# Argument Analytics: Next Steps for Argument Technology

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### Who are we?

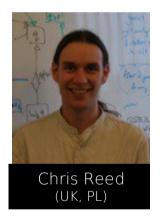




























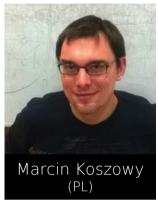
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### Who are we?





















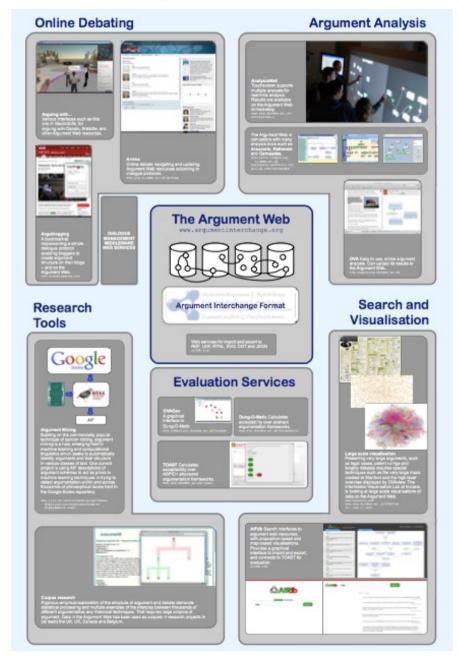


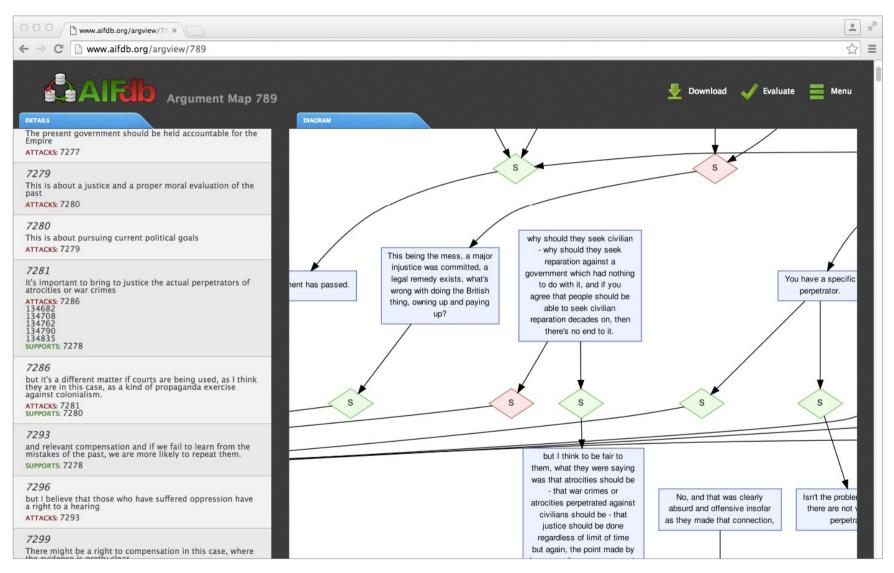


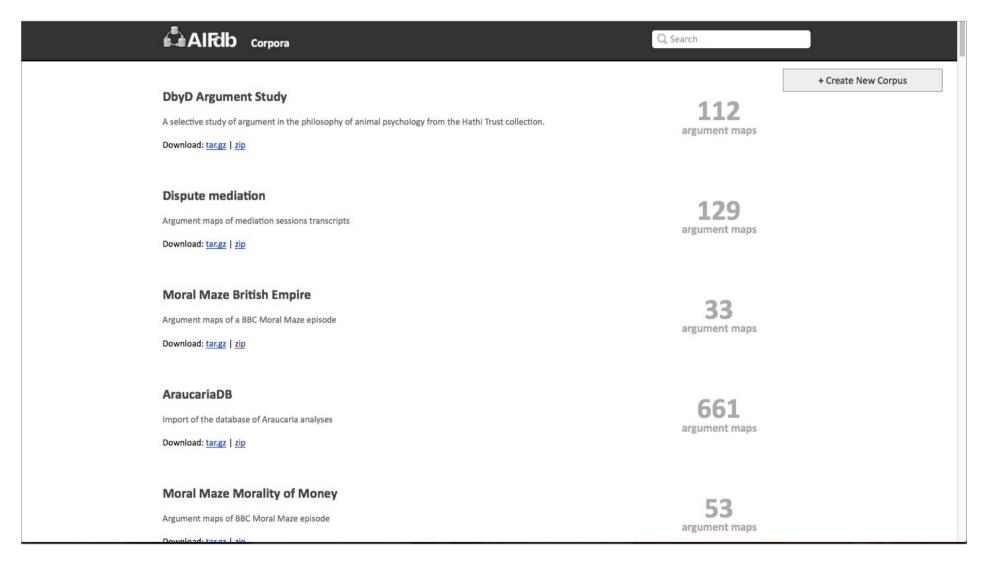




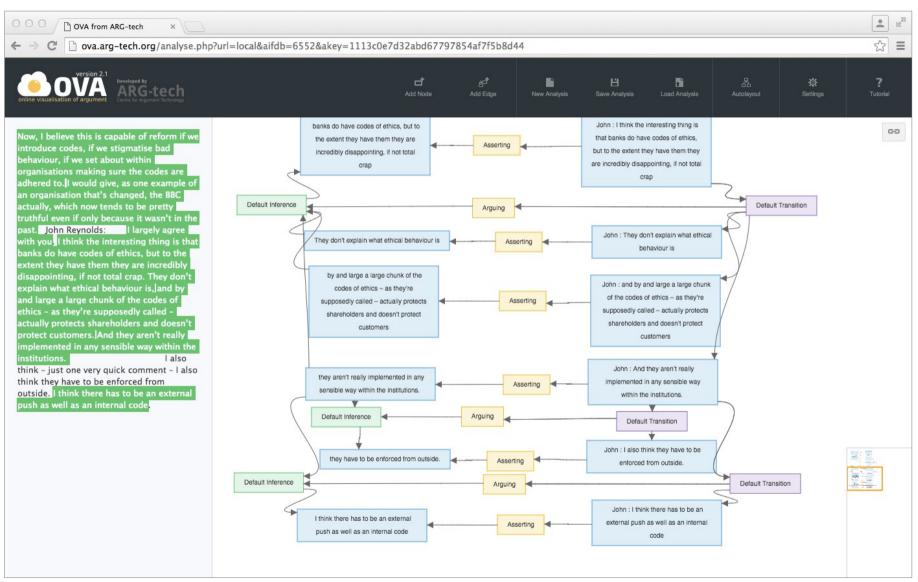
# The Argument Web







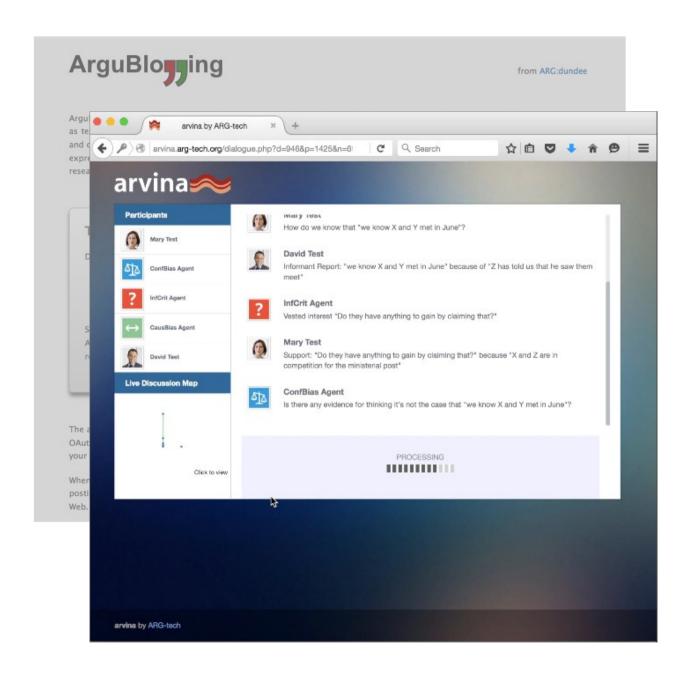
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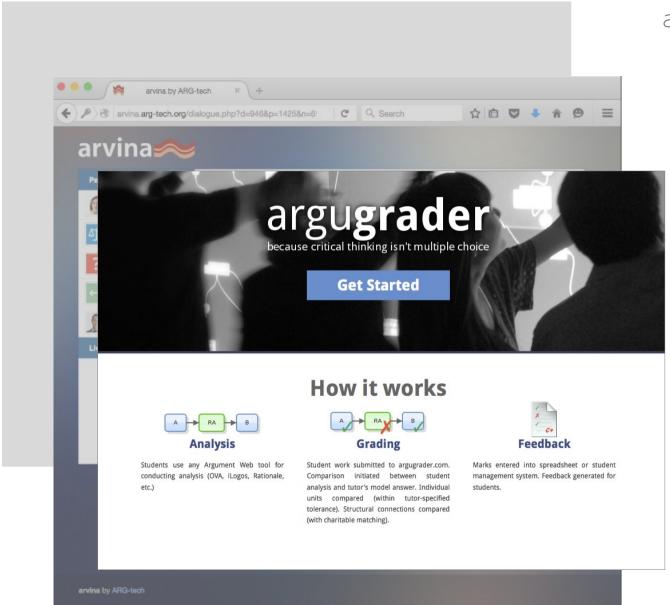
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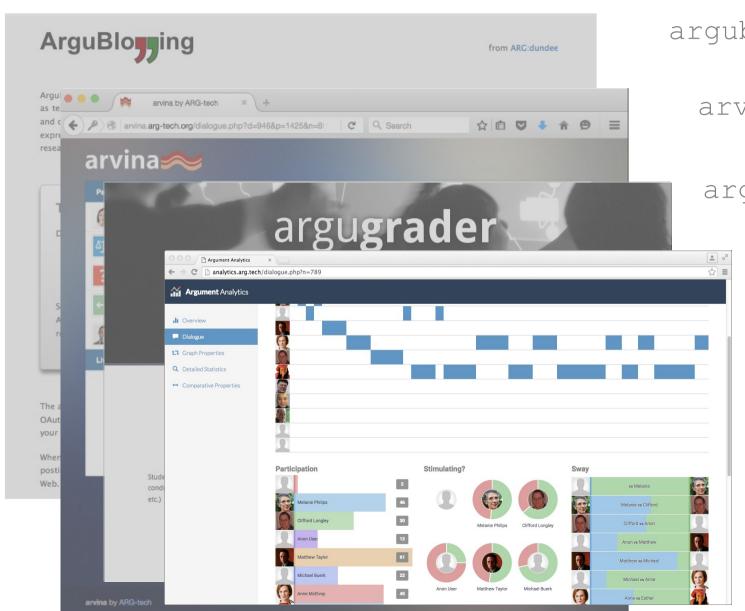
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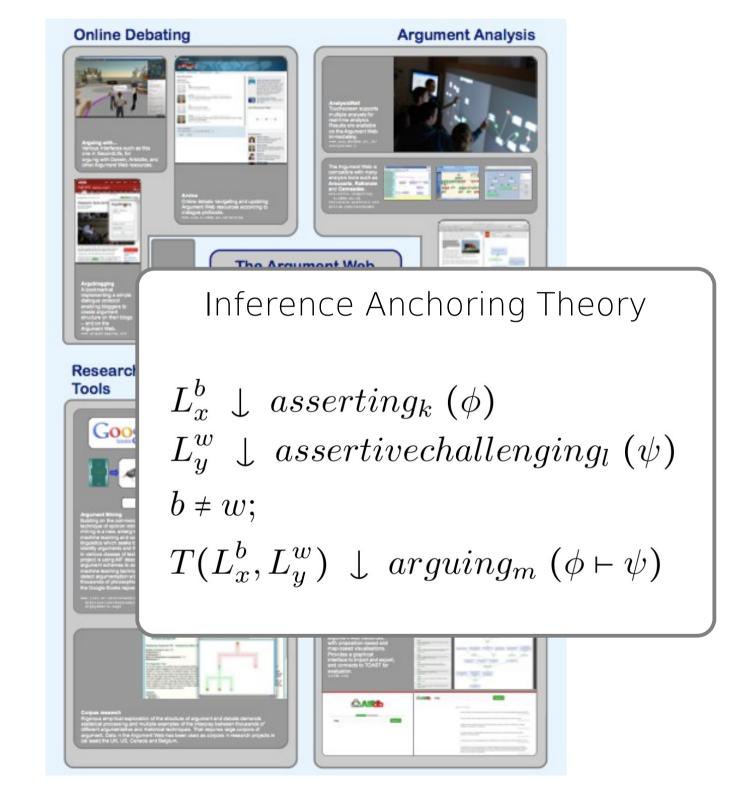
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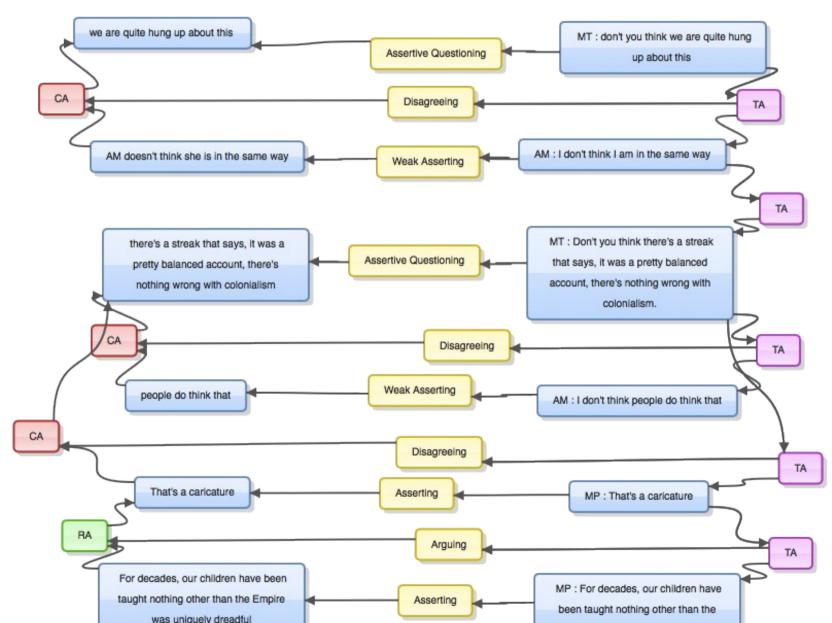
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On the AIFdb servers at ARG-tech:

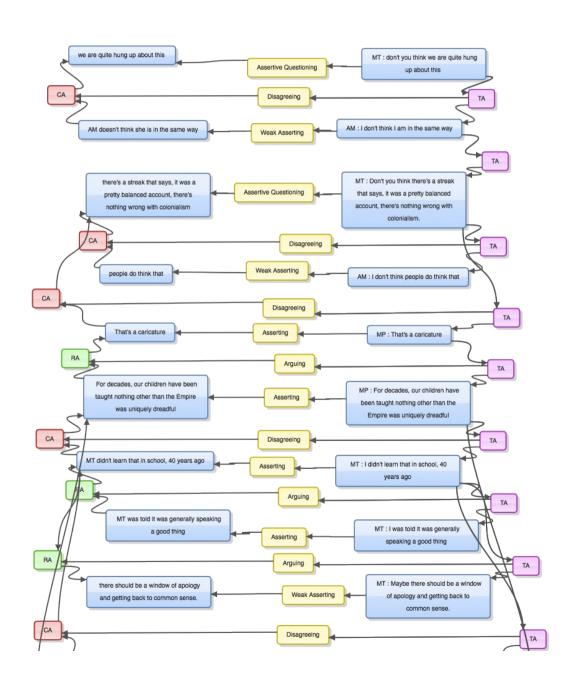
- Around 50 argument corpora
- 1.5m words
- 14 languages
- 50k annotated arguments
- 300-500 unique users per month



