i Decision Support *System*

ROPARDO – *research.ropardo.ro*

12th LSS symposium

Large Scale Systems: Theory and Applications

25 May 2012 Bucuresti, Romania

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Outline

- Decision support
  - What is
  - Decision process
  - Strategic, Tactical and Operational Decisions
- iDS
  - Concepts
  - Framework
  - Support Decision Tools
  - iDS API for Tools integration
- iDS Screens
- iDS Case Study

History and Context

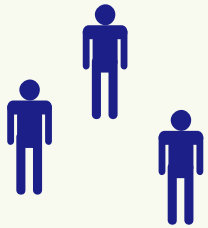
iDecisionSupport

- Web based framework for decision support tools
- Collaborative environment where different software tools for decision making can be easily integrated
- Users can access them remotely and asynchronously
- Developed at Ropardo S.R.L. starting back in 2006 within the CEEX – National Research Project

GDSS is a software platform for business process management, electronic decision support, and collaboration.

GDSS is made up of collection of tools that support group processes such as brainstorming, list building, information gathering, voting, organizing, prioritizing, and consensus building

Decision Process



1. Identify the problem or opportunity

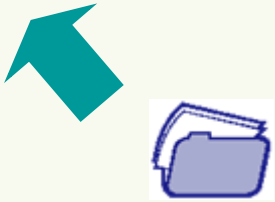
2. Gather relevant information

3. Develop as many alternatives as possible

Decision making is the cognitive process leading to the selection of a course of action among alternatives.

4. Evaluate alternatives to decide which is the best

5. Decide on and implement the best alternative



6. Follow-up on the decision

Strategic, Tactical and Operational Decision

Strategic decisions (examples: to focus efforts on a new product or to increase production output)

- They affect the long-term direction of the entire company, and are typically made by top managers.

- These types of decisions are often complex and the outcomes uncertain, because available information is often limited.

Tactical decisions (examples:to provide an incentive plan to employees to encourage increased production)

- They focus on more intermediate-term issues, and are typically made by middle managers.

-The purpose of decisions made at this level is to help move the company closer to reaching the strategic goal.

