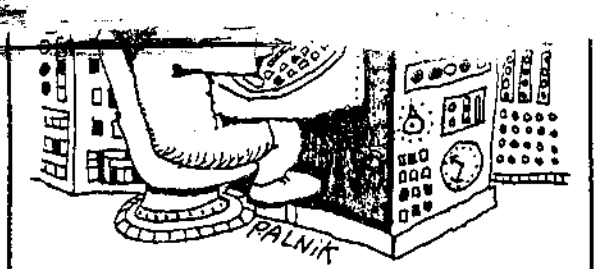

Jerusalem Post, Wed, Aug 20, p.6

veloped by scientists at the Haifa Technion's Samuel Neaman Institute for Advanced Studies in an effort to cut out the year many soldiers waste after demobilization before they reach admission standards. Prof. Gad Hetzroni, manager of the institute, told *The Jerusalem Post*.

"We chose a computer course because we think it more interesting than learning from textbooks," he said. "Also, the very handling of a computer is a challenge for modern young men which is likely to draw them to the lessons."

airbase.

The base commanders welcomed the project "enthusiastically" and undertook to supply an air-conditioned room, guards for the three computers to be installed, and 20 soldiers eager to take the course, said Hetzroni.

"Technion admission examinations have shown that a demobilized soldier's chances are poor. As many as 65 per cent are found not to meet requirements and have to take the six or 12 month preparatory courses the Technion runs in order to qualify."

doing the preparatory courses.

"They have already given three years of their lives, and if we can help them not to waste another year before they start their studies, we'll be doing a lot of good," said Hetzroni. "After all, they are old enough by the time they are demobilized."

IT TOOK a year to develop the 50-hour programme that allows the soldiers to dial their lessons from the computer and have it set examinations to test how well they have absorbed the material.

Aitech seeks to take slice of civilian market

Simson Garfinkel

QUESTION: WHAT'S slightly larger than a breadbox, able to function in temperatures ranging from –57C to +85C or under 1 meter of water, and runs AT&T's Unix System V? Answer: The series-500 computer built by Aitech of Herzliya.

Most military computers on the market today, explained Gabriel Leemor, vice-president for marketing, are divided into two categories: there are powerful computers based on new technology which are very expensive, and there are older computers based on 15-year-old technology that are less expensive and provide low computing power. The series-500 provides an unusual cost/performance ratio, in that it is a moderately priced state of the art high-performance computer built to full U.S. Government military specifications.

Unlike other military computers, the series-500 has been built with the same hardware and software standards of other super-microcomputers. The computer uses the Motorola 680X0 CPU – the same processor family as the Sun, Apollo and Macintosh computers. The computer uses the standard Unix System V operating system and the standard VMEbus. By using existing standards, continued Leemor, development time and costs with the series-500 computer are a fraction of those with other mil-spec systems.

The military specifications specify minimum operating conditions for the computer. These include operating temperatures from –57C to +85C without forced air cooling. The system can withstand a shock of over 30 times the acceleration of gravity.

THE SECRET to the series-500, said Leemor, is in "designing the system as a system, rather than developing the cards and the box separately." Like most computers, the series-500 consists of several special-function cards and a backplate which the cards plug into. Unlike non-ruggedized computers, the series-500 cards are locked securely into place by expansion screws after which the case is hermetically sealed. The bulk of each card consists of a thick metal plate which conducts heat from the integrated circuits to the outside of the box.

In addition to no moving parts, the computer also contains no wires, with the exception of the wire connecting the power supply with its external connectors.

Although the series-500 is built to full military specifications, Aitech is more interested in the non-military market. The engineers of Aitech used the "military ground vehicle mil-spec because it was complete," said Leemor. The series-500 is "designed for applications that need powerful computation outside in the wild outdoors."

Three radically different operating systems are available for the series-500. In addition to Unix, Aitech provides VRTX, a real-time operating system from Hunter & Ready, a U.S. based software house, and Smalltalk-80, an artificial intelligence environment developed by Xerox over the past 15 years.

One advantage of using the VMEbus – a hardware interface standard defined by Motorola for use with the 68000 family of microprocessors – is that there are many companies around the world making VMEbus products. Aitech has a programme, according to Leemor, under which it will ruggedize a third-party board for use in the series-500 computers. Although the resulting system will not be mil-spec, it will be substantially more reliable than the non-ruggedized version.

In addition to the series-500, Aitech offers the series-400; the same ruggedized computer but built without the paperwork which is involved in mil-spec certification, an industrial-spec series-200 computer and the series-100 computer for laboratory development of ruggedized products.

Aitech is a three-year-old company originally funded with venture capital from the U.S. "We're just like any other Silicon Valley startup, except we're in Israel," says Leemor.

Prime Minister Shimon Peres visits Kibbutz Gvat in the Jezreel Valley to see Plastro-Gvat's new computer for determining and controlling irrigation.

Elbit develops better eye

COMPUTERIZED vision, the automated analysis of visual data, has long been one of the most intractable problems in automation and robotics. The aquisition of visual information to process simultaneously spatial colour and temporal signals the way this is done so effectively by humans has remained so far out of reach.

Elbit has developed a unique algorithm capable of real-time pattern recognition based on all four visual dimensions – space, colour, motion and stereo. Based on this algorithm, Elbit is developing and implementing a real-time image processing and pattern recognition system capable of seeking and detecting targets in a complex background environment.

The system analyses a visual picture (TV, thermal IR, radar, etc.) by going through the following operations: digitizing the picture; searching for areas of interest; mapping the various instantaneous fields of view into sets of characteristic coefficients; pattern recognizing the sets of coefficients as representing prelearned targets of backgrounds by using several discriminant functions.

The systems major features are high probability of recognition with low false alarm rates; invariances to illumination intensity; learning capabilities; parallel architecture allowing real-time applications; passive process with no need for active illumination; compression and reconstruction at the pixel level preserving high fidelity at the centre of the reconstructed field of view. A-EYE marks the first time that a signal theory integrates space, colour and temporal visual signals in a new and exciting form of analysis – one that leads to highly reliable and efficient parallel implementation, operating on all types of visual signals in real time. Among the many possible applