Enabling Project-Centred Learning through Flexible Processes: The Cooper Experience

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Goals:

- Support end users to self-organize processes in a CSCL environment
  - Flexible process support
  - Well-organized work
  - Well-understood work

Results:

- Paradigm for management of dynamic processes in a workflow-based system
- Cooper platform implementing dynamic processes
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Flexible process support:

-Learners in distributed project teams require support for:
  Organization
  Communication
  Reviewing and assessment
  Resource management

-Adaptation to:
  Learner’ preferences
  Learner’ prior knowledge
  Learner’ evolution
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Paradigm:
- Atomic Activities
  Analyzed from reoccurring activities in project work
  Library of building blocks for processes
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Atomic Activities:

Planning
- Assign role
- Define task
- Assign task
- Define milestone

Resource management
- Publish resource
- Acquire resource
- Recommend resource

Communication
- Create/manage VOIP Call
- Create/manage Chat
- Create/manage application sharing

Review and Assess
- Define assessment criteria
- Define performance indicators
  - Plan assessment
  - Create review report

Collaborative Open Environment for Project Centered Learning
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Constructing Processes (1 of 2):

- Shared activities
  Multiple actors: AND/OR/XOR operator is used

- Activity composition
  Multiple activities joined together in:
  - Sequence of activities 1 to n
  - Blocks of activities in random order, divided by synchronization gateways that SPLIT or JOIN
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Constructing Processes (2 of 2):

- Data flow of document resources
  - Single activity: resource created/accessed by single activity
  - Process: resource created/accessed by all activities in a process
  - Group of activities: resource visible only to selected set of activities

- Modifying processes (only not started)
  - Activities: replace activity
  - Users: re-assign different user to activity
  - Activity composition: delete, add activities between existing activities
  - Data flow: removal/addition of resources
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System overview:

Data layer
- Models of the User, Process definitions, Process execution

Run time layer
- Computing and serving pages to define processes, control execution

Front end layer
- Web pages for definition/modification of processes
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Results for the User:
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Conclusions:

- Framework is useful in academic/industrial training for support of team-based project learning

- Atomic activity paradigm might be used to analyse dynamic processes in other domains as well

- Web page based definition of (nested) processes is cumbersome: a visual composer is developed.