

Towards Environmental Computing Compendium

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Environmental computing is focusing on producing actionable knowledge by advanced environmental modelling on high performance computing platforms. The environmental computing community shares a tacit understanding of what are the initiatives, tools and approaches that belong to the core scope of this discipline. A website has been used as an interim community resource for collecting links to resources that are of relevance to this discipline. This link collection forms an interesting dataset for assessing different aspects of environmental computing as a discipline. Obviously it allows making an estimate of the size of the community – both the core group considering themselves as environmental computing specialists and the group of individuals and organisations involved in the related initiatives. While this measure is very reductionist, it already allows to make arguments e.g. with regards to inclusion of environmental computing aspects in a broad range of curricula (ranging from computer science to different specialties dealing with environmental modelling).

In terms of analysing the more fine-grained distribution of the entries in the above mentioned environmental computing dataset, the main value of the current data is that it is sufficiently large for us to test different categorisation approaches. The challenges encountered in this process are especially useful, as they will force us to reflect not only which (if any) of the categories are exclusive in nature and which of them are actually attributes (or “tags”) that represent specific aspects of them. This differentiation can be important when considering ways to identify and benefit from synergies between different environmental computing groups, initiatives and tools. As an example, a project and an organisation both represent a community, and in both cases you can identify both the formally “core” team (individuals with a contract of some kind, specifying their role in the community), and the surrounding, larger group of stakeholders. However, due to the typically limited lifetime of a project and different internal structure (a project usually consists of several legal entities), the engagement strategy needs to be adjusted. A project collaboration usually needs to provide relatively short-term tangible benefits to be successful, whereas inter-organisational collaboration arrangements can be more loosely defined.

In addition to presenting the observations the current dataset allows us to make we will also discuss the limitations of the current dataset. The paper also presents plans on how to overcome them to increase the representativeness of the dataset and its ability to capture more comprehensive picture of the environmental computing landscape.

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