The Research by
Laboratory of Information Processing Science

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13 March 2003

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Contents

The Laboratory

Laboratory of Information Processing Science

- founded in 1968
- large organization
- broad area

Our operation

- comprehensive eduation
- focused research

Research Areas

Data structures (prof. Soisalon-Soininen)

- index structures
- various trees (AVL, B, colored, etc.)
- relaxed balancing, group updates
- performance, concurrency

String algorithms (prof. Tarhio)

- strings in various forms (plain, compressed, etc.)
- searching, indexing
- performance, approximation

Areas, continued

Software performance (Hirvisalo)

- tools and methods
- embedded, real-time
- heterogeneous modeling
- static program analysis

Product modelling and realization (Ranta)

- mobile and ubicomp services
- innovation prototyping
- information management
- multi-disciplinary

Areas, continued

Computer science education research (prof. Malmi)

- tools for education support
- content for web-based environments
- evaluation of learning

Software visualization (profs. Malmi and Tarhio)

- tool development
- algorithm animation
- applied to education

Planning systems (prof. Syrjänen)

- methods and tools
- business networks (agent systems)
- artificial intelligence

Research Methods

Broad area reseach

- multitude of methods
- very different methods
- iterative processes
- modeling, construction, experimentation

Typically

- iterative processes
- modeling, construction, experimentation

We use and study methods

- basic research
- applied research
- research and development