SCIENCE AND ENGINEERING RESEARCH COUNCIL
RUTHERFORD APPLETON LABORATORY

COMPUTING DIVISION

DISTRIBUTED INTERACTIVE COMPUTING NOTE 815

issued by
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Note of a visit to I Page, Queen Mary College,
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At long last Ian Page has a functional DisArray. Performance was impressive especially considering that the controller for DisArray is currently a PDP 11/10 which is very slow. Page estimates that less than ten per cent of the DisArray processor's capability is being realised.

Page feels that when the project started he had a four year lead over the competition, but this has been eroded because of the problems with the original RA gaps between grants and problems with the RAL board fabrications. Boards on average contained 50 random wiring errors.

Page is still enthusiastic about his architecture and wants to see the project through to completion though new ideas are clearly forming in his mind.

Some of the DisArray ideas have been taken up elsewhere, for example, the PERQ DAP has a similar IO scheme and the video output scheme has been taken up in some of Sproull's work.

Ian Page wants to build a proper control unit for DisArray based on the AMD 29116 chip. This is a 16bit microprocessor with 32bit registers and a barrel shifter with a 100 nanosecond cycle time. They cost £200 each! Page has one in his bottom drawer. Realistically it will take six months to build a control unit.

Page's present funding runs out at the end of February 1983, if more funding is not forthcoming he will loose the RA who seems to be a good man. Departmental money will probably tide him over if a letter of intent can be obtained from SERC promising a grant award.

For the next phase of the construction work Page hopes to use the Manchester Board production facility. Ian Page has Ian Watson's software running on his PERQ and has put on a very nice interactive front-end.

The point was strongly made to Ian Page that this time he really must finish off the project and in particular that construction of the new control unit must not be allowed to take precedence over the construction of demonstration programmes to use the existing control unit. There is some outside interest in DisArray and this needs to be fostered. Nothing would be more disastrous than the control unit construction phase running into the same difficulties that DisArray itself has experienced. Ian Page may be able to utilise third year project students to develop applications software for DisArray once the essential infrastructure has been completed.

Ian Page has it in mind to construct a DisArray 2, based on faster chips etc. However, he recognises the severe limitations of the QMC Department for any serious construction work. The Department, for example, does not even possess a logic analyser.

Whilst at QMC I saw a demonstration of Ian's VLSI layout software on the PERQ and some other interactive front-ends. All were most impressive.

Ian has submitted a paper on DisArray to the Oslo IFIP Conference.

jg