



PNav: Process Navigator for the Design of New Business Process Models

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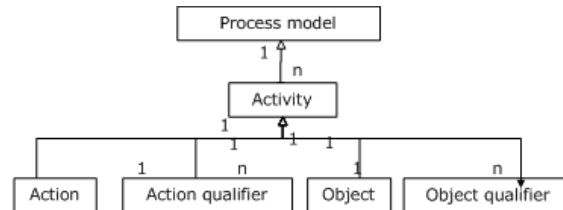
Motivation and Challenges

- Enterprise process repositories contain a large number of activities that can be re-used when redesigning existing processes or whenever the need for new processes arises
- Process modeling is considered a manual, labor intensive task, whose outcome depends on personal domain expertise with errors or inconsistencies that may lead to bad process performance and high process costs
- Hence, reuse of activities can save design time and support non-expert designers in creating new business process models

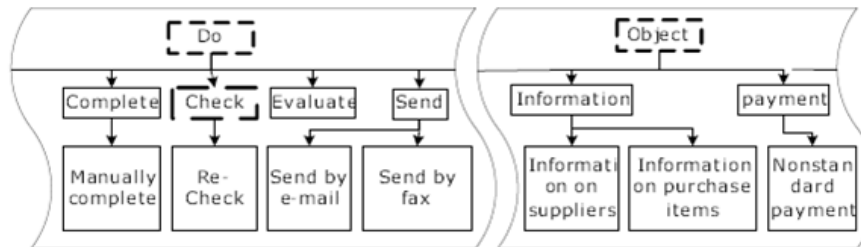
The *PNav* *Prototype*

- A process navigator that assists designers in designing new process models
- Generates activity suggestions for the newly generated process models
- The business logic for such suggestions is extracted from process repositories through the analysis of existing business process model activities
- Each activity is encoded automatically as a descriptor, using the PDC notation. The collection of all descriptors formulates a descriptor space, and distances between coordinates determine their business process conduct proximity

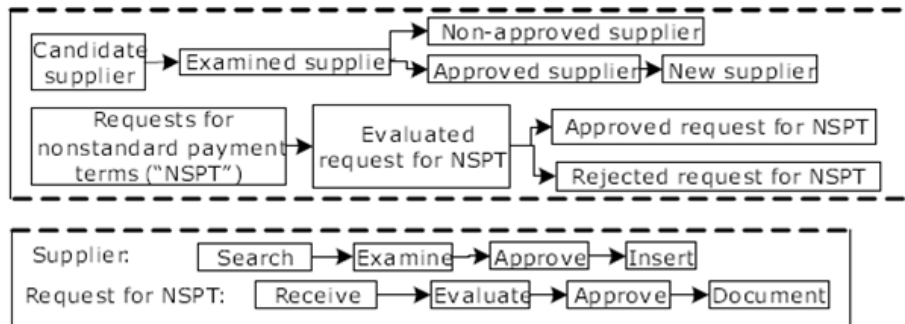
The Process Descriptor Catalog model (“PDC”)



The Process Descriptor Model



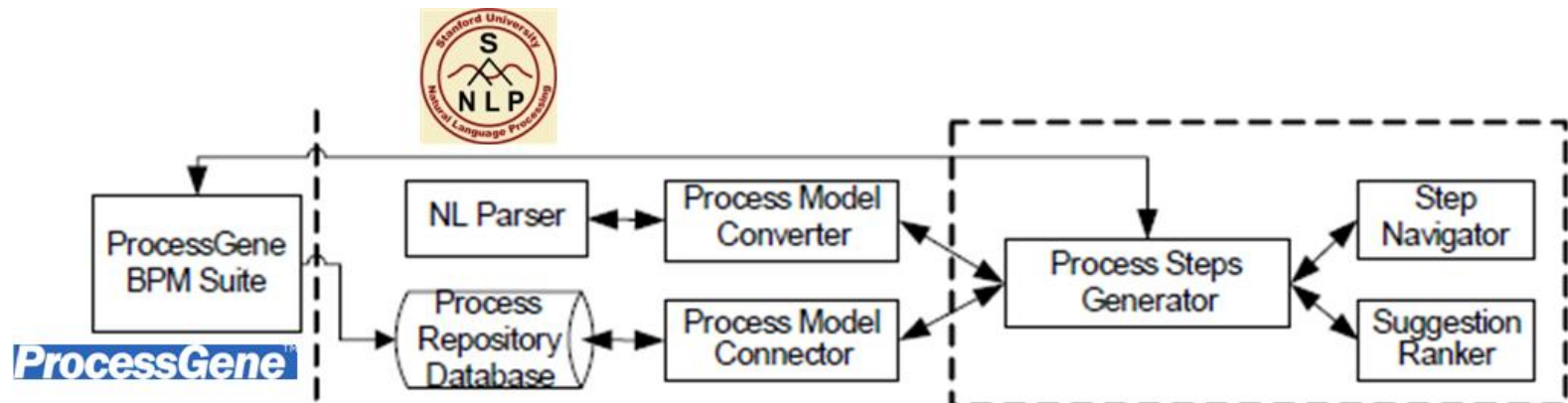
Segments of the action hierarchy model and the object hierarchy model extracted from the OBM for procurement processes



Segments of the action sequence model and the object lifecycle model extracted from the OBM for procurement processes

