Special Section of the Journal of Artificial Societies and Social Simulation (JASSS) on: "Engineering Agent-Based Social Simulations"

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EXTENDED Submission Deadline: 15 April 2014

Engineering methods are still not commonly used when developing Agent-Based Social Simulations (ABSS). There was some cross-disciplinary work in the early 2000s to apply Software Engineering (SE) methods in ABSS and vice versa. An example of such efforts was the development of AgentUML which allowed considering social aspects (e.g. roles) when defining software agents. Also Agent Oriented Software Engineering research started as an attempt to make agent oriented methodologies (e.g. Gaia or Tropos) interoperable. Some researchers demonstrated how to use SE methods in ABSS, but cross disciplinarity was more strongly oriented towards using Social Science within Engineering. More recently efforts to establish SE methods in ABSS have been picked up again by several researchers. One step in this direction is the application of UML and AgentUML in ABSS. Moreover AI decision making models have been applied in ABSS (e.g. BDI in crowd simulations). In addition some tools have emerged that support the definition of ABSS models using UML (e.g. AnyLogic and Repast Simphony).

How ABSS and SE can be linked is demonstrated by the gaming industry where agent state machines in combination with social theories are used for modelling sociable characters such as the actors in The SIMS (an interactive organisational agent-based simulation game). However, these game agents (and the notation used to describe them during the development process) are not often used for research applications in ABSS. SE also provides some project management strategies that can be useful for developing ABSSs. Agile methods such as XP, with short development cycles, pair programming, and test driven development, seem to have potential. SE can be used at different stages of the development process: for management, analysis, modelling and implementation. Nevertheless, it is important to realise that many methods or processes are not transferrable one-to-one and require some adaptation to be useful within the ABSS context.

With this special section we aim to create a review of the current state of the art in using SE methods in ABSS. We will prioritise papers that are based on real experience, preferably including some kind of evaluation of the success of the methods/tools used.

For this special section of JASSS we seek:

- Theoretically oriented papers that describe frameworks, notations or methods adapted from SE to ABSS (including at least one example of real world application of the described method)
- Tutorial oriented papers giving simple examples of how to apply SE methods to ABSS (including at least one example of real world application of the described method)
- Practice oriented papers (case studies) that demonstrate the application of SE methods in real world ABBS projects

Submission instructions: Do not submit to JASSS but email your submission to the guest editors directly (see email addresses above).

Please read and note the instructions for formatting the document that are at:
http://jasss.soc.surrey.ac.uk/admin/submit.html