Applied Argument Mining: Supporting Behaviour Change

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Solving Problems

✦ Want to solve (or at least tackle) some tough, large-scale, real-world problems

✦ Behaviour Change

   ✦ Ethical/Informed

   ✦ Lasting/Motivated

Elements of a Solution

- Behaviour Change Models:
    - e.g. $C+O+M = B$
    - *Motivation is important*
    - Relatively poor in practise
        - *Ad Hoc* - Lacking in formal foundations & implementational detail

Arguments?

- Increase Motivation by
    - Giving good reasons
    - Arguing constructively
    - Engaging (in dialogue)
        - through existing & new channels

Scale

- Rich engagement with people on a societal scale is hard

- Just gathering data & personalising it is hard

- Need some (semi-)automated support tools

- ARGUMENT MINING?

Broad Concept

* How do we get the information we need, in a form we can use, from a plethora of un/ill-structured resources

    * Parallels with GOF Data Mining & FOTM Big Data

* Multiple approaches

    * Tools, Formats, Algorithms, Interactions

References 1

* *Behaviour Change & Persuasion Models:*
    * Fogg, B. J. (2003) "Persuasive Technology"
    * Michie, S. & van Stralen, M. M. & West, R. (2011) "The Behaviour Change Wheel"

References 2

* *Problem Context:*

  * "Type 2 Diabetes a UK Health Emergency", Nursing Times, July 7th 2014

  * European Commision (Climate Action Policies) http://ec.europa.eu/clima/policies/transport/index_en.htm

References 3

- *Representation & Description of Argument & Dialogue:*

    - Wells, S. (2012) "A Domain Specific Language for Describing Diverse Systems of Dialogue", Journal of Applied Logic vol. 10 (4)

    - Wells, S. (2014), "Supporting Argumentation Schemes in Argumentative Dialogue Games" , Studies in Logic, Grammar and Rhetoric (SLGR), vol. 36 (1)

    - Wells, S. (2012), "Collation of Formal Dialectical Games from the Literature", University of Dundee Technical Report. - *Intro contains an overview of ways the DGDL has been deployed*

    - Wells, S. (2007), "Formal Dialectical Games in Multiagent Argumentation", PhD thesis, University of Dundee, 2007.

References 4

- *Applications of DGDL tools & platforms:*
  - D.Kalofonos,N.R.Karunatillake,T.J.Jennings, C.Reed,andS.Wells."Building agents that plan and argue in a social context", COMMA, 2006.
  - S. Wells C. Gourlay, and C. Reed. "Argument blogging", Proceedings of CMNA9, 2009.