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### Polemicist

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# Polemicist: A Dialogical Interface for Exploring Complex Debates

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**Abstract.** In this paper, we present *Polemicist*<sup>2</sup>, a dialogical interface for exploring complex debates from the BBC Radio 4 programme *The Moral Maze*. Polemicist allows the user to interact with software agents representing the participants in the original programme. The software enables the user to explore the topic as they wish, asking questions to dive deeper on the areas that interest them most.

**Keywords.** BBC Radio, debate, DGDL, dialogue system, Moral Maze

The Polemicist<sup>2</sup> application allows users to explore issues discussed in the BBC Radio 4 Moral Maze programme<sup>3</sup> by interacting with software agents which represent the participants from the debate and whose knowledge bases are extracted from analysis of the original episodes.

The Moral Maze is billed as *combative, provocative and engaging live debate examining the moral issues behind one of the week's news stories* and is broadcast on the UK's leading non-music radio station. Each episode features four regular panellists along with a series of 'witnesses' – experts or others knowledgeable in the field under discussion – who are questioned in turn by the panellists. Each weekly episode is 45 minutes in duration and contains a high density of argumentative content. An average analysed episode represented in the Argument Interchange Format [1] contains around 500 Information nodes (I-nodes) – the propositional contents of the arguments – and 250 Scheme nodes (S-nodes) – capturing the application of patterns of relationship between them.

Such a sizeable knowledge graph can prove extremely difficult to navigate and understand. Polemicist addresses this problem, effectively translating the navigation of the graph into a series of dialogical moves conducted according to a particular dialogue game [2]. Polemicist uses a fixed protocol, defined in the Dialogue Game Description Language (DGDL) [3], allowing the user to take on the role of the moderator of the debate: selecting topics, controlling the flow of the dialogue, and thus exploring all the angles of the rich argumentative content on offer. Playing the role of moderator allows the user to rearrange the arguments and create wholly novel virtual discussions between the contributions of participants that might not have engaged directly in the original debate, while staying true to their stated opinions.

The Polemicist dialogue interface features two main panels (see Figure 1). On the left, a list of participants can be seen along with green and red highlighting showing their

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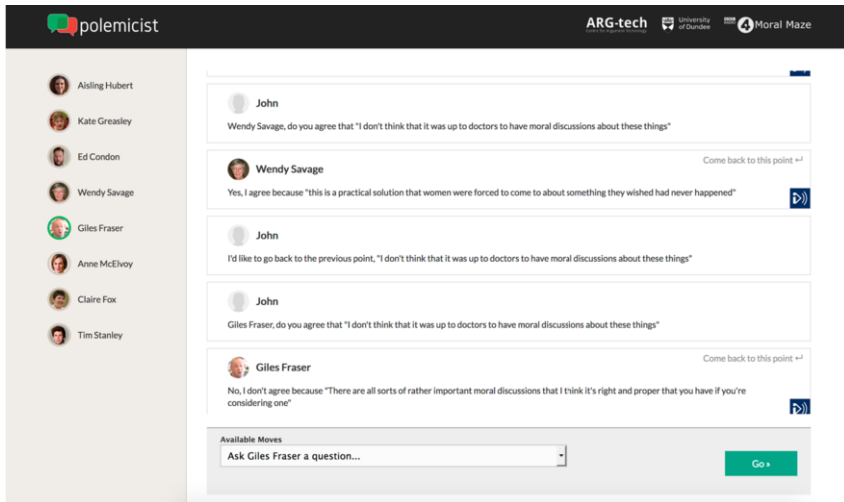
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<sup>2</sup><http://polemici.st>

<sup>3</sup><https://www.bbc.co.uk/programmes/b006qk11>

agreement or disagreement with the most recent point made. This highlighting allows the user to pursue a line of questioning which explores these opinions and the reasons behind them.

The right-hand side of the dialogue interface shows a panel at the bottom allowing the user to first select a participant to address a question to, and then select a question either asking for an opinion or for reasons why a participant holds that opinion. Above this is a record of the dialogue so far. This record allows the user to view the dialogue as well as return to previous points, and to listen to the original audio associated with each text segment.



**Figure 1.** The Polemicist dialogue interface

Whilst Polemicist currently relies on pre-annotated material from AIFdb<sup>4</sup> to provide the responses of the software agents in a dialogue, it presents a valuable potential use case for automatically mined arguments. If the argumentative structure in a radio transcription can be extracted in real-time by argument mining, conversations in Polemicist could take place within moments of transmission ending. Combining the dialogue interfaces with a robust argument mining platform could enable users to discuss any issue of their choosing with any person whose opinions on that topic have been previously recorded.

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<sup>4</sup><http://www.aifdb.org/>