

Image Processing within an Integrated Teleradiology Services Network

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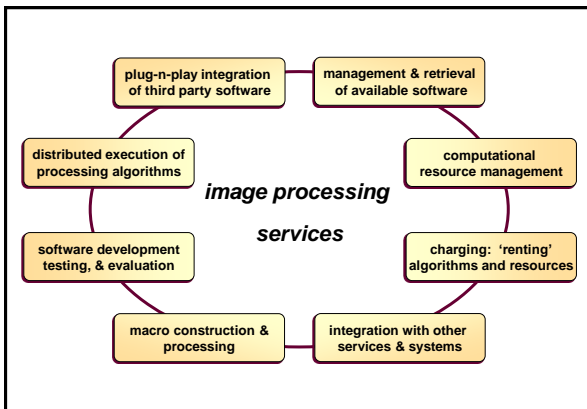
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abstract

One of the many added-value services that can be provided over an integrated teleradiology services network is access to high-performance computing facilities in order to execute computationally intensive image analysis and visualization tasks.

Although an enormous amount of work has been devoted in developing medical image processing algorithms and systems, we currently lack a framework that can integrate prior achievements in the field and provide the added-value features that support and in essence realize what we call a 'service'.

In this poster, we present DIPE, a novel distributed environment which has been developed to support medical imaging processing services within the integrated regional health telematics network, currently under development by the Institute of Computer Science, Foundation for Research and Technology - Hellas, on the island of Crete.



DIPE

a novel environment to support image processing services

- ✓ distributed execution of image processing algorithms
- ✓ plug-n-play insertion of third-party image processing software
- ✓ software development, testing, & evaluation
- ✓ construction & processing of macros
- ✓ intelligent mechanisms for computational resource management
- ✓ integration with other services & systems

DIPE architecture

- expandable and scaleable architecture
- object oriented design based on autonomous co-operating agents
- persistent and robust distributed execution of algorithms
- user transparency in terms of:
 - software and hardware platforms
 - network technologies
 - application domain

algorithm repository

- virtual repository, distributed over the network
- each segment consists of a machine-specific collection of algorithms
- the repository may contain both new and third party algorithms, where only the executable is available
- algorithms either private to a single user or public (at various user group levels)

