

## Newsletter for applicants

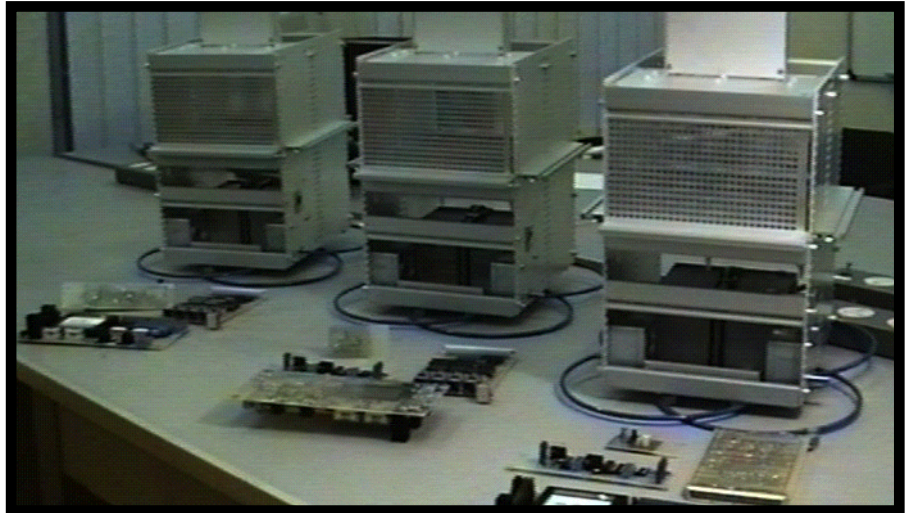
### **New Software Engineering Degree Scheme**

A new BSc degree scheme in Software Engineering joins the large set of degrees currently offered by the Department. It concentrates on design and development methods needed to produce robust and reliable software.

It has been introduced to meet a substantial demand from prospective employers and will cover a wide range of modern software engineering techniques including: Software Development e.g. models of the software life cycle; requirements analysis; specification; design; prototyping; verification; testing; and maintenance. The role of formal methods. Planning, managing and reviewing software development. Programming Methodologies and Software Tools e.g. robust programming practice; portability and re-use; abstraction; object-oriented programming; programming window interfaces; program development environments.

### **Altera Donation**

Altera Corporation of San Jose California have kindly



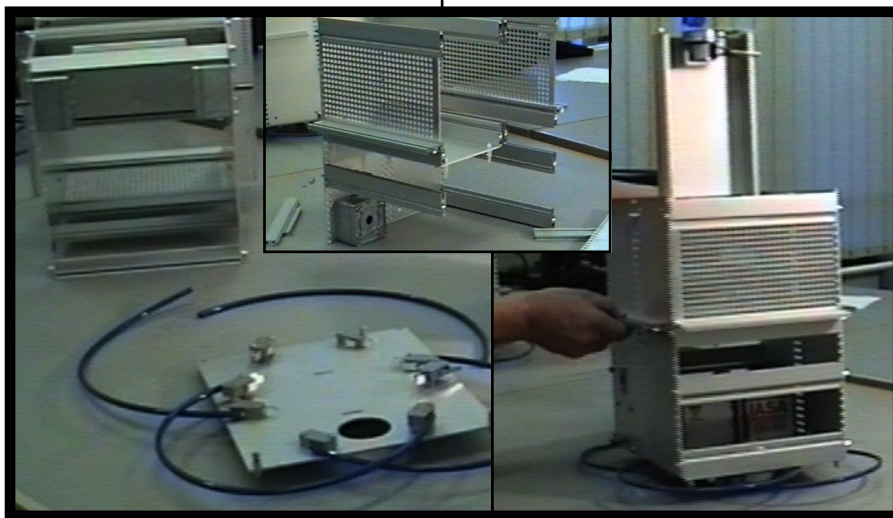
donated approximately £ 170 000 worth of software and hardware to support teaching and project work connected with the new generations of Programmable Logic Devices (used to construct modern computers).

