

OOP_PCOM7E September 2022 Object Oriented Programming

Unit 6: Abstract Methods and Interfaces

Read the article by Knox et al. (2018) and answer the following questions:

1. What is Component-based modelling?
2. Upon what do component-based modelling frameworks depend?
3. Within the context of the work presented in this paper, what is Pynsim?
4. How does Pynsim achieve its goal when using object oriented Python programming?

Remember to also record your responses in your e-portfolio.

1. Component-based modelling

Component-based modelling is the processes that writing the different components in a system and putting them together.

2. Component-based modelling frameworks

It depends on how consistency the underlying structure of each component programs. Usually people developing these models using same standards so the each developer could develop the same component consistently.

3. What is Pynisum

Pynsim means a structural setting aimed to allow the construction of well-organised networked resource system simulators.

4. How Pynisum achieve its goal when using object oriented Python programming

Python is object oriented programming language. It could facilitate the building of modelling using class, properties and method by using the [class] function.

In building the component in component-based modelling and integrating them, it is important that Python could:

- Python is a popular language which already well known by a lot of developers
- Python scripts can compliance with Open Modelling Interface standard and Basic Modelling Interface and allow the component to be integrated.
- Python has a lot of useful libraries that facilitate the integration of components.

Reference:

Knox et al., 2018. A python framework for multi-agent simulation of networked resource systems, available <https://reader.elsevier.com/reader/sd/pii/S1364815217312136?token=76E33F6BC1B7376006B1ECBBB2B62D671E8B40E91EDCAA903CE7EEF0FAF8DE8EA72CAE5CAEE7605C515FAEBA94CDC82A&originRegion=us-east-1&originCreation=20221211085508>, [accessed: 11 Nov 2022]