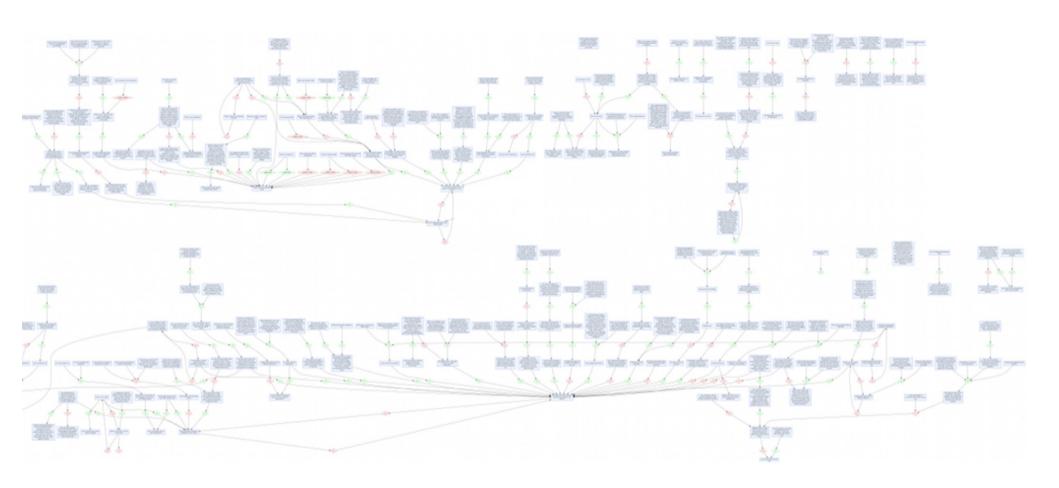
# Inference Anchoring Theory (Budzynska & Reed 2011)



### Dialogical context + argument graph



editor of The Economist. The Catholic writer Cifford Longity and Matthew Taylor, formerly Tony Blair's chief political activiser, now chief executive of the RSA. Missine, these people may get camages but is historical justice being served here? (T4) reportant to bring to justice the actual perpetrations of atrocties or war crimes but it's a different matter if countries. are pering uses, an in critical processor of the contract processor of This hearing best or the damages claims by these three andy dues are concerned, should it be the occasion for examining the costonial legacy? Most definitely. In fact, some of us would argue the case doesn't go far enough because the coronal context, as even after understand, what is not specific and you think of it as one specific legal his with evidence that can be weighed and damages which may then be awarded but you're also said that it is none breach, so what would justice look like to you'? Justice to me record be multi-fluebted. Of course, there is value in a pecific cases, we have to acknowledge that there are survivors, who have mere excerned any form of recompense, you know, these are eliderly votines. They do need to be compensated for the course of the course of the cases of pecific cases, we have to acknowledge that there were attracted on both sates, including in the significant of pecific cases, and there is a survivors, who do not currently invave access to justice. But if his took piece in the colorisal error, we are many other survivors, who do not currently invave access to justice. But if his took piece in the colorisal error, we are many other survivors, who do not currently invave access to justice. But if his took piece in the colorisal error, we have not been accessed on the standard of the accessed of the standard of the accessed o This kind of blackborn is power. We have to go to the control and the problem. We can't look at it hardway transport of the control and the control between the problem. The can't look at the problem. We can't look at the problem. The problem the problem that the problem that the problem that the problem though that there are not very specific perpetitizers? Why should be problem, the problem though that there are not very specific perpetitizers. Covidancy we cannot for logic reasons go into sort of identifying individuals, why the current downship we cannot for logic reasons go into sort of identifying individuals, why the current downship we cannot for logic reasons go into sort of identifying individuals, which is problem. Though that there were not only, you know, crimes of forture, there were war crimes committed, these were not only, you know, crimes of forture, there were committed. nst humanly. My understanding of international law is that there is no stable of limitations. Think it would be totally different if the survivors had all died. But actually, you have living victors, lunderstanding of international law is that there is no stable of limitations for murder, and one can centarily as you. The is my sport, of them are specific perpetiational in you can't have a group of military officers who are accussed of committing a war of me, then for sate. There should be no stable of limitations in presecting them. You have a specific perpetiations of a comme, it is no you can't have specific perpetiations. Whith is supported in you can't have specific perpetiations. Whath is apported in you can't have specific perpetiations for the presection of a comme, it is a scalably prantiered and stable you can't have specific perpetiations. Whath is apported in you that is accurately in your that is accurately your that is accurately in your that is accurately your that is accurately your than your that is accurately your that is accurately your than yo representation of the second s The Designment of the Control of the Service of the Service of the Control of the Service of the out the nature of the British Empire? Is it an apertation, which I think it was it was a ghistry aberration, or does it represent something that is at the heart of the Empire, and the imperial system? Well, in terms of the case of these individuals, do you accept that they have a perfect only to you can be a calcium of the British abate in the past, in this apecific case, new will arm in a moment of the subre past, in this apecific case. The publication were transplacted on the British abate in the past, in this apecific case. New york and appeals on the British appeals and a process and they are proceeding with it is a contracted to the period of the British abate in the past, in the past, in the past, in the British in the Britis Committee of the commit 18/07/2012 - The British Empire acold. Margaret Thatcher's daughter made some inappropriate comments. I have heard loss of judgments of people being found guilty of uttering racially offersive remarks without themselves being what I would this Mau. Mau case help in any way your argument about promoting more inclusively for black people in themselves being what I would call a card carrying racially fixed by Man. Mau. case help in any way your argument about promoting more inclusively for black people in themselves being what I would this Mau. Mau. case help in any way your argument about promoting more inclusively for black people in themselves being what I would this Mau. Mau. case help in any way your argument about promoting more inclusively for black people in the people being found and a card carrying racially offers was a card carrying racially offers with themselves being what I would this Mau. Mau. case help in any way your argument about promoting more inclusively for black people in themselves being what I would call a card carrying racially way your argument about promoting more inclusively for black people in the same people in the same people in the same people in any way your argument about promoting more inclusively for black people in any way your argument about promoting more inclusively for black people in any way your argument about promoting more inclusively for black people in any way your argument. collically specific views on a lot of black people who might bake the view. (We Lawrence James, that there is no one colonialism, there are different bits of the conmail history and some of it was good and some of it was good and some of it was good and some of it was people who might be people who might cossay, to extrawridge the crims. You see, the legacy of colorisation for white people is white problem day setting. The legacy of colorisation for black people is, you know, sowety. What can we do to make you happy?Acknowledgment, in a Christian sense. Happing in Proceedings the material management of the May May in a process, but their probably sent enough for you. Think they are due reparation. Thousands were made lenders, homeless and reduces to absolute poverty and generations of families have not been able to recover from that, and acknowledgment and reparation for that is the minimum moral requisite position that is re-minimum moral requisite position that is regions. And if these many that is a more than a section on to an inclusive of contract the property of the contract the property of the contract that the property of the contract that the provide that Median more and the provide that Median more and the provide that Median more and the provide that the provide separation or this specific registration of the first time of the us mercial production and the same graph of the formal and the same graph of the same graph graph of the same graph graph graph of the graph graph of the graph gr rish troops as being equivalent to the behaviour of the perceive who are first to get their country beck. You have around that the first tree for the perceive who are first the first tree for the perceive who are first tree for the perceive who a representation of the propose who are significant to the propose who are significant t representations of the complex of a great and complex provided that a proper service of the complex of a great and complex provided that a proper service of the complex of a great and complex provided that a complex provided that a great provided that great provided that a great provided that a great provided that Pis case. Fixe, from Eather Stanford-Xceal and also from use: Jasper, we had a morely troubing proposition that one way justice should operate. From Lee we heard you couldn't be receive a more infantising going on there, and from Eather, more manned, had an interesting stance of argument, but she seemed to be liding towards the does not consisten, as smouthly described longit, was on the, so you're putting an era on from. So in this sense it wasn't about these three poor men at all thought into had a reasonably good case, because people want to do too much with it. Melante Philips, the first and third withinsess





