PRIMRE Research Directions

Because research is generally organized by topic area, and composed of many smaller questions which build understanding of this area, I have elected to first describe four research directions and their comparative strengths to comprehensively present specialties rather than ideas.

Projects Database Mining

The Projects Database mining approach includes normative exploratory data analysis of the Projects Database knowledge hub.

The advantage of this trajectory is that it is very actionable. The disadvantage is that its scope is narrow, and I presume its findings will be uninteresting. As the econometrics saying goes, “If it looks interesting, you’ve done something wrong.” That is to say: exploratory data analysis and linear methods will generate results that are consistent with expert intuition when they are completed correctly. For the purposes of a report showing stakeholders some statistics it might be interesting, but I hold significant doubts that it will provide more than this.

Research questions might include:

* Who are the most active affiliate institutions?
* Who are the most active researchers?
* What researchers and organizations appear in clusters, suggesting working groups?

Case Studies

The case study approach is a research direction composed of many granular case studies, each pertaining to a mock user. Each case study would ask the writer to place themselves in the shoes of an intrigued developer or researcher, and record the research and development process that can be accomplished with PRIMRE resources alone. which each contain a set of pertinent but limited research questions that can be answered using PRIMRE.

I favor this trajectory. The advantages of this path are that a) it is actionable, b) it is scalable, and c) it is flexible. The case study approach is actionable because it does not require specialize code or tools to begin. Because PRIMRE was designed to be text-based and human readable, and we can capitalize on this by working human interaction into the PRIMRE research. This approach is scalable because any number of specific topics can be used as case studies, to increase or decrease the scope of a research initiative. It is also flexible because the areas covered by the case study can adapt to any content that is available on PRIMRE.

Sample case study / research questions:

* Case study on diesel dependent Alaskan coastal fishing village
  + How does a rural community initiate the process of searching for a marine energy solution?
  + What is the process and precedent for permitting a device for a localized application?
  + What is the expected expense to the community of a wave energy converter?