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Designing a tool for wheat genotype assessment by analysing its potential uses

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A focus on the design process

Support tools

Design process into question?

Little used
Pluridisciplinary issue

Design continues in use (ergonomics) => cycle to build dialog between users and designers

How to make this dialog possible?
What dynamics of transformation (tool + work) in such a design process?
The tool in design

Tool for agronomists: plant breeders to food suppliers
Method that helps in assessing new genotypes (varieties):

- **Output 1:** characterize the limiting factors (LF) of the yield
- **Output 2:** assess the resistance of the new genotypes (Gen) to the LF

Example of a network of field trials (NFT)

Lecomte, 2005
The actors of the study

Plant breeders (8/>20)

P. in charge of examination (2/>20)

Technical Institute (1/5)

TOOL

Collective interactions

Ergo

Agro

Agro Ergo

(Nb of full partners / less implied partners)

users

researchers
Research strategy: stages and results

Stage 1
Analyzing the work situations
(2005)

Stage 2
First use of the prototype by the users
(feb–may 2006)

Stage 3
Assessing the concepts and reliability of the tool/use
(jun–dec 2006)

Stage 4
Feedback on the process
(feb–apr 2007)

Identification of research questions

Questioning the inputs

Building a prototype

Transcriptions of sessions

New specifications

Historical summary of the process

users test the tool against their databases

users question their routines

Identification of research questions

Building a prototype

Transcriptions of sessions

New specifications

Historical summary of the process

users test the tool against their databases
Discussion

Changes for the actors of the study

Changes in the users’ object of work
Focus on individual trials =>
Focus on the network of field trials

Changes in the users’ instruments of work
(new computing systems, new measures taken)

Changes in the collective part of their work
Changes in relationships
Changes in division of labor
Changes in self position

Changes for the agronomists
Way of seeing variability and of modelling it
New research questions

Changes in the tool

Need for changes in the interface
Need for changes in the inputs
Need for changes in the concepts
Statistical methods
Conclusion and perspectives

Design of a support tool : methodology
• Importance of the tracks
• Central role of the prototype
• Role of the collectives of actors with various expectations
• A generic method

A process to be continued
Agro: Richness of agronomic questions with a strong scientific interest for researchers
Ergo: lot of material to work out.