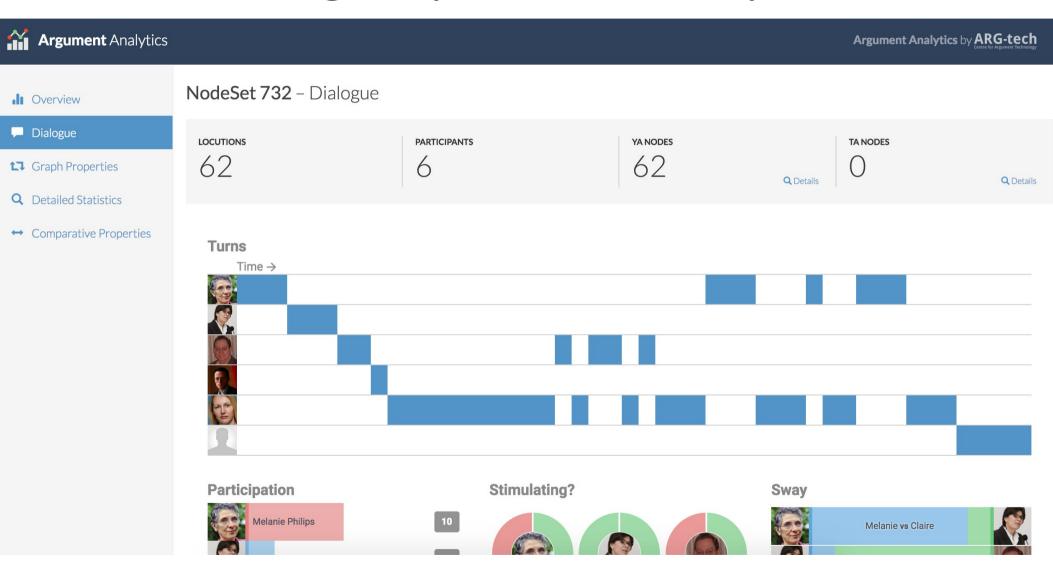
# **Argument** Analytics



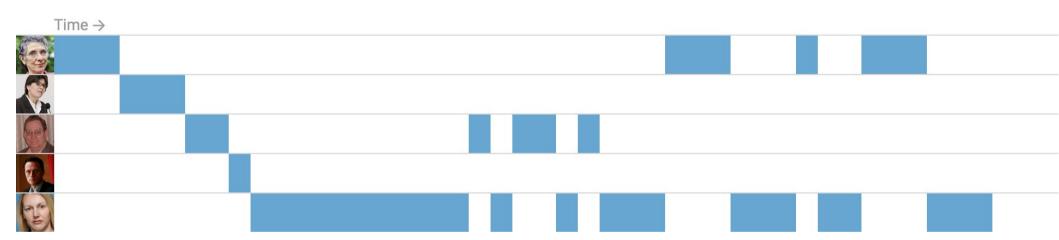
NodeSetID or Corpus Name



### Dialogically oriented analytics



### Dialogically oriented analytics: Turn structure



### Dialogically oriented analytics: Participants details

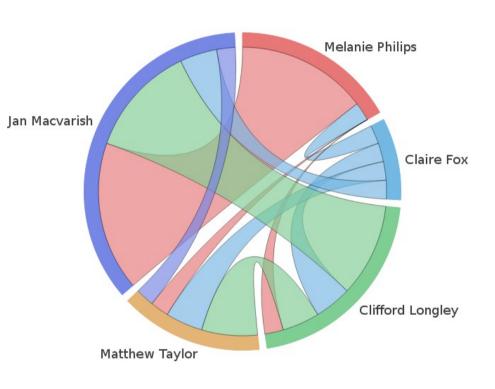
### Stimulating? **Participation** Melanie Philips 10 Claire Fox Clifford Longley Melanie Philips Claire Fox Clifford Longley 16 Anon User Matthew Taylor Jan Macvarish 23

