beSMART

a software tool to support the selection of decision software

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ICEUBI2011
International Conference on Engineering UBI2011
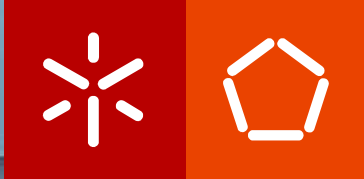Innovation & Development

beSMART

- What is beSMART?

- Multicriteria methods

- Application development

- Smart Method

- AHP Method

- ValueFn Method

- Software Results

- Demonstration

- Conclusions

Content

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- beSmart is a tool which goal is aiding the user to choose the best Decision Support Software between a set of Software residing in a database, according to the features desired, and using multicriteria decision methods.

- It allows to save in a file all user data, such as the set of Decision Software Tools under consideration and its features to be used afterwards.

What is beSMART?

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There are three multicriteria methods available:

- Smart method

- AHP method

- ValueFn method

Multicriteria methods

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- Requirement Analysis:
  - Done through meetings with the client;
  - The features of the application were defined.
- Modeling using UML:
  - Performed to obtain a good code organization;
  - Use Case Diagram, Sequence Diagram and Class Diagram;
- Implementation:
  The application architecture is organized in three layers:
    - Data;
    - Business;
    - Interface.
  - The language used was C#.

Application Development

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Is a simple and fast technique to decide the priority of different alternatives. It consists of assigning points to each alternative, where higher scores represent more important alternatives.

SMART METHOD

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SMART METHOD

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Is a structured technique for dealing with complex decisions. Consists in filling a table, by assigning a degree of importance to each criterion, in relation to another. This method requires the computation of the consistency rate, which is a mathematical value of reference that shows the consistency of the comparison done (according to Saaty (1980), this rate should be lower than 0.10).

AHP METHOD

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Saaty's scale

If *x* has/is ... that/than *y*	The preference number to be given is:
The same importance	1
A little more important	3
A much more important	5
A far more important	7
Absolutely more important	9

AHP METHOD

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AHP METHOD

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Corresponds to a function that maps directly to the evaluation of the alternatives. It can be a maximization or a minimization function, depending on the user's intention to maximize or minimize the given attribute.

ValueFn METHOD

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ValueFn METHOD

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At the end some tables and graphs are presented to the user to show which is the best software and how the features contributed to the result.

An user guide is also available in the appendix of the paper.

Software Results

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Software Results
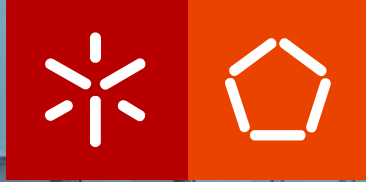
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- [View Software WebPage](#)

- [Compare Software](#)

Demonstration

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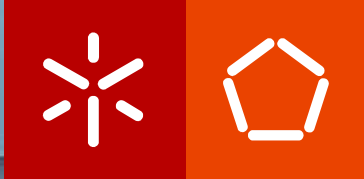beSMART

- The decision support model is totally functional, which makes the results provided safe and reliable;

- Although the application is used to compare software, it can be used to perform any kind of comparison;

- In the future, features like sensitivity analysis and an Help Module with a search system, are planned to be implemented.

Conclusions

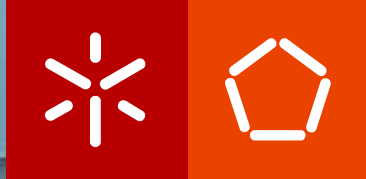**Speaker:** Anabela Tereso

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