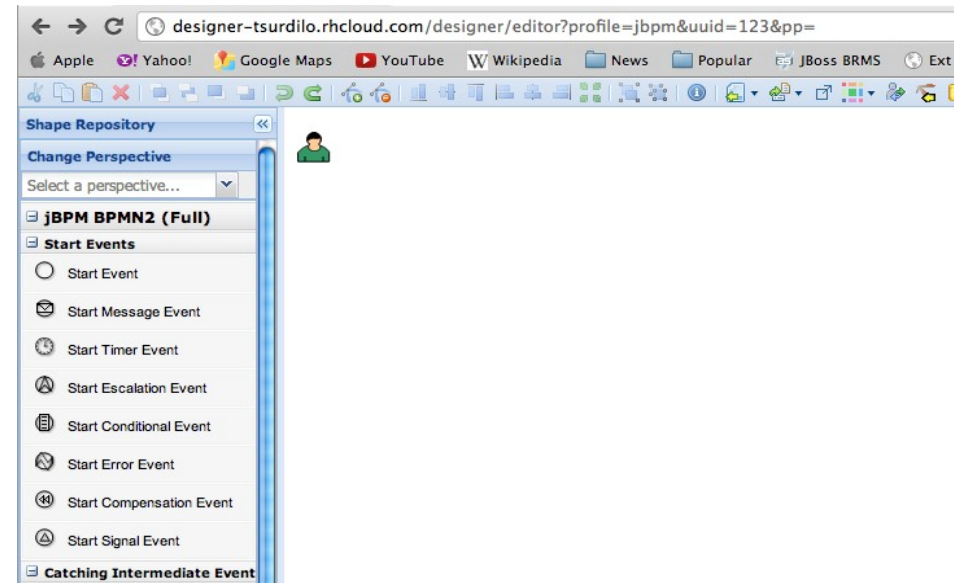


Web characteristics relevant for BPM (3)

- Above the level of a single device
 - Mobile, Cloud
 - “Unlimited” scalability



Mobile



Cloud (OpenShift)

Web characteristics relevant for BPM (4)

- Zero-footprint Rich User Interfaces

The image displays a BPM editor interface. On the left, a process flow diagram shows a 'Start' node leading to a gateway, which then branches to 'Video Approval' and 'PircBot'. 'Video Approval' leads to another gateway, which branches to 'VideoUploader' and 'End'. A 'Validation Results' box is shown below 'Video Approval' with the message '* User Task has no task name.'. On the right, the 'Editing Task Form: defaultPackage.demo2' window shows a 'YouTube' logo and the text 'Submit Video for Approval'. Below this, there are 'Data Inputs' for 'Submitter', 'Video URL', and 'Video Category'. The 'Video URL' field contains 'ytchannel:' and a 'Search' button. A 'SUBMIT' button is located at the bottom right of the form area. The editor interface includes a 'Shape Repository' on the left and a toolbar at the top.

JavaScript/Ajax/3rd party libs

Web characteristics relevant for BPM (5)

- Fast deployment / startup

```
Last login: Tue Jun 19 14:16:11 on console
tihomir@Tihomir-Surdilovics-MacBook-Pro ~ [] $ cd jbpm-demo-installer/
tihomir@Tihomir-Surdilovics-MacBook-Pro jbpm-demo-installer [] $ ant start.demo.noecclipse
Buildfile: /Users/tihomir/jbpm-demo-installer/build.xml

download.h2.check:
    [echo] Checking h2 download ...

download.h2:

start.h2:

start.jboss:

check.jboss.version:

start.jboss5:

check.jboss.version:

start.jboss7:

start.demo.noecclipse:

BUILD SUCCESSFUL
Total time: 22 seconds
```

AS7 – lightning fast

Keys to Web-based BPM

- Realm between the business users and developers

The screenshot shows the 'Process Dictionary Editor' window. On the left, there is a table with 15 entries, each with a red 'X' icon in the right column. The 'Extract Dictionary entries' dialog is open, showing options to extract from documentation or a file. The 'Add' section contains the text 'Video Submission/Approval Process' followed by a 7-step list of process steps.

