Structuring E-Participation in Policy Making Through Argumentation

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1 Introduction

An important feature of democracies is that citizens can engage their Governments in dialogues about policies. They tend to do so in one of three ways: they may seek a justification; they may object to all or part of a policy; or they may make policy proposals of their own.

For the first, the reply need only to state a justification. For the second, having offered the justification, the respondent needs first to understand what the citizen objects to, and then to give an answer to the specific points. For the third, first a well formulated proposal must be elicited from the citizen, and then that proposal can then be critiqued from the standpoint of the government's own beliefs and values.

2 Policy as Practical Reasoning

Common to all three is the notion of justifying an action. Justifying actions is a form of practical reasoning, and has traditionally made use of the practical syllogism of Aristotle. In computational terms, it the traditional syllogism has been re-expressed in the form of an argumentation scheme. As stated in [1], the scheme brings together knowledge of the current circumstances, the effects of actions, the goals being pursued and the values which will be promoted if the goals are attained:

- In the current circumstances (R), action ac should be performed by agent ag, since this will bring about a new set of circumstances (S), which will realise a goal (G). Realising G in R will promote social value (V) is promoted.

Following the notion of argumentation schemes in [3], an argument made using an argumentation scheme can be challenged using characteristic *critical questions*. Seven such critical questions are given in [1], covering the formulation of the problem (what is considered relevant, the causal relations in the domain etc), current beliefs (what is true now, how will other agents respond if ag does ac) and the evaluation of the actions (does realising G promote V, is there a

better way to promote V etc). This scheme and the critical questions can be used to structure justification of policy, and critiques of such justifications.

Note that this scheme requires knowledge of several sorts: knowledge of what can be considered relevant to the question, knowledge of other agents who can influence these things, knowledge of what actions are available, knowledge of what is the case, knowledge of the consequences of these actions, knowledge of what is desirable, and knowledge of preferences between values. Such knowledge can be captured in the form of an Action Based Alternating Transition System (AATS) [4], augmented to label the transitions with the values promoted and demoted. The scheme and the critical questions are given in terms of an AATS in [1].

This scheme, and its underlying AATS model can be used as the basis of tools to support e-participation. First the domain is modelled as an AATS. An example of such a model can be found in [7], where the domain required to formulate policy on the introduction of speed cameras to reduce traffic accidents was modelled. Such a model can then be used to support several policy related tasks. The task of selecting a policy from among the several available is considered in [7]. We have also developed two interactive web tools to support the second and third tasks.

For the second task, where the policy-maker presents a policy to citizens solicits their points of agreement and disagreement, we provide the *Structured Consultation Tool* (SCT), written in PhP and accessing a MySQL database. The user is presented with five screens, one each for an introduction, circumstances, consequences, values, and a summary page. These screens explore the various elements of the argumentation scheme of [1], and ask the use a series of yes/no questions, which can be interpreted as particular critical questions. This structures the interaction in terms of the model and the scheme, but does not require the user to be aware of this. In this way a fine grained response can be obtained, and assimilated with other responses: this is not possible with free text found on blogs and comments, which lack the required unifying structure. More details can be found in [5].

The third task is supported by the *Critique Tool* (CT), based on the same database, argumentation scheme, and Internet technologies. Rather than the policy-maker presenting a policy for critique, the user is able to *interactively create* her own policy-proposal by selecting from a menu of choices, which is then critiqued from the basis of the AATS model and preferences of the Government. The justification is again structured using the argumentation scheme, and the critique takes the form of a range of appropriate critical questions. Thus, the citizen can proactively engage with with policy-making rather than reacting to a given policy proposal.More details of this tool can be found in [6].

Both tools also provide access to additional supporting information through links to other,web sites, including external sites. These may offer independent support for the views of the Government, or may set out the pros and cons for the citizen to consider. The tools are (June 2013) available at

– http://impact.uid.com:8080/impact/ and

– http://cgi.csc.liv.ac.uk/ maya/ACT/index.php

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