

COST Action IC1205 on Computational Social Choice: STSM Report

Applicant: Vedran Podobnik

Home institution: University of Zagreb

Home country: Croatia

Host: Finbarr Livesey

Host institution: University of Cambridge

Host country: UK

Dates: 16/11/2013 to 23/11/2013

I was hosted for one week by Finbarr Livesey (and David Reiner), the Department of Politics and International Studies (and Judge Business School), University of Cambridge, UK. During this week I collaborated with a number of Cambridge-based researchers and students on several topics that are relevant to the aims of the Action, particularly those being pursued by the WG4 which addresses the design and analysis of matching mechanisms, what is an interdisciplinary research area of Economics, Game Theory and Computer Science.

The main topic of our joint research was an *analysis of the computational matchmaking mechanism for country selection*. When companies or governments launch new programs (e.g., expansion or aid program), one of main challenges they face is how to choose the best subset among all possible options. For example, if a company decides to expand its market with new countries the question which arises is how should the company choose new countries to achieve its expansion goal in the most efficient way (e.g., the greatest profitability)? Furthermore, if a charity decides to help solve the problem of malaria what countries should it target with its limited budget to achieve the greatest benefits? Described challenges can be modelled as matchmaking problems and solved by applying a solution based on a computational approach. First, the new program agenda has to be modelled as a form of program profile. Second, target entities should be modelled with a form of entity profile. Finally, to enable automated computational matchmaking, it is important that both program profiles and entity profiles i) follow similar structure; and ii) are described with the same semantic vocabulary. Dr. Livesey (University of Cambridge) and Dr. Podobnik (University of Zagreb) collaborated on the problem encountered by UK governmental agencies when launching new global programs with the agenda of innovation aimed at Global Challenges (e.g., poverty and hunger or environmental sustainability). This STSM was used for analysis of previously created matchmaking mechanism, both from scientific (soundness of the methodology) as well as pragmatic perspective (with the external stakeholders). The analysis results were then used for calibrating the matchmaking mechanism, as well as for enhancing the (re)usability of the tool implementing the matchmaking mechanism.

Finally, on November 22, 2013 I participated in the Open Day event organized by the Technology Policy programme at the Judge Business School, what lead to a number of interesting discussions with staff and students at Judge Business School.