idSpace

Supporting Designers to develop Innovative Products
Learning support to enhance group creativity

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Online Educa, Berlin, December 3rd, 2008
http://www.idspace-project.org

Facts about the project

• FP7 funded STREP, work programme ICT, Technology Enhanced Learning
• 9 partners, 6 countries, 7 WPs
• Started April 2008, ends April 2010
• http://www.idspace-project.org

Collaboration for Innovation

Tooling of and training for collaborative, distributed, product innovation

idSpace goals

• Innovation is about generating and exploring various ideas that should contribute to the solution of a particular problem
• Innovation is characterised by an intensive collaborative process
• idSpace will be an integrated toolset or environment: – with which to describe ideas, goals, features – which exhibits extensible, informal, pluggable pedagogical approaches

Goals of the workshop

• Provide some background to the project
• Inform people about its progress, and keep doing so (social network site)
• Involving people in the project
• Solicit use cases from interested parties (‘pick your brains’)
• For that we’ll use the nominal group method today

Let’s see what we will see…

• What is innovation and creativity?
• Collaborative strategies
• Collaboration tooling
• Nominal group method
Enhancements of co-crativity and collaborative strategies

What Is Innovation (1/2)?

- Innovation is transformation of existing knowledge and ideas into new or better commercial products that add value to the customer. (Carter Evans & Koop, 1990)
- Innovation (composite definition): a process whereby a new idea is conceived and detailed in the mind, developed into a physical entity through detailed design, analysis, experimentation, and production, and then introduced to give a company a competitive edge.

What Is Innovation (2/2)?

Determinants of Innovative Thinking

- A means of generating innovation is to achieve three objectives:
  - make best use of and/or improve what we have today.
  - determine what we will need tomorrow and how we can best achieve it,
    - to avoid the “Dinosaur Syndrome”
  - Generate new knowledge
    - Knowledge is preserved and transmitted among colleagues.
    - Knowledge creation is the result of collaborative processes.
      - Collaboration for Innovation

Co-creativity: collaborative innovation

- Collaborative creativity requires:
  - Generation of new perspectives, new ideas.
  - Articulation of yet ‘tacit’ knowledge.
  - Exchange of ideas, finding common ground.
  - Learning from each other, existing knowledge.
  - Evaluation of ideas.
  - Collaborative ‘construction’ of new proposition.

Barriers to co-creativity

Breakdowns in product design => learning problems

- Problems idea generation.
- Knowledge articulation-communication.
- Awareness of existing knowledge.
- Lack of enabling instruments: tools lack fluidity for incremental idea structuring.
Learning to collaborate for innovation & creativity

Source: Michael Beyerlein (2006), Keynote Address at American Creativity Association International Conference 2006

Realizing a team’s co-creative potential

• Necessity to learn from existing and each other’s knowledge to generate novel ideas.
• Effective use of appropriate creativity techniques.
• Achieve expansive learning: 1+1=>3

Maximize co-creativity for innovation

• Support for: creativity, person, team, context.
• Fit for purpose, fit for team & context.
• Customized for work-based performance driven learning for new product design.
• Adapted to person-team characteristics.
• Tailored to context of a distributed team.
• Making use of collaborative & creative strategies
• Benefiting from technology support for creativity

Collaborative & creative strategies

• Strategies like brainstorming & Mind mapping encourages open and random creative thinking and communications
  – Six thinking hats is an intuitive way to keep one’s thoughts focused while problem solving
• Strategies like Jigsaw, TAPS advocate that there is no collaboration without communication
  – Groups need not only communication, but also share information, resources and knowledge

Collaboration Tooling

Creativity Sessions

• Collaboration
• White boards
• Drawing
• Post its
• Clustering
• Discussions
• Commenting
• Generating

http://gsic.tel.uva.es/collage
idSpace as a Composite Tool

- Collaborative Topic Map editing
- Individual Maps
- Merging and Transformations
- Problem
- Goals
- History
- Explanations

Collaborative Real Time Editing – Online whiteboard

Preservation

- For later use
- For exploration
- For connections to drawings
- For reasoning (human or machine)
- For evaluation

Consolidation

- From pictures and graphs to documents
- What to put in
- How to arrange it
- …

Idea Triggers

SCAMPER: What are the alternatives?

- For question based creativity techniques
- Guiding the session
- Connects to the other ideas

Idea Exploration

- Ideas from the topic maps can be search for
- Ideas from the topic maps can be traversed as a navigation guide
- Each idea can be validated and certified
Nominal Group Method

- Structured type of brainstorm
- Aimed at producing large numbers of ideas in a relatively short period of time
- Sequence of generating ideas, prioritize issues and achieve a certain consensus
  - Individual brainstorm
    - Think of design problem/case, context, process & technological features to support it
  - Share idea with group: explain ideas
  - Group discussion: discuss & relate ideas
  - Plenary discussion: contrast ideas

The present work was carried out as part of the idSpace project on Tooling and Training for collaborative product innovation [http://idspace-project.org]

It is funded in part by the European Commission FP7-IST-2007-1-41, partners are aau, ucy, ems, link mv, uprc, uni hildesheim,