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D3.8 Pledging commitment system

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The CATALYST project consortium is composed of:

SO	Sigma Orionis	France
I4P	Imagination for People	France
OU	The Open University	United Kingdom
UZH	University of Zurich	Switzerland
EN	Euclid Network	United Kingdom
CSCP	Collaborating Centre on Sustainable Consumption and Production	Germany
Purpose	Purpose Europe	United Kingdom
Wikitalia	Wikitalia	Italy

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Revision Control

Version	Author	Date	Status
0.1	Benoit Gregoire (I4P)	June 16, 2014	Initial Draft
1.0	Stéphanie Albiéro (Sigma)	June 18, 2014	Quality check and submission to the EC

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Executive summary

The present document is a deliverable of the CATALYST project, funded by the European Commission's Directorate-General for Communications Networks, Content & Technology (DG CONNECT), under its 7th EU Framework Programme for Research and Technological Development (FP7).

This deliverable is an outcome of Task 3.8 Pledging and Voting Mechanisms, whose main goals are to allow citizens to publicly pledge action if certain conditions are met, as well as to develop voting systems that allow voting on more than one axis. This is to support the collective decision and collective action parts of the Collective intelligence spectrum, which, while peripheral to the Catalyst project, are nevertheless important to a successful Collective Intelligence process.

Because of changes in the composition of the Catalyst consortium between the proposal and the final agreement, we do not have a compelling test bed for the pledging aspect. On the other hand there was unanimous agreement at the Wuppertal meeting that every member could use a good tool for collective multi-criteria analysis.

As such, our focus for this task is shifting toward a greater emphasis on the collective decision aspects.
In addition to the two axes interface initially planned, we have developed an interface for multi-criteria analysis, as well as two different likert voting interfaces.

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Table of Contents

The CATALYST project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n°6611188

1. Introduction

One of the initial focuses of task 3.8 was to allow citizens to publicly pledge action if certain conditions are met, and to alert participants once these conditions are met. Pledging is essentially a rather complex form of public vote. It requires, if not unanimity, at least a large number of people to agree on a set of desirable and realistic conditions.

To illustrate, we imagine that a group has a project to fund the purchase of land to create a new wildlife reserve. One might pledge to give money to the cause if the following conditions are met:

- The local member of parliament expresses support
- The city agrees to pay the maintenance costs of the park
- The park cannot be sold back to the private sector
- The provincial government agrees to pay 50% of the costs

If a participant endorses the conditions and pledges action if they are met, he can expect to be asked if he performed the pledged action.

In such a process, the group has to find a set of conditions that will gather sufficient support for it to commit its resources to make each condition become a reality (collective decision). If the group succeeds, one hopes that the individuals will indeed act on their promise (collective action).

While the final pledge would be a yes/no vote, agreeing on the set of conditions is a much more complex vote than what people are used to, and they may have to do it several time for a sufficient majority to emerge.

Even without the collective action target, the mechanics of these first votes is essentially a multi-criteria analysis. In a multi-criteria analysis, one votes on how strongly each criterion applies to a specific option or issue (in the pledging case, one votes on how essential a certain precondition is to moving forward on the issue).

It turns out that due to the composition change of the consortium, we no longer have a compelling test bed for public pledging. Despite this, every partner has a use for collectively performing multi-criteria analysis on various issues, and no good interfaces to facilitate the process.

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2. Providing better complex voting interfaces

Online data visualisation has become very popular in recent years. Improved technologies allow web libraries to display data visualisations that are far beyond anything Excel can provide.

The same technologies are designed to be interactive, and to allow the moving beyond HTML forms toward the creation of voting interfaces with attractive visuals.

Unfortunately, this still requires specialised skills to create such a frontend and integrating the relatively involved data model required in the backend to process votes on multiple related criteria. It is generally not considered worth it for a single project.

We realised that with minor adaptations, the CATALYST interoperability would allow solving the problem in a generic way. Both the interface specification and the vote analysis could be standardised.

The following interfaces have been developed so far, based on the D3 library (http://d3js.org/). Each is functional, has no hard dependency on the software backend, and writes the vote results back to the backend, as specified in the CATALYST interoperability specification.

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3. Currently implemented interfaces

3.1 Two axis voting

Some questions are related but distinct. For example:

1. How useful is this voting interface to you?
2. Did you find this voting interface easy to use?

Asking only the first question will make the results very difficult to interpret: if someone says that the functionality is not useful, it may be because he did not manage to get it to work, not because it is not useful to him.
One can (and frequently does) go one step further and ask the two questions successively. We can now interpret the results more easily, but:

1. The voter now has two questions to answer
2. It is unlikely he will think of the second question when answering the first (he has not read it yet). At best, he will backtrack.

But several sets of questions are more useful when asked together, such as:

- Is this argument true vs. is this argument relevant?
- Is this document clear vs. is this document complete?
- Is this risk likely to occur vs. is the potential impact major?