Name	Aliases	Description	
1 Start			⊗
2 Video Approval			⊗
3 Reminder Timer			⊗
4 PircBot			⊗
5 VideoUploader			⊗
6 iPhoneSimulator			⊗
7 Submitter starts...			⊗
8 Human Actor a...			⊗
9 Triggers with 1...			⊗
10 Approved			⊗
11 Denied			⊗
12 Upload the vide...			⊗
13 Open the jBPM ...			⊗
14 End			⊗
15 IRC Bot remind...			⊗

Extract Dictionary entries

From Documentation **From File**

Process Documentation Select: Choose File N...

Highlight text and click on "Add"

Add

Video Submission/Approval Process

1. Submitter starts off the process by selecting the video to be submitted
2. Human Actor approves or denies video submission
3. Until Human Actor acts upon video submission a timer Triggers with 1min delay and repeats on 1min periods
4. When timer fires, IRC Bot reminds users of pending video approval tasks
5. If Approved, Upload the video to the jBPM channel
6. If Approved also Open the jBPM channel in iPhone Simulator
7. If Denied End the process

Save Cancel

Process Dictionary

The screenshot shows an 'Expression Editor' window with a code editor containing a Java expression. A dropdown menu is visible, showing auto-completion suggestions for methods like 'getProcessInstance()', 'getNodeInstance()', 'getVariable(variableName)', 'setVariable(variableName, value)', and 'getKnowledgeRuntime()'. The background shows a BPM process diagram with a 'Properties (Sequence Flow)' panel on the right.

```
return ((String) koontext.getVariable("outcome")).equals("Approve");
```

API Auto-Completion

Keys to Web-based BPM (2)

- “Zero code” from business model to executable business process

The screenshot displays a software interface for editing BPMN2.0 processes. On the left, a 'Shape Repository' shows a 'Start' event and a connector. The main area is split into two panes: 'BPMN2 Source' and 'Editor for Data Assignments'. The 'BPMN2 Source' pane shows XML code for a process definition, including namespaces and a task definition for 'Video Submission/Approval Process'. The 'Editor for Data Assignments' pane shows a table of data assignments for the task.

Add Assignment	
From Object	Assignment Type
1 TaskName	is equal to
2 video	is mapped to videoIn
3 category	is mapped to categoryIn
4 commentOut	is mapped to comment
5 outcomeOut	is mapped to outcome
6 titleOut	is mapped to title

Overlaid on the right is the 'Editor for Variable Definitions' dialog, which contains a table of variables:

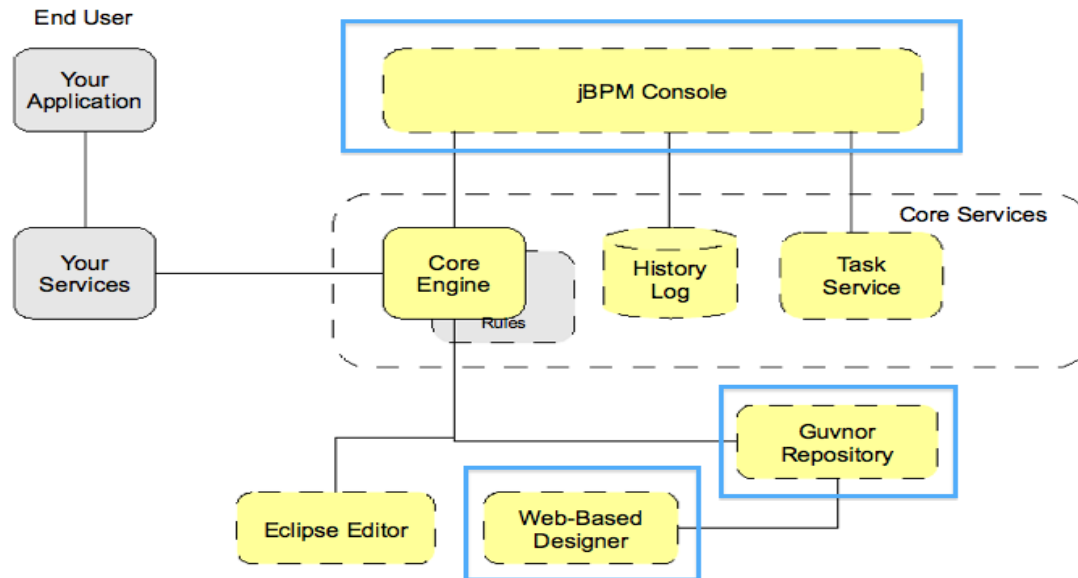
Add Variable		
Name	Standard Type	Custom Type
1 submitter	String	
2 title	String	
3 video	String	
4 comment	String	
5 outcome	String	
6 category	String	

At the bottom center, a box labeled 'Editor Widgets' is visible.

