SOFTWARE ENGINEERING ENVIRONMENT FOR DEVELOPMENT OF DISTRIBUTED SYSTEMS (SEEDDS)

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Current State ...............
NMDS – Notation for Modeling Distributed System

- RADS, Petri nets etc – Not adequate or User friendly.
- NMDS is more expressive and informative
- Ideal for modeling distributed guarded processes
- Can easily be mapped into the proposed implementation language(LIPS)
- Translation into/from CSP/CCS notations can be automated.

SACS – Specification for Asynchronous Communication Systems

- SCCS - inspired from SCCS and LIPS paradigm
- Governed by restrictions in the form of four design rules.
- Comes with its own analysis and proof that can be automated.
- Designed to detect and avoid Deadlocks
- A Once –Only-Trace system available for detecting livelocks.

LIPS – Language for Implementing Parallel and Distributed Systems

- Asynchronous message passing
- Separates computation and communication
- Based on the concept of Guarded processes and dataflow computing.
- Portable
- Plug and play approach makes it versatile.
- A Distributed version(LINUX) based on a major subset is available.
What Next?

1. Reverse engineer the code:
   - LIPS -> SACS
   - LIPS -> NMDS

2. Full implementation of LIPS

3. Development of Visual Programming Tools

4. Development of Process Libraries to speed up coding and testing.

5. Implementation of Fault Tolerant features into the system.

Partners

1. We would like both industrial and academic partners from member states other than UK.

2. We are prepared to let someone with prior experience and expertise to lead the project.

3. If interested, contact us and we will send you published papers and other materials giving more details.

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