This last one gave us the idea for the interface:

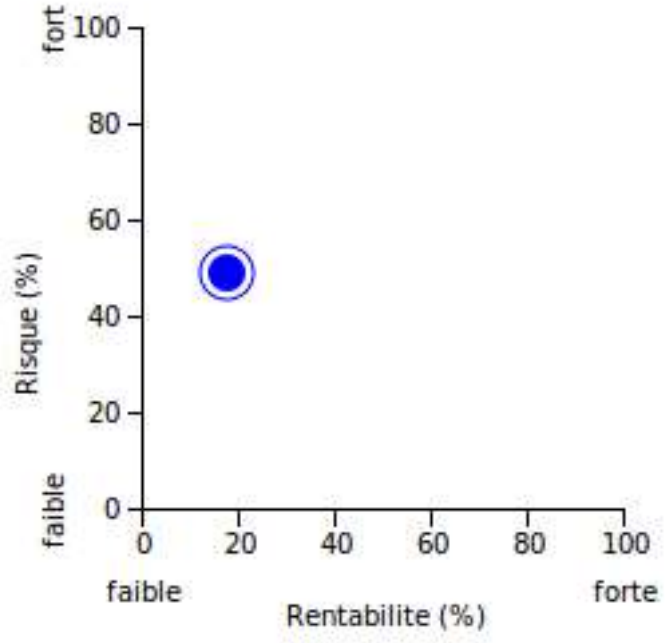

Figure 1: Two related votes in a single click

This interface has several advantages:

1. It is faster (One single click to vote on both questions)

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2. It forces the user to think about both questions together, which for related questions such as these does matter. The voter will hopefully try to determine if he does not like the feature because he finds it too slow, or too difficult to use, or if he simply finds it superfluous.
3. It is more visual.

3.2 Individual likerts

When voting on a scale (likert voting), it is often tedious for the user to figure out which end of the likert is "good" or "bad" without carefully reading the legend. This can be easily solved with color:

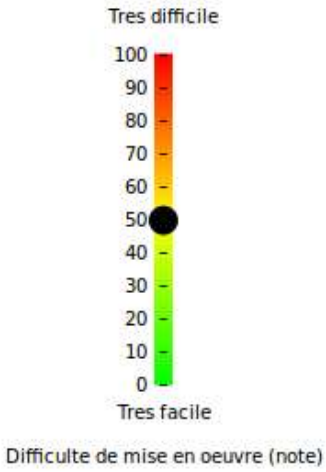

Figure 2: Making the direction of the likert clear

In some cases, the actual scale matters to the collective evaluation (percentages of budgets for example), so it is useful to explicitly label the scale:

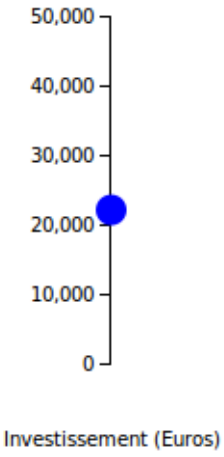

Figure 3: Explicit scale for collective forecasting

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3.3 Multi-criteria analysis

A multi-criteria analysis is the application of a likert vote on an option for each criterion:

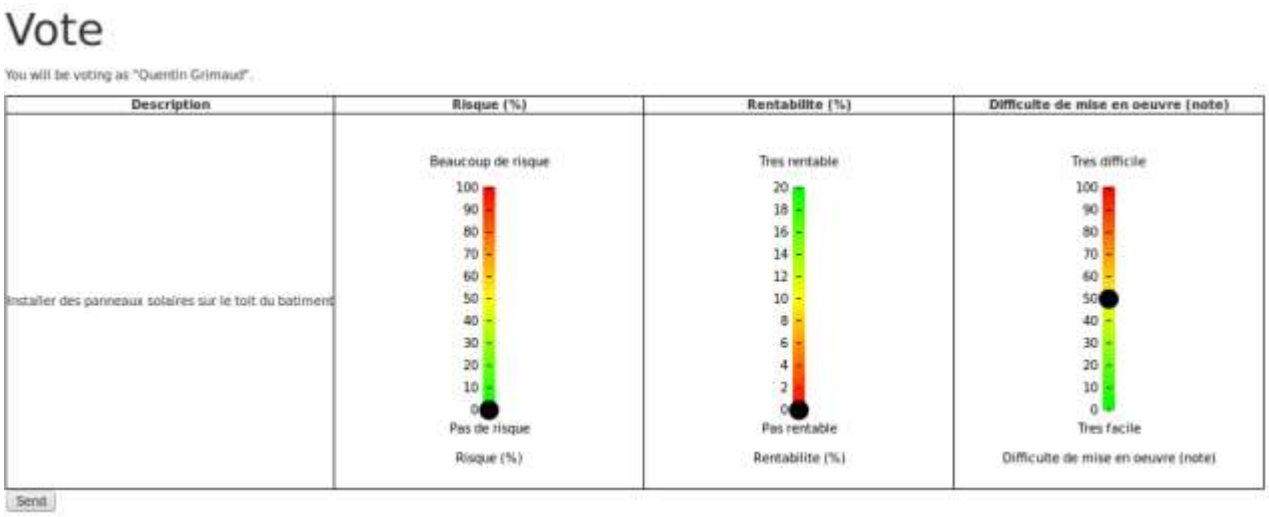

Figure 4: Multi-criteria analysis for each criterion

This interface shares many of the same advantages as the two axis interface above, since there is strong value in keeping the vote on the same screen, as the criteria are often interdependent in some way.

However, this method does end up being slightly slower. It would be most difficult to vote on three or more criteria with a single click on a two dimensional screen.

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4. Conclusion and future directions

These widgets now need to be integrated with Collective Intelligence platforms to be tested in real world scenarios. This is currently in progress for Assembl.

4.1 Future directions

It would be interesting to allow voting on more than one option using the same criteria on the same screen. We suspect it would allow better relative scaling of a criterion among the different options (less options placed at the extreme ends of the scale after voting.)

We would like to make use of the rich information that is sent with the options and criteria (such as their definition) to give the user more context.

Finally, we would like to write more primitive versions of these interfaces to allow voting by email, using one-time-use tokens. This would reduce friction (does not require users to login to vote), and allows easier surveying of a group (email notifications).

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List of Tables and Figures

The CATALYST project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement n°6611188