Dynamic BPMN2.0 Generation

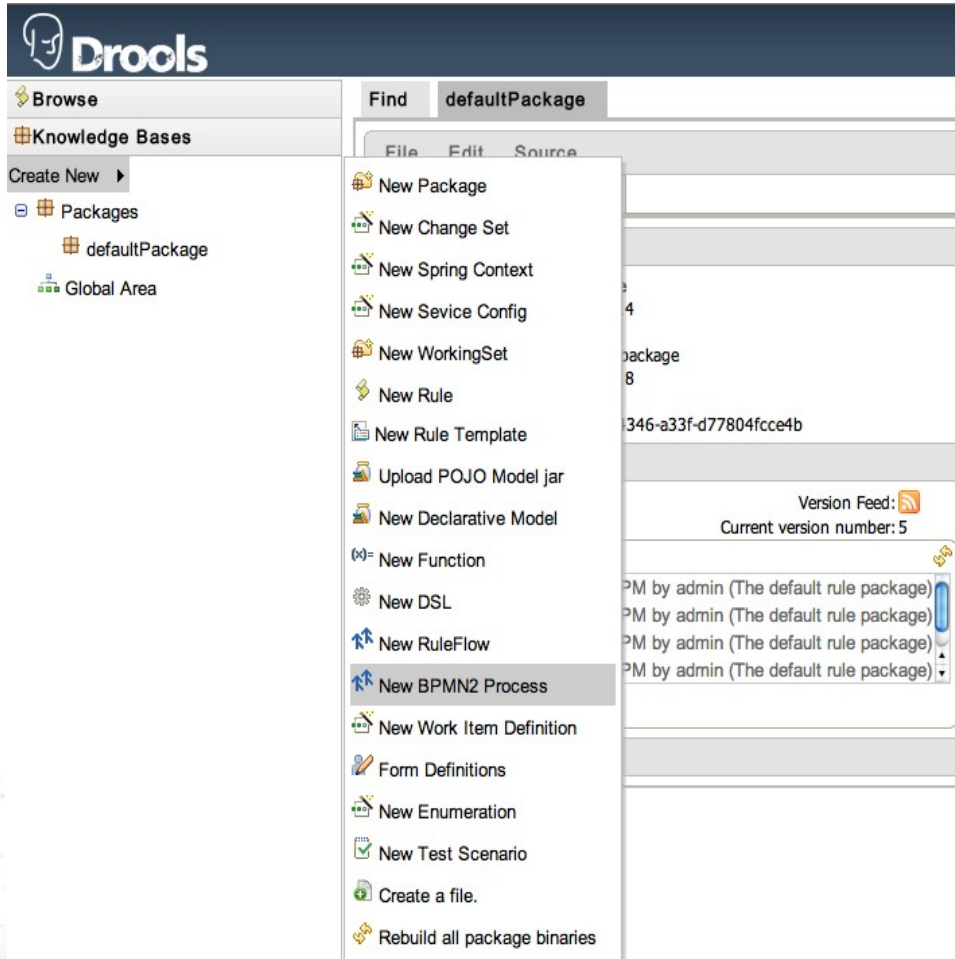
Overview of jBPM 5

- Open-source BPM project
- Supports entire BPM Life Cycle
- Embeddable Process Engine (native BPMN2.0 support)
- Web-based and Eclipse-based tooling support
- Powerful Rules and Events Integration



JBPM 5 Web-based tooling

Drools Guvnor



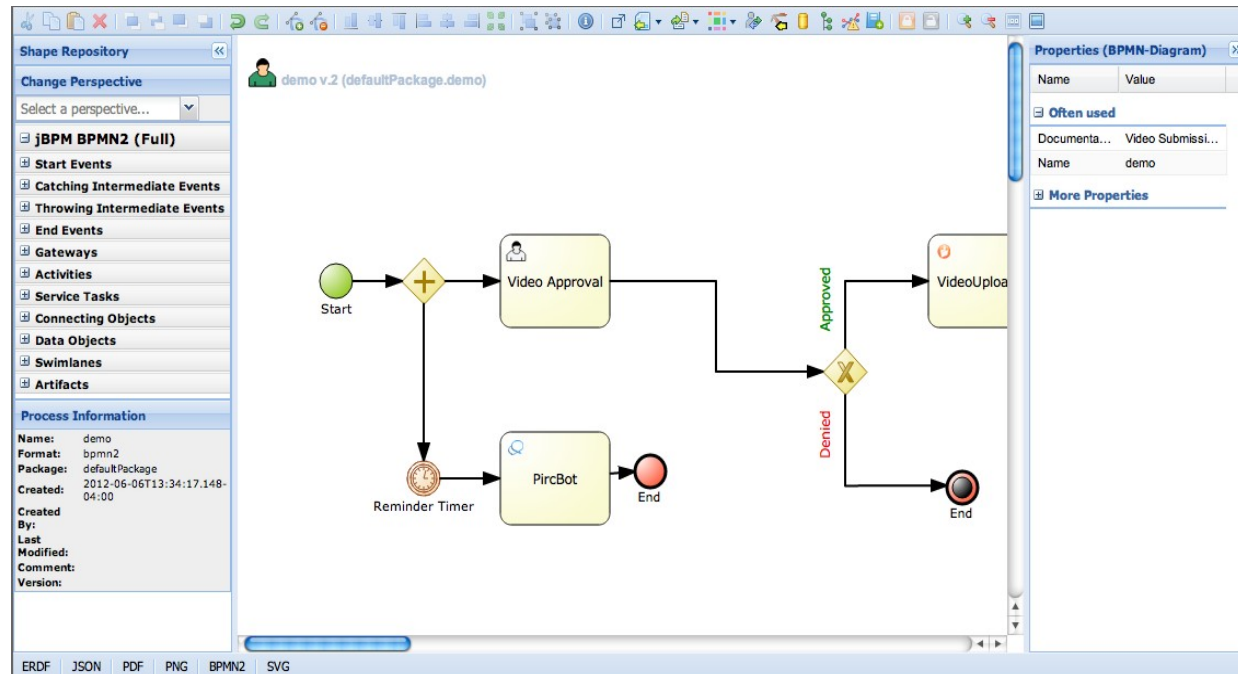
The screenshot displays the Drools Guvnor web-based tooling interface. The top navigation bar includes the 'Drools' logo and a 'Browse' section. The 'Browse' section shows a tree view of 'Knowledge Bases' with 'defaultPackage' selected. A 'Find' search bar is visible, and a dropdown menu is open, listing various actions such as 'New Package', 'New Change Set', 'New Spring Context', 'New Service Config', 'New WorkingSet', 'New Rule', 'New Rule Template', 'Upload POJO Model jar', 'New Declarative Model', 'New Function', 'New DSL', 'New RuleFlow', 'New BPMN2 Process', 'New Work Item Definition', 'Form Definitions', 'New Enumeration', 'New Test Scenario', 'Create a file.', and 'Rebuild all package binaries'. The main content area shows a version feed for 'Current version number: 5'.

- Web-based knowledge-asset **management**
- Knowledge **repository**
- Asset **storage** and **versioning** support (JCR 2)
- Asset **validation, testing, and deployment**
- Guided **widget editor** support for all knowledge asset types
- Multiple **access points** to stored knowledge data: REST/WebDAV
- **Authorization** and **authentication** support

JBPM 5 Web-based tooling (2)

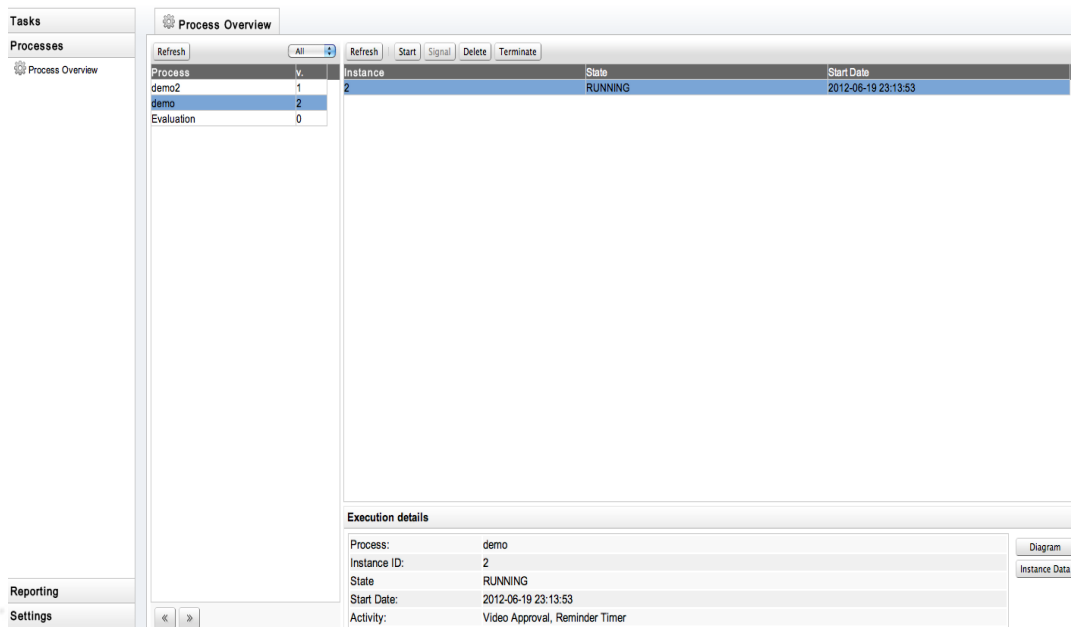
JBPM Designer

- Web-based **BPMN2.0** Editor
- **Create/Modify** executable business processes and Task Forms
- Public **JavaScript API**
- Support for **Service Nodes, Service Repository, Process Image/PDF, Visual Validation, jBPM 3 process migration, Locking/Unlocking, In-line Process/Task Forms editing, custom Data Input Editors, Auto-completion** for script, ...



JBPM 5 Web-based tooling (3)

JBPM Console



The screenshot shows the JBPM Console web interface. On the left, there is a navigation menu with 'Tasks', 'Processes', 'Reporting', and 'Settings'. The 'Processes' section is active, showing a 'Process Overview' page. The main content area contains a table of process instances and an 'Execution details' panel.

Process	v.	Instance	State	Start Date
demo2	1	2	RUNNING	2012-06-19 23:13:53
demo	2			
Evaluation	0			

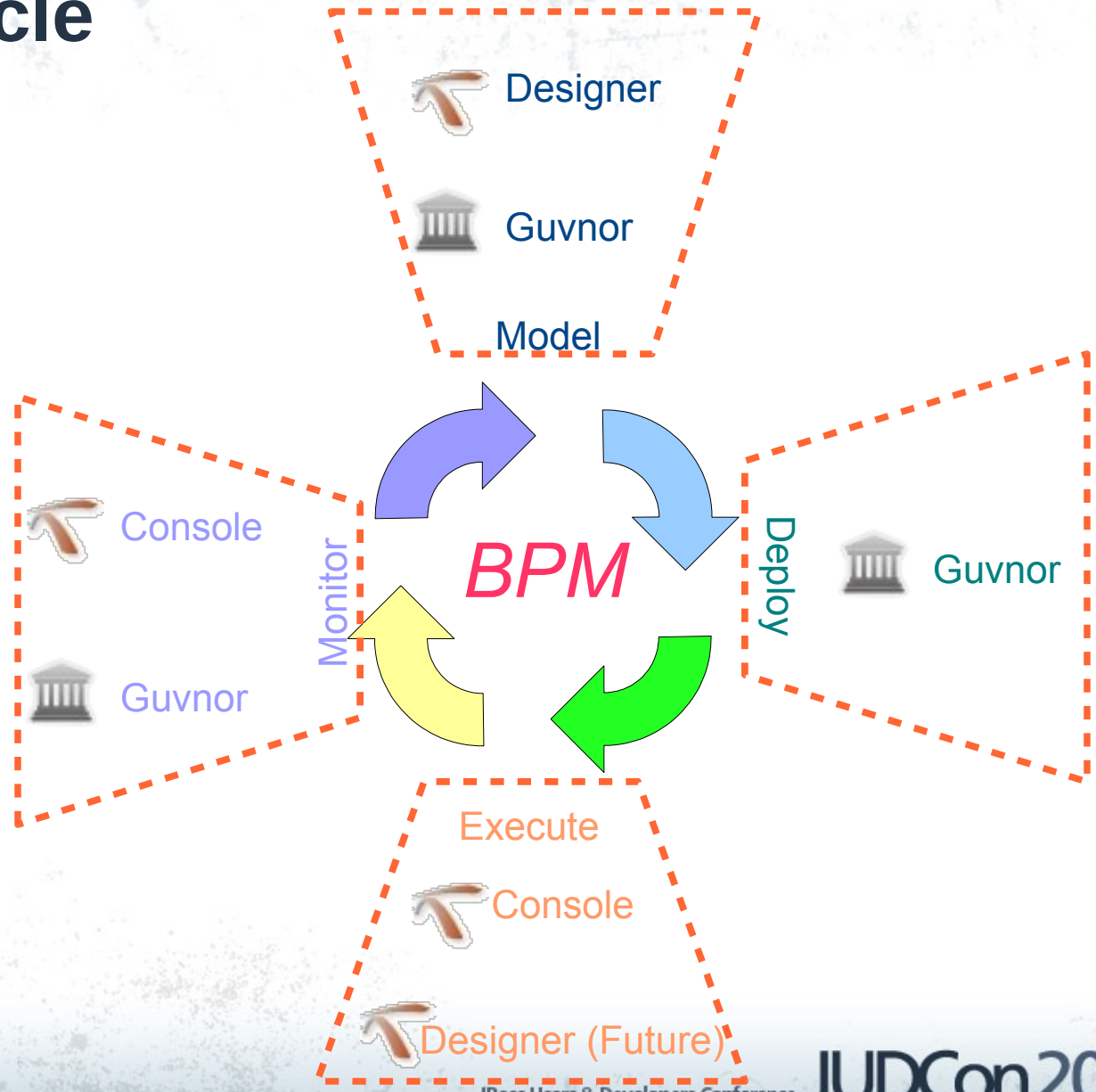
Execution details

Process:	demo
Instance ID:	2
State:	RUNNING
Start Date:	2012-06-19 23:13:53
Activity:	Video Approval, Reminder Timer

Buttons: Refresh, Start, Signal, Delete, Terminate, Diagram, Instance Data

- Web-based Process Instance **Management Environment**
- **Start/stop/signal** your process instances
- **Inspect** process instance state
- Inspect your **human task** lists and execute those tasks
- **Generate** process execution Reports
- **Exposes** REST interface to clients

JBPM 5 Web-based tooling within the BPM Life Cycle



Demo

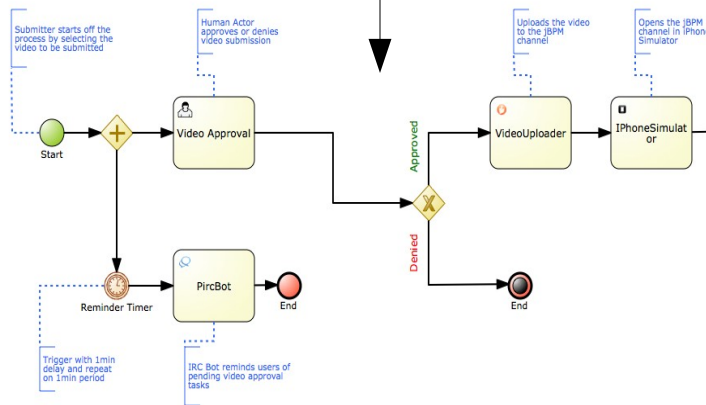
Example: Video Submission Process



Submit



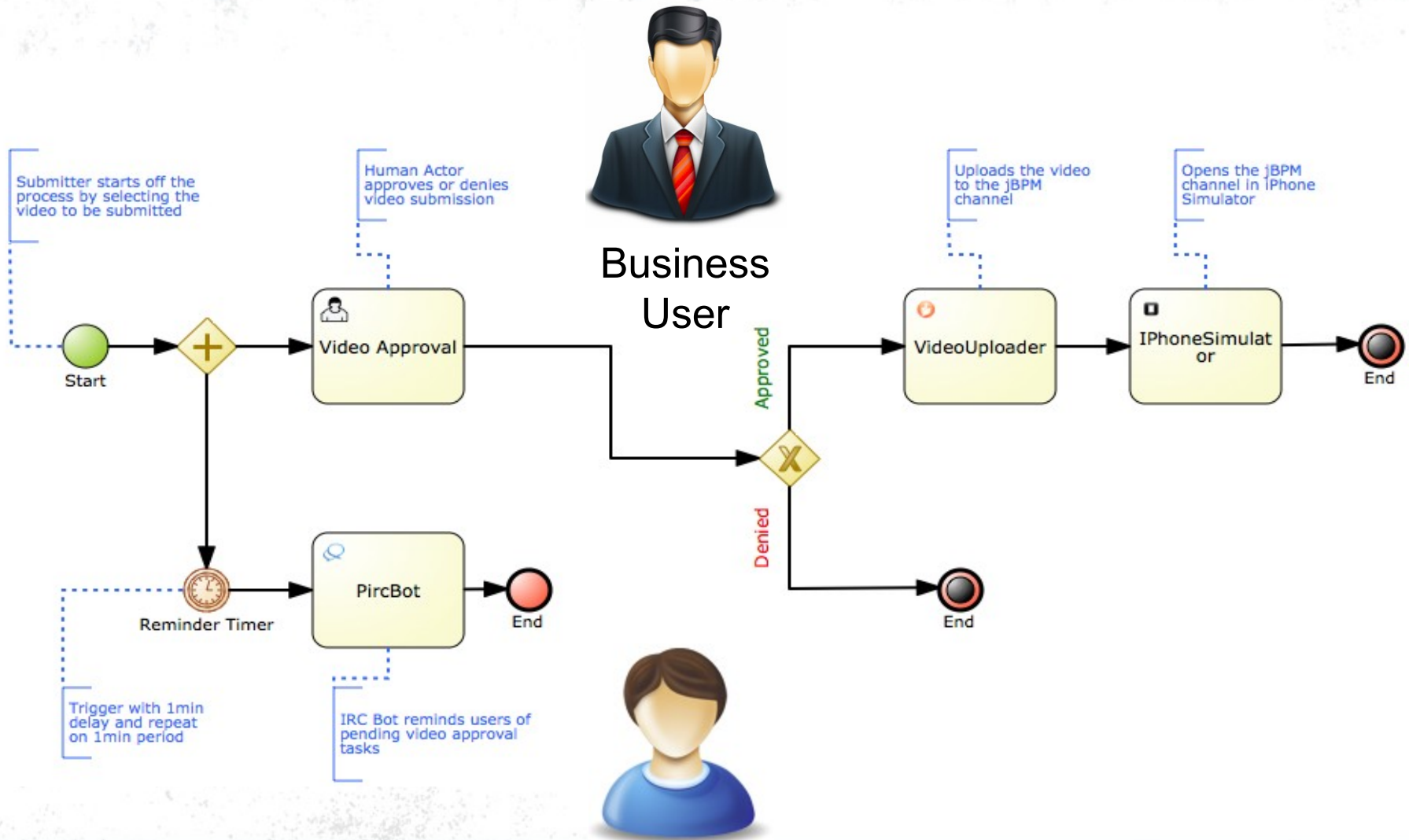
Upload



Video Submission Process

- **Requirements**
 - **Model, Deploy, Execute, Monitor** using jBPM Web-based tooling
 - **Live video feeds** from YouTube
 - IRC-based **notification** of pending tasks during process execution
 - Use **Form Widgets** for Process and Task Forms
 - **Live preview** of approved videos via Mobile Simulator

Video Submission Process



Developer

JBoss Users & Developers Conference

JUDCon2012:Boston

Video Submission



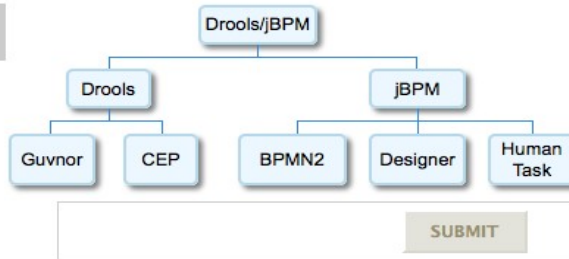
Submit Video for Approval

Data Inputs

Submitter

Video URL

Video Category



End User



Approver

JBoss Users

Video



Video Info

Title

jBPM Designer 2.1 released

Category

jBPM

Published

2012-04-10T05:14:35.000Z

Last Updated

2012-05-20T05:10:48.000Z

Author

tsurdilovic

Rating

5

Views

2596

Likes

1

Dislikes

0






Actions

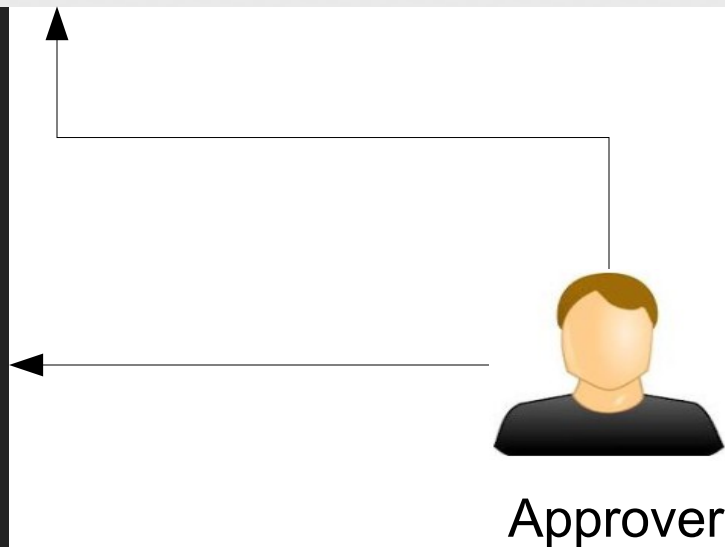
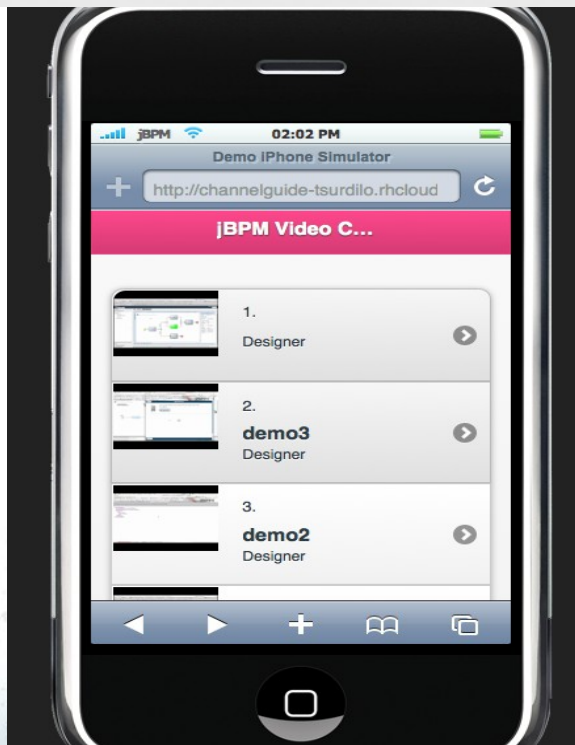
Comment

APPROVE

DENY

Video Submission

	DemoBot tsurdilovic: You have pending video approval tasks.	2:35
	tsurdilovic DemoBot: show details	2:35
	DemoBot tsurdilovic: Task{name=approve id=1 assignee=tsurdilovic taskId=1 processInstanceId=1 state=ASSIGNED priority=0}	2:35
	tsurdilovic DemoBot: release all	2:36
	DemoBot tsurdilovic: Released Task[id=1]	2:36



Demo

Web tooling Roadmap

- Overall enhancements of tooling functionality
- Enhance Process/Task Form creation (Form Widgets)
- User defined Data Input Editors
- Integration
- Test generation
- Simulation and Replay
- Cloud (OpenShift)
- Mobile
- Enhance Social modelling
- Extend BPMN 2.0 support
 - “Common Executable” subclasses

Thank you!

- jBPM home page: <http://www.jboss.org/jbpm>
- Source: <https://github.com/droolsjbpm/jbpm>
- Hudson: <http://hudson.jboss.org/hudson/job/jBPM>
- Blog: <http://kverlaen.blogspot.com>,
<http://surdilovic.wordpress.com>
- IRC: [#jbpm](#) on freenode
- Mailing list: jbpm-dev@jboss.org
- User forum: [https://community.jboss.org/en/jbpm?
view=discussions](https://community.jboss.org/en/jbpm?view=discussions)