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SCIENCE AND ENGINEERING RESEARCH COUNCIL
RUTHERFORD APPLETON LABORATORY

COMPUTING DIVISION

DISTRIBUTED INTERACTIVE COMPUTING NOTE 898

issued by
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IKBS

Notes on Mamdani Grant Application GR/C64349

5th October 1983

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(see over page)

1. APPLICATION

Computer Support for Research Projects on Fuzzy Reasoning and Knowledge Based Systems.

This application was put in as a request for a VAX11/750 plus support programmer to CCSC on 5th May. It was deferred because of the pending decisions on infrastructure. This note is a summary of the computing requirements ascertained from a visit to QMC and supplements the additional information supplied by Mamdani in his letter of 24th August to Hotchkiss.

2. REQUIREMENTS

- a. Fuzzy reasoning in process control. The two SERC grants in this area come from Robotics and Control and Instrumentation SC. The Robotics grant is provided for adequately by a PDP11/23. The other one is not in his mainsteam activity and may be followed up by a cooperative proposal later on.
- b. Knowledge Based systems and inference with uncertainty. The letter identifies 3 grants as requiring LISP.

(i) GRE/60750 expires November 1983.

(ii) GRC/35851 is a project to enhance SAGE, which is written in Pascal, not LISP. No computing resources were requested on the grant and they are using the Robotics 11/23.

(iii) GRC/02051 uses Rutgers LISP heavily on the DEC10.

For the future any well engineered LISP will satisfy their requirements.

- c. Industrial applications of expert systems. This group really does seem committed to industrial liaison but cannot pay for computing resources from their small feasibility studies. These typically involve a spend of £7-20K in QMC on consultancy. The current grant from Mars is an example.
- d. They are not using Prolog at all on current projects.

3. SUMMARY

- a. The general level of activity in the group set out in the application appears to warrant some further provision. In any event the removal of the DEC10 will mean that approved resources must be provided in some way by the end of 1984.
- b. Given that their LISP requirement is for two students to be able to work online for several hours a day, the whole group would require more than two single user machines to impact the other projects to any significant degree. However, if PERQs can deliver Franzlisp satisfactorily then they may provide the best short term supplement to their resources.
- c. This application is likely to be typical of a number coming in over the next 12 months from groups that are building up their IKBS expertise and are either outgrowing their resources, or will lose resources when the DEC10 goes. A strategy involving relatively low cost single user systems would appear to be necessary.