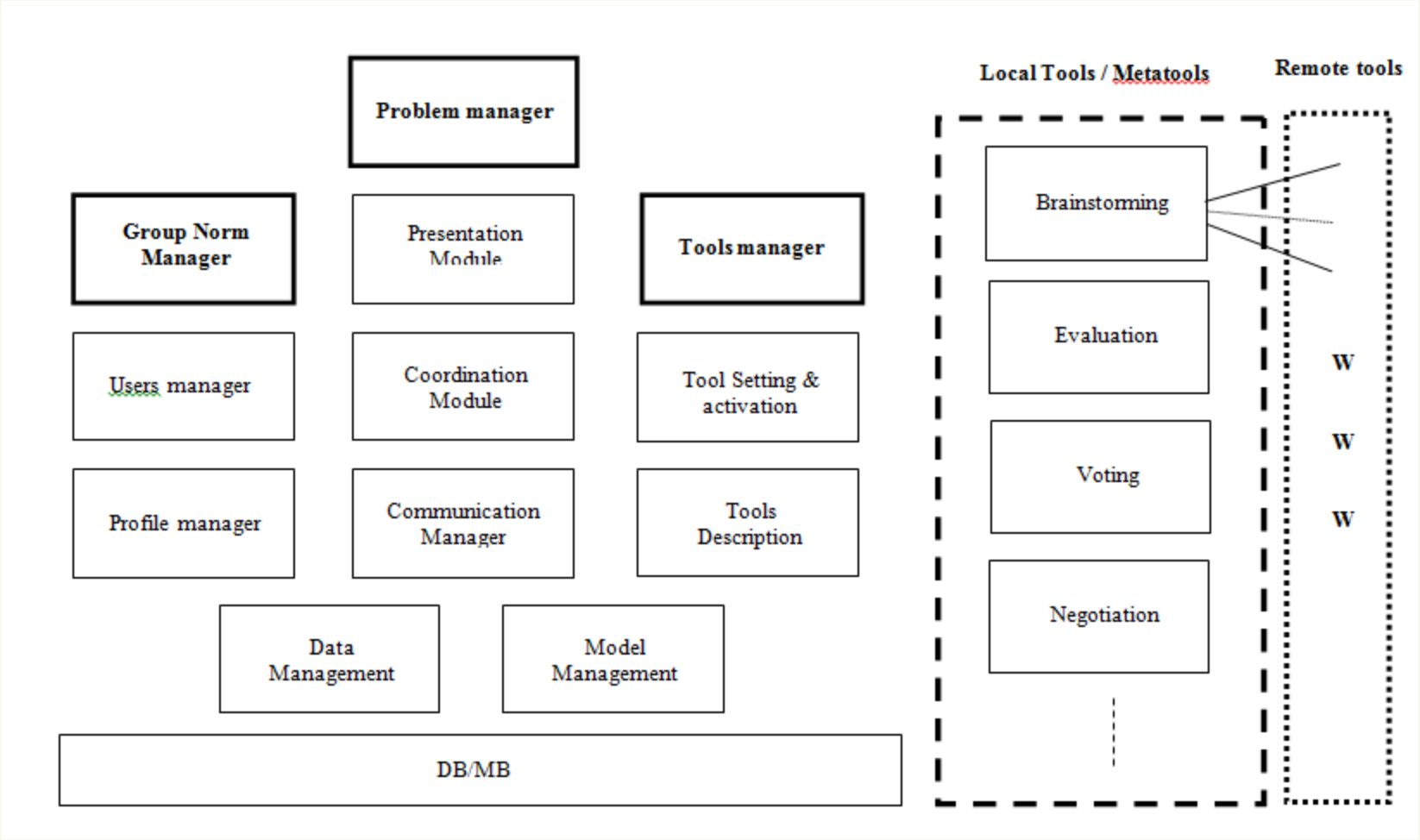
Operational decisions **(**examples: scheduling employees, purchasing raw materials needed for production)

-They focus on day-to-day activities within the company and are typically made by lower-level managers.

-Decisions made at this level help to ensure that daily activities proceed smoothly and therefore help to move the company toward reaching the strategic goal.

