

# Process and Requirements

The Move Toward Alignment of  
Business Process and IT

Personal Journey and Bigger Picture

# Process Oriented Requirements Engineering

## Traditional linkages (recent past)

- A research theme (since the mid 1990s) has been the examination of the relationship between business process models and requirements. Themes within this include:
- Providing a traceable route through from process models to requirements and on to specification. (E.g., PM to Use Case).
- Using process modelling techniques to enhance requirements models. (E.g., as with EDUCATOR)

## More recently (last few years) interest has focussed upon

- **Business strategy and IT alignment.**
- A particular concern is that strategy can be traced through to requirements, so that IT systems support organisational goals.
- Groundbreaking work has been carried out in conjunction with researchers at National ICT Australia (NICTA), representing a shift in emphasis toward the strategic view.

# Origins of EDUCATOR

- This was the idea of using process modelling technology or approaches to enhance existing approaches to specification.
- To some extent full circle, in that PM enactment had evolved from executable specification.
- Enactable Process Models: RoIEnact, came from work on Business process modelling: families of models and mapping among them e.g., RADs to CSP.
- Use Cases and Specification came from work on use case guidelines.

# EDUCATOR and Alignment?

- In addition, the EDUCATOR work is also related to the Process Oriented Requirements theme
- Allows the 'enhanced' specifications to capture the richness of process models,
- thus minimising the information loss in moving from process model to specification.
- The work is to be extended with one of the newly allocated bursaries 'Extending use case specification to derive systems design models'.

# Origins of Business Process and IT Alignment Research

- Standard work on business modelling
- Problem Frames and the introduction and application of PFs.
- Early papers on alignment (mostly at providing mapping to IT – related to some of the standard business modelling ideas).
- Later papers which move towards strategy.

# Standard Business Process Modelling – ok these are mine

Understanding that business process modelling involves a different audience, and ways of dealing with that.

- Abeysinghe, G.K., P. Henderson, K.T. Phalp and R.J. Walters (1997), An Audience Centred Approach to Business Process Reengineering, Proceedings of the Fifth International Conference on Re-Technologies for Information Systems RETIS'97,

Having combinations, user facing and formal models

- Abeysinghe, G.K. and K.T. Phalp (1997), Combining Process Modelling Methods, Information and Software Technology, vol. 39, num. 2, Elsevier Science.

Using enactable process models as user facing models:

- Phalp, K.T., G.K. Abeysinghe, P. Henderson, and R.J. Walters, (1998), RolEnact: Enactable Models of Business Processes, Information and Software Technology, vol. 40, num 3.

Families of models. Mechanisms for increasing rigour

- Phalp, K.T (1998), The CAP Framework for Business Process Modelling, Information and Software Technology, vol. 40, num 13.

# Some early Alignment Papers

- An evolution of the problem frames idea
- K. Cox, K. Phalp, A. Aurum, S. Bleistein and J. Verner (2004), Connecting Role Activity Diagrams to the Problem, Frames Approach, Australian Workshop on Requirements Engineering, 6-7 December, Adelaide, Australia.
- A slight aside – where the intention was to examine categories of business and find appropriate frames.
- Jeary, S and Phalp, K.T., (2004), On the Applicability of Problem Frames to Web-based Business Applications, First International Workshop on Advances and Applications of Problem Frames (IWAAPF'04) an ICSE'04 Workshop, Edinburgh, Scotland, 24th May 2004
- The first real depiction of the idea (using problem frames)
- Cox, K & Phalp, K.T. (2003), From Process Model to Problem Frame, 9th International Workshop on Requirements Engineering: Foundation For Software Quality - REFSQ'03, Klagenfurt/Velden, Austria, 16 -17, June 2003

# 1st International Workshop on Requirements Engineering for Business Need and IT Alignment (REBNITA 2005)



- **Workshop Aims**

- It is no longer possible to consider IT separate from the business organization it supports, and hence requirements engineering should address the business needs of an organization.
- Business needs can be described through IT alignment with business strategy, including alignment, explicit value analysis of IT, integrated market analysis and product development, as well other types of analysis of business processes, organisational infrastructures, business goals and objectives.
- Though it is recognised that requirements engineering (RE) is a natural bridge that connects the business world and the IT world, much of RE research continues to be solution-oriented and avoids addressing the hard, real-world business problems that confront business practitioners every day.
- This trend, if continued unchecked, threatens to ultimately make requirements engineering research of little relevance or importance to industry.
- As such, the goal of this workshop is to provide a specific forum for research that is motivated by requirements engineering approaches that encompass organizational business needs.

# REBNITA Objectives



1. To promote the connection between business needs and requirements engineering.
2. To investigate and develop new approaches for meeting business need.
3. To empirically evaluate existing approaches in industrial settings.
4. To bring together a diverse audience who recognise the need to apply requirements engineering research on real problems and set an agenda for the future of this field.

# REBNITA Papers & Themes

- *Fact-Based Collaboration Modelling and its Application*
- *Adapting Business Process to Varying Business Needs*
- *Assessing the Usability of VORD for Web Applications Requirements Engineering*
- *Aligning Business Process Models with Specifications using Enactable Use Case Tools*
- *Agent-oriented Requirements Modelling*
- *Value-Based Business-IT Alignment*
- *Aligning Work Processes and the Advisor Portal Bank System*
- *Correlating Architecture Maturity and Enterprise Systems Usage Maturity to Improve Business/IT Alignment"*
- *Business and IT Alignment with SEAM*
- *Examining Stakeholder Priorities for Software Quality Attribute Requirements*
- *The Role of Stakeholder Understanding in Aligning IT with Business Objectives*
- *Predicting Good Requirements? A Risk Based Guide to Business Process Design in Inter-Organisational Business Collaboration*
- *Goal-oriented RE for handling change requirements: An explanation of what stakeholders try to avoid and what they try to achieve"*
- *Applying Value Concepts to Organisational Modelling Measuring the Business / System Alignment*
- *Exploring the Acquisition and Specification of Business Goals in Requirements Engineering*
- *Integrated Methodology for Linking Business and Process Models*

# Alignment Journal Papers

- **These show an evolution towards strategic models and concerns**
- \* S. Bleistein, K. Cox, J. Verner and K. Phalp (2006), B-SCP: a requirements analysis framework for validating strategic alignment of organizational IT based on strategy, context, and process, accepted for publication in Information and Software Technology.
- \* S. Bleistein, K. Cox, J. Verner and K. Phalp (2005), Requirements Engineering for e-Business Advantage, Requirements Engineering Journal (in press): now available on-line.
- \* K. Cox, K. Phalp, S. Bleistein and J. Verner (2005), Deriving Requirements from Process Models via the Problem Frames Approach, Information and Software Technology, Volume 47, issue 5 (31st March), pp.319-337

# Seminar Exercise

- Yes it's a read some papers and feedback exercise.
- The plan is for two of you to prepare an overview of each paper.
- We will (for this week) limit ourselves to the shorter (more digestible) conference papers (largely from REBNITA).
- Entire proceeding available from:

<http://homepage.mac.com/karlalancox/REBNITA2005Program.htm>