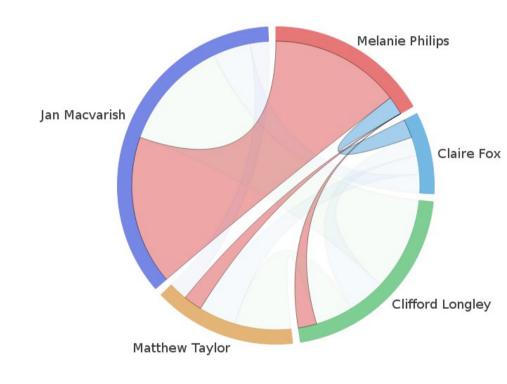
Anon User

Matthew Taylor

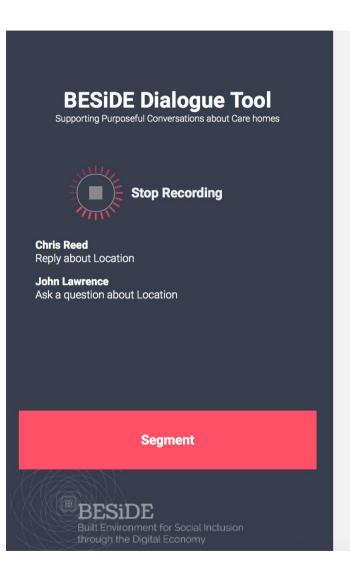
Jan Macvarish

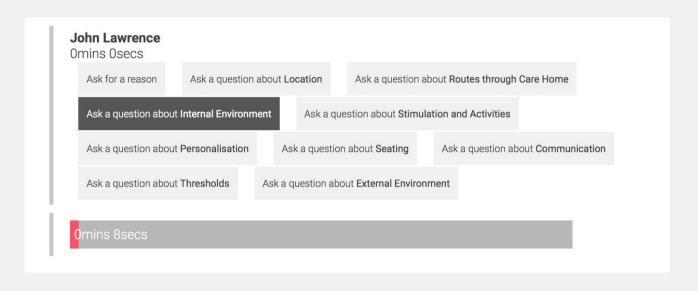
### Dialogically oriented analytics: Interactions



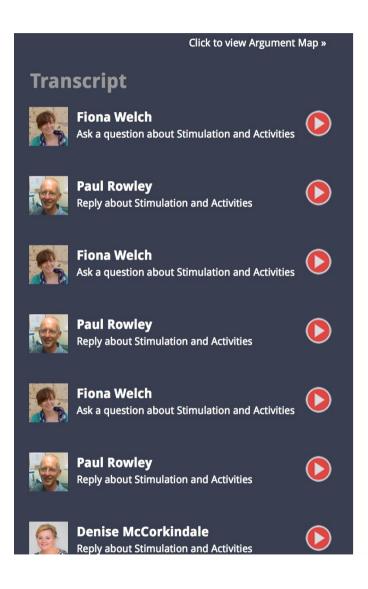


### Real-time statistics





### Real-time statistics



# Current Topic: External Environment X Location X Routes through Care Home X Seating X Communication X Thresholds Internal Environment Y Stimulation and Activities Personalisation External Environment



### Summary

### Foundations

- → Inference Anchoring Theory: Dialogical context of structured arguments
- → Argument Web: Online ecosystem of argument technologies

### Argument analytics

- → Automatic visualisation and sense-making of argument structure in dialogue
- → Variety of applications: debates in media, deliberative democracy, legal proceedings
- → Ethos analytics: authority in legal argumentation



# Thank you!







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Warsaw Argumentation Week WAW 2018 comma2018.argdiap.pl

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