

## idSpace



### Supporting Designers to develop Innovative Products

Learning support to enhance group creativity

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<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-creativity 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)?



Source: Ed Ashford, presentation by SAS Global

## 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

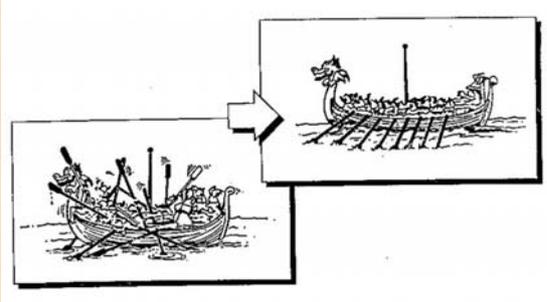
- Collaborative creativity requires:
  - Generation of new perspectives, new ideas.
  - Articulation of yet ‘tacit’ knowledge.
  - Exchange of ideas, finding common ground.
  - Learning from each other, existing knowledge.
  - Evaluation of ideas.
  - Collaborative ‘construction’ of new proposition.

## 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

Configurable advice

## 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



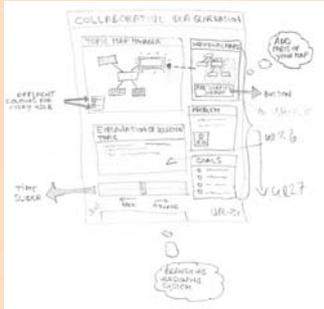
## Collaboration Tooling

## Creativity Sessions



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

## idSpace as a Composite Tool

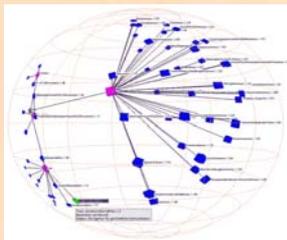


- Collaborative Topic Map editing
- Individual Maps
- Merging and Transformations
- Problem
- Goals
- History
- Explanations

## Collaborative Real Time Editing – Online whiteboard

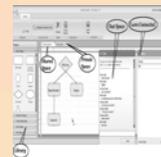


## Preservation



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

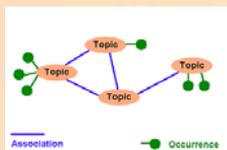
## Consolidation



- 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



**Together we can!**

Working together as a team  
means winning together as a team.

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on Tooling and Training for  
collaborative product innovation  
<<http://idspace-project.org>>*



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