Reference 201205

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Main Supervisor’s Name Dr John Forrester

Main Supervisor’s Department Environment (SEI)

Co-supervisors’ name(s) and Departments Prof Susan Stepney Computer Science

Project Title Complicated, Complex Systems Modelling and Simulation Infrastructure (CoCoSMoS)

Project Description The CoSMoS approach has been successfully used to build scientifically respectable simulations of biological systems and processes. We wish to demonstrate whether the approach can also be applied also to complex and “messy” socio-economic systems to help us better understand options for what are often described as “wicked” policy problems.

The specific domain for this project is of Kenyan coastal fisheries, where we have social simulation models and network maps of the fishermen and their concomitant social system, and ecological models of the ecosystem upon which their fishing is based. These models are currently incompatible. We have a framework model that should allow these separate domain models to be combined.

This project will develop a proof-of-concept instantiation of the framework with the specific domain models. If time permits, and depending on the interests of the student, the project will also investigate extending GIS database approaches to act as a repository for non-spatial social models in addition to spatial models.

Required skills Modelling and abstraction.

Project dates Monday 16 July 2011 - Friday 14th September.


http://www-users.cs.york.ac.uk/susan/bib/ss/nonstd/cosmos11-meta.pdf