iDS Concepts

iDS Architecture



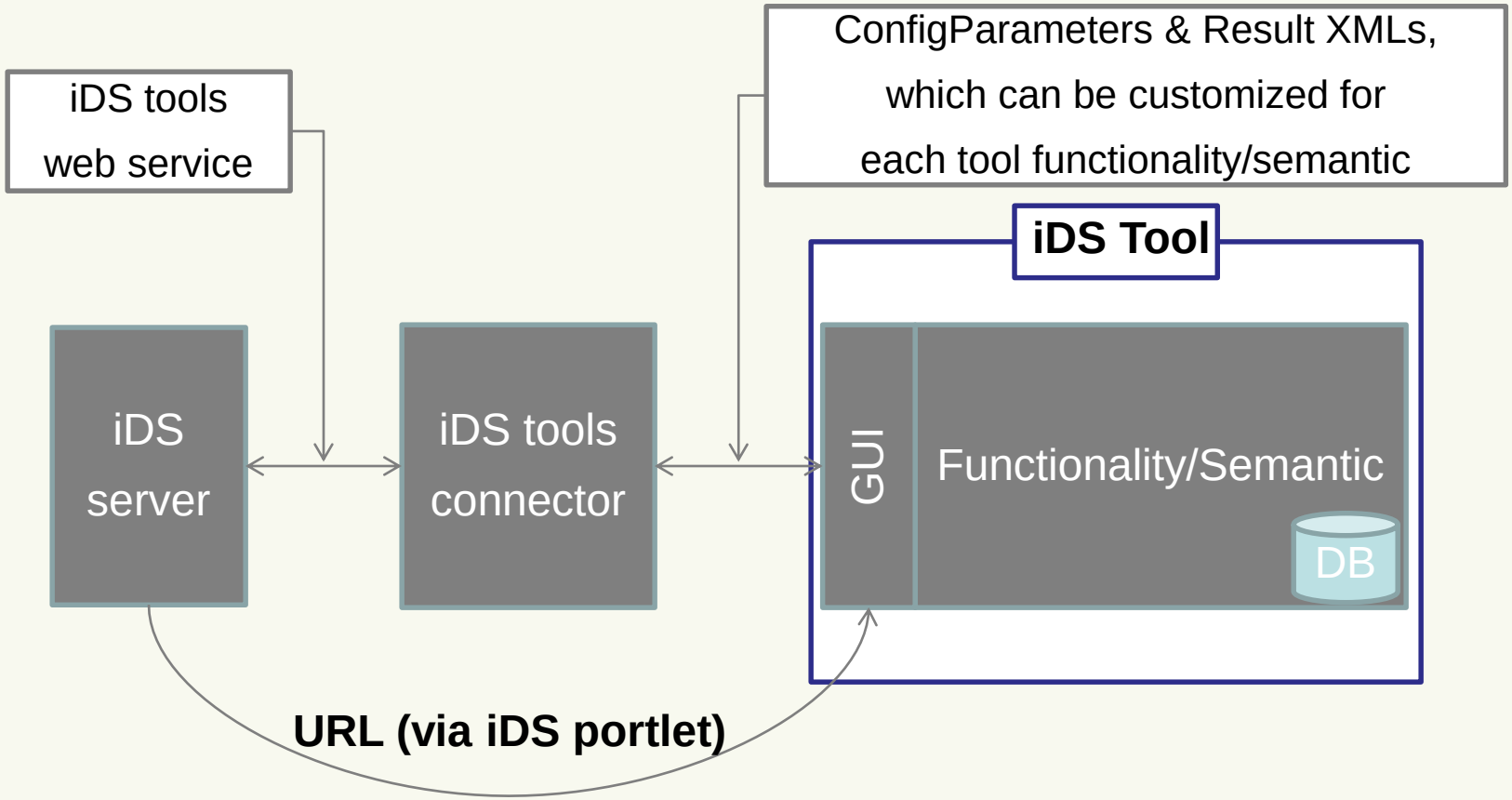
iDS Tools

GDSS Tools

Each tool focuses on a specific aspect of group collaboration, such as idea generation, evaluation, organization, and exploration.

- Categorizer
- Vote
- Topic commenter
- Electronic brainstorming
- Alternative analysis
- Group outliner
- Survey

iDS Tools


iDS tools
web service
ConfigParameters & Result XMLs,
which can be customized for
each tool functionality/semantic
iDS Tool
iDS
server
iDS tools
connector
GUI
Functionality/Semantic
DB
URL (via iDS portlet)

iDS Tools - API

Config Parameters (XML)

Defines the XML tags (initial-items, initial-references, optional-items, item, reference, paramValue) and attributes (uid, name, value)

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<paramSet version="2.0">
    <initial-items>
        <item uid="1300109156328"><![CDATA[Issue 4]]></item>
        <item uid="1300109156329"><![CDATA[Tee]]></item>
    </initial-items>
    <initial-references/>
    <paramValue name="voteType" value="2"/>
    <paramValue name="appendIssue" value="false"/>
    <paramValue name="anonymous" value="false"/>
    <paramValue name="importFromPred" value="false"/>
</paramSet>
```

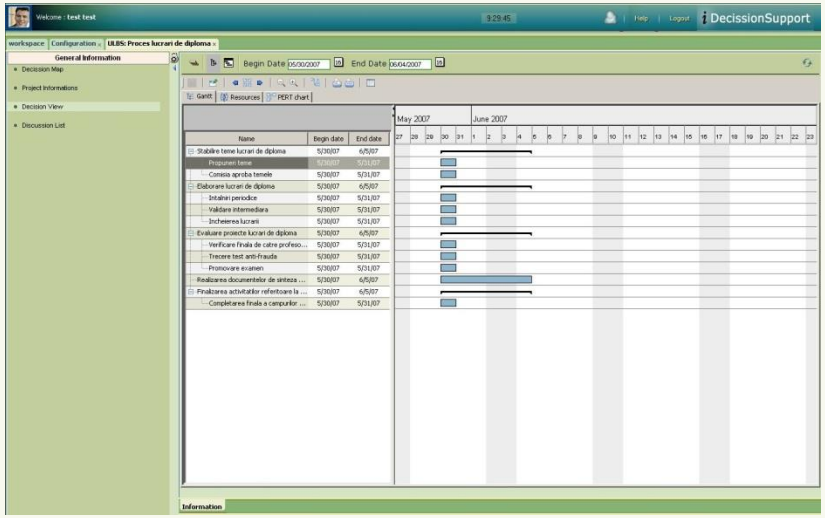
iDS Tools - API

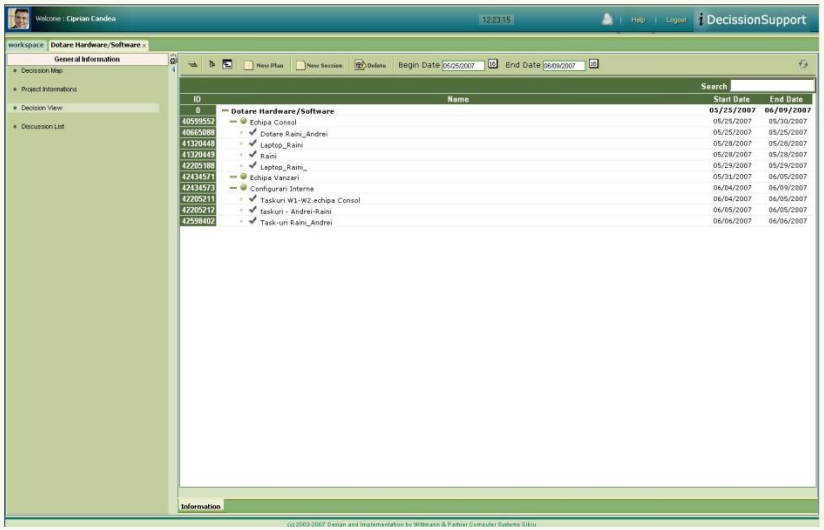
Results (XML)

Defines the XML tags (tool, participants, items, etc.) and attributes (uid, name, content, toolName, etc.)

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<tool anonymous="false" toolName="Voting Tool" toolType="vote" type="yesno">
    <!-- Tool participants -->
    <participants>
        <participant name="Ciprian Candea" uid="88571904"/>
        <participant name="Claudiu Zgripcea" uid="88571905"/>
        <participant name="Gabriela Candea" uid="88571906"/>
        <participant name="Kostas Efthymiou" uid="88571907"/>
        <participant name="Marius Staicu" uid="88571908"/>
    </participants>
    <!-- tool references -->
    <references/>
    <!-- tool items -->
    <items>
        <item author="" parentUid="" type="" uid="1307294670798">
            <content><![CDATA[VffReviewDemo_Compa_H]]></content>
            <action participant="Ciprian Candea">N/A</action>
            <action participant="Claudiu Zgripcea">N/A</action>
            <action participant="Gabriela Candea">N/A</action>
            <action participant="Kostas Efthymiou">N/A</action>
            <action participant="Marius Staicu">N/A</action>
        </item>
        <item author="" parentUid="" type="" uid="1307294670799">
            <content><![CDATA[VffReviewDemo_Compa_X]]></content>
            <action participant="Ciprian Candea">N/A</action>
            <action participant="Claudiu Zgripcea">N/A</action>
            <action participant="Gabriela Candea">N/A</action>
            <action participant="Kostas Efthymiou">N/A</action>
            <action participant="Marius Staicu">N/A</action>
        </item>
    </items>
</tool>
```

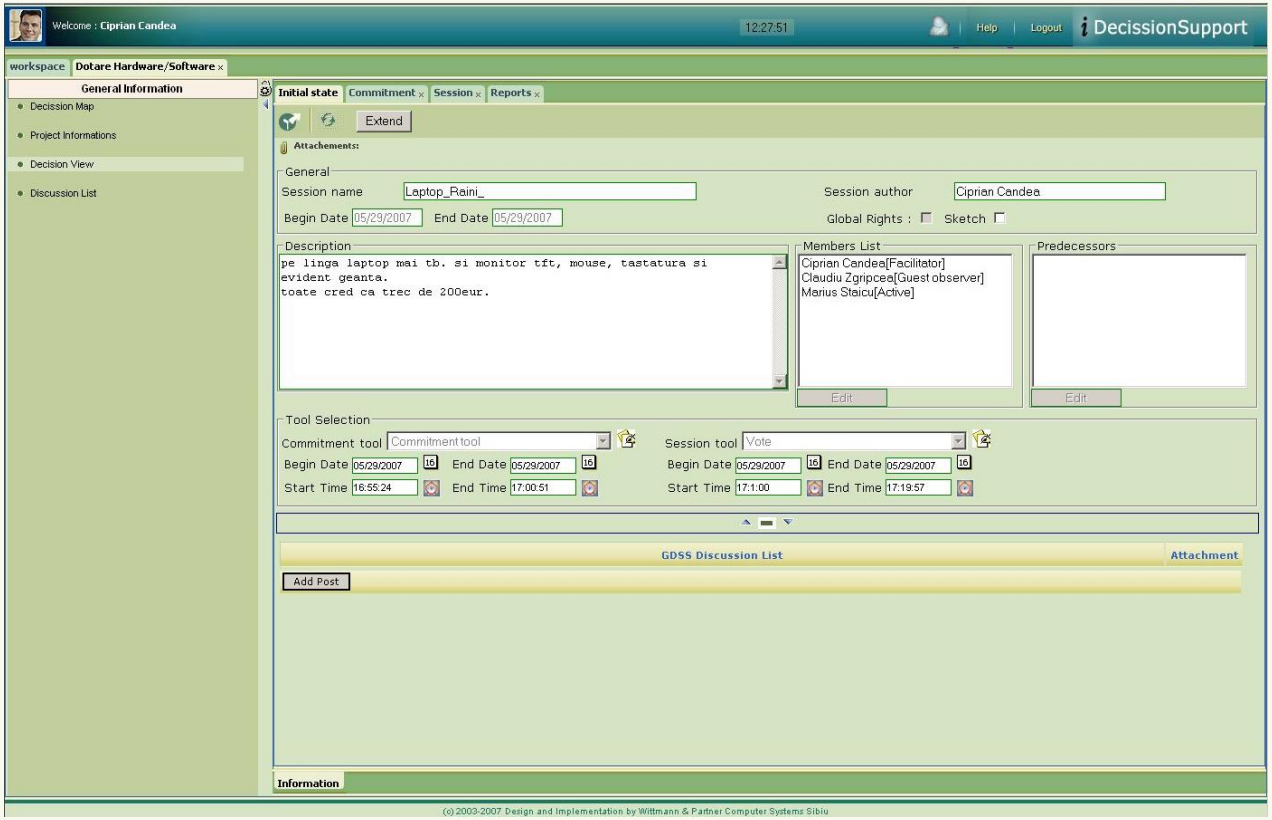
iDS Screens





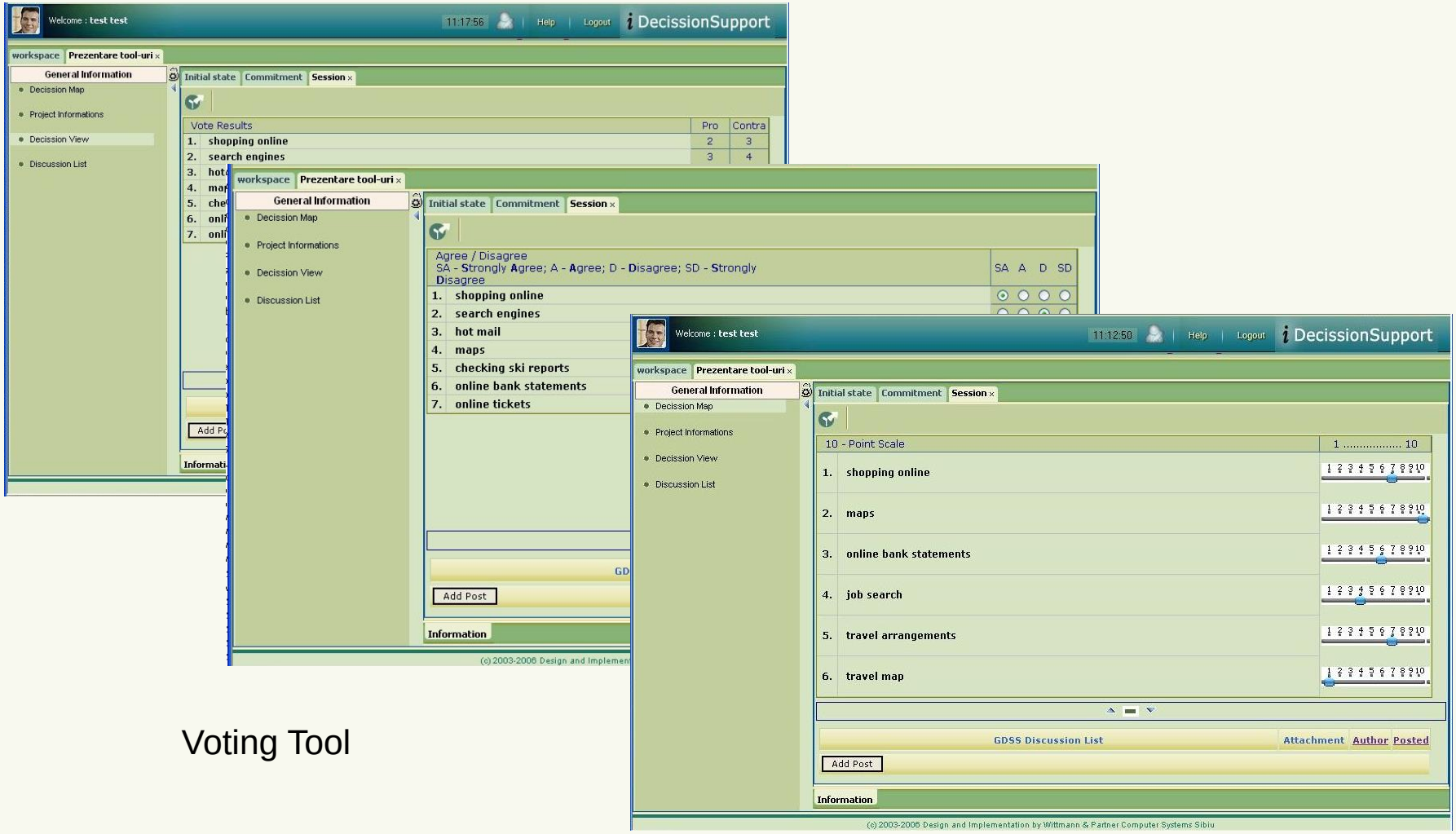
Project View

iDS Screens



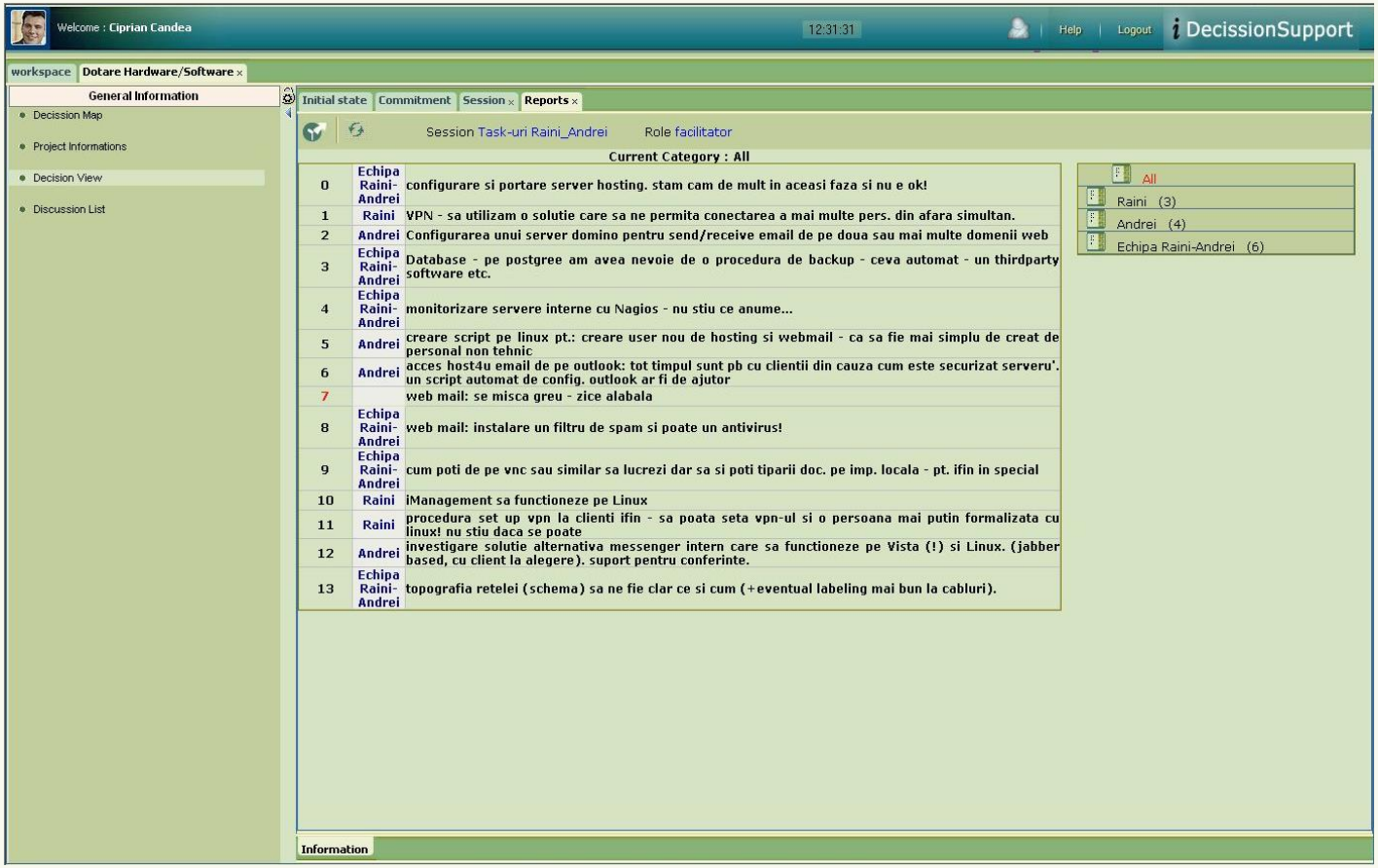
Decisional Session

iDS Screens



Voting Tool

iDS Screens



Categorizer

iDS Screens

Vote Results

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Thank you !

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