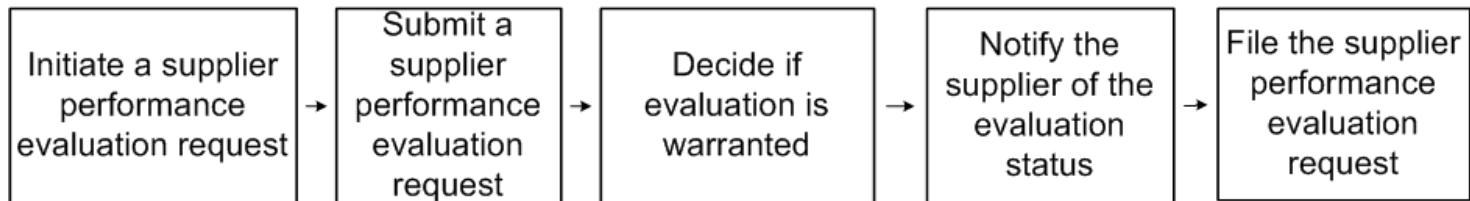
PNav Architecture

- *PNav implements a client-server architecture*
- Server side logic is implemented in PHP using a MySQL database; The client runs within an Internet browser and is implemented in HTML and JavaScript, with AJAX calls to the server



Example for using *PNav* for *Designing a New Process Model /1*

- We demonstrate the applicability of our ideas using processes from the Oracle Business Model
- The example supports the design of a new business process for: “Evaluate supplier performance”



- The demo user shall provide a starting activity and then interact with *PNav* to receive a ranked list of suggested activities, refine the suggestions and move on to the next activity

Example for using *PN_{av}* for *Designing a New Process Model /2*

[Home](#) [Navigator](#) [Experiment](#) [Settings](#) [About](#) GO

Database

select: s8_sromku

Process

Initiate a supplier performance evaluation request

↓

submit a supplier performance evaluation request

Logging

Severity: error

NAVIGATOR

select the algorithm you want to run

Activity name: Initiate a supplier performance evaluation request +

Decompose

Object: request

Action: initiate

Object qualifiers: supplier performance evaluation

Action qualifiers:

Algorithm type: Next

Sort: ☒

Add change level signs: ☐

Perform Algorithm ✓

Results:

Num	Sign	Sentence	Points	Options
1		file a supplier performance evaluation request	3	+ @

Example for using *PN_{av}* for Designing a New Process Model /3

Database

select: **s8_sromku**

Process

- Initiate a supplier performance evaluation request
- submit a supplier performance evaluation request
- decide if evaluation is warranted

Logging

Severity: **error**

NAVIGATOR

select the algorithm you want to run

Activity name: **decide if evaluation is warranted** +

Decompose ✓ decomposed by NLP

Object: **evaluation**

Action: **decide**

Object qualifiers: **warranted**

Action qualifiers:

Algorithm type: **Refine**

Sort: ☒

Add change level signs: ☐

Perform Algorithm

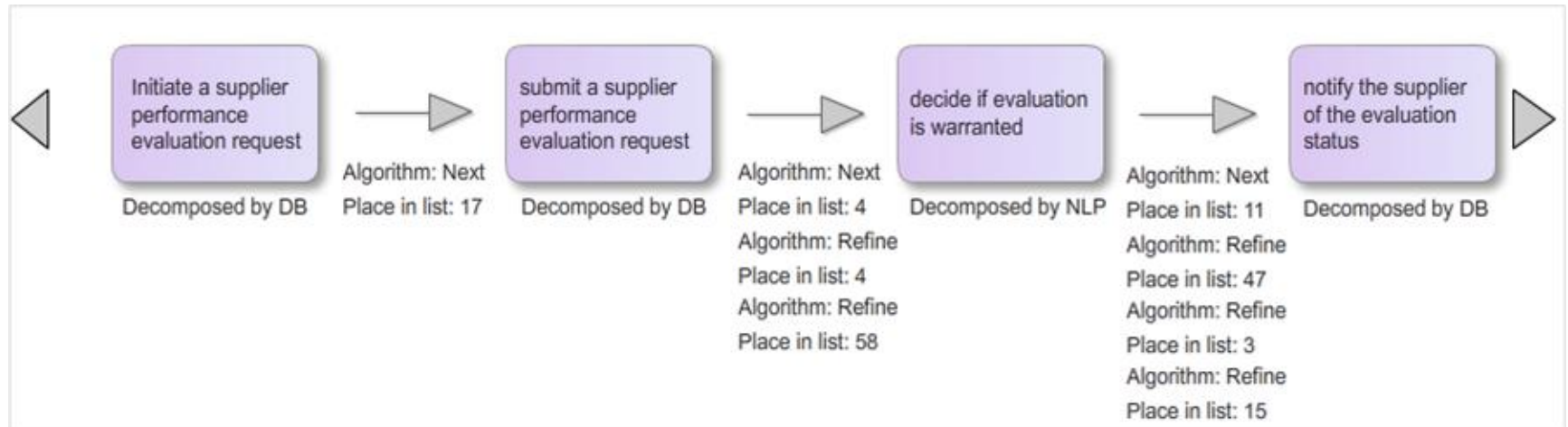
Results:

Num	Sign	Sentence	Points	Options
1		requires further review decide a request	2	+ ⊗
2		for nonstandard payment terms evaluate a request	3	+ ⊗
3		for the requirements decide a request	101	+ ⊗

Process

- Initiate a supplier performance evaluation request
- ↓
- submit a supplier performance evaluation request
- ↓
- decide if evaluation is warranted
- ↓
- notify the supplier of the evaluation status
- ↓
- file the supplier performance evaluation request

Example: graphical log of design steps



Thank you !

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