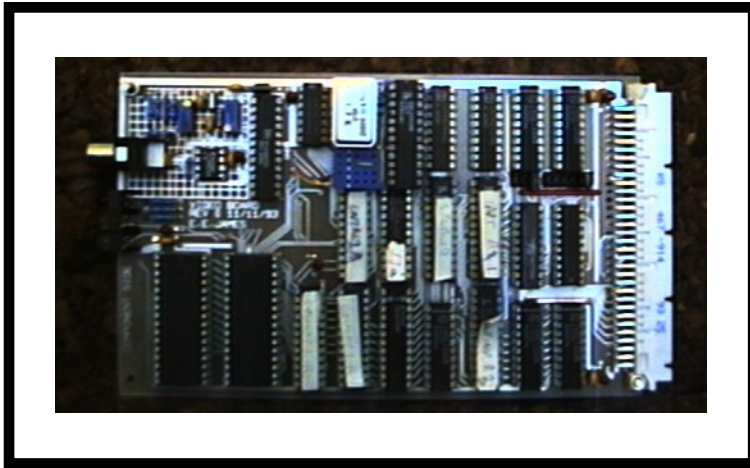
Programmable logic devices and associated electronic computer aided design (ECAD) packages have replaced much of the discrete, component design based methods which were commonly used in the construction of previous generations of digital systems. This

approach has great advantages. It simplifies the process of creating Application Specific chips, and reduces time needed to implement hardware designs - by providing computer assistance with the task of circuit entry, simplification, simulation and fabrication. The resulting hardwired control units can be used as circuit components in a similar way to conventional processors. Altera Corporation invented the first EPLD, the EP300, in 1984.

### **Wind River Systems Prize**

As a climax to the academic year, a competition is organised in which students are invited (it is not compulsory) to combine separate assignments they have completed during the year to build a fully working mobile robot, able to solve some problem. This adds interest and further motivation to lab work, and also provides a mechanism for supporting teamwork and larger projects. Wind River Systems of Alameda, California have kindly agreed to sponsor this competition and are offering a prize of £ 250 per annum to the winners. Wind River produce one of the most widely used real-time Operat-





ing Systems in the world. Such software is found in embedded applications (i.e. computers built into machines such as high speed trains, aircraft, telephones, robots, etc) so their sponsorship of this contest is highly appropriate.

### ***Official Opening Ceremony***

Although the Brooker laboratory has now been running for almost a year, it has yet to be officially opened. The official opening ceremony is planned for December 15th 1994. The lab is named after Professor Tony Brooker, who founded the Department in 1967. He was involved in the development of the earliest computers, in Manchester during the 1950s, and played an important role in creating the first compiler.

### ***Marvin Gives Birth !***

We are pleased to announce three new additions to Marvin's family: two brothers (Ford & Arthur) and a sister (Trillian). The picture on the previous page shows them at various stages of production. Although similar in appearance to the older Marvin model they embody much superior electronics. For instance, the efficiency of the stepper motor drivers have been vastly improved and the ultrasonic proximity detectors have been given higher noise immunity and the ability to be cascaded to form large sensor arrays.

### ***Robot Eyes***

A new programmable VME board (see picture above) has been designed and built by the department which enables audio and video signals to be digitised. Miniature cameras from VLSI Vision Ltd (a new British Company based in Edinburgh) have been acquired which, when coupled to the new board, allows the robots to "see" their surroundings. Staff in the Artificial Intelligence section of the department will use this new system to improve the existing vision course, starting in October.

### ***Intelligent Robots***

One of the principal languages of Artificial Intelligence (AI) is Prolog. We have now ported two implementations of Prolog onto the robots, thereby enabling more AI courses and projects to use the robots. Plans are being made to run Intelligence projects involving Planning and Distributed AI, where robots behave as intelligent agents and as knowledge sources.

### ***Network Access to Essex***

If you watch "The Net" on television you will be aware of the increasing importance of Internet in computer communications. In the USA some cable TV networks are providing Internet access to private homes. You may be interested to know that if you (or your parents) have access to Internet then you can access the University of Essex and discover useful information.

For instance, the following is available: ROBOTS is a small archive dedicated to storing robotics-related information. It can be accessed via Janet or Internet at [ftp.essex.ac.uk](ftp://ftp.essex.ac.uk). The robot archive is located in `pub/robots`. It can also be accessed via World-Wide Web (WWW) at <http://cswww.essex.ac.uk/Eurobots> (the paper: Brooker.ps in this archive provide a more detailed description of the robot lab). In addition, we are planning to serve out a "live" camera view of the robot test area via WWW.

### ***New University Modems***

As you may know, the new university accommodation has a high performance FDDI network connection which offers the potential for you to work from your university rooms. In addition, you may log into the university computers using our newly modernised modem system. This allows anyone with a computer, modem, and access to a telephone line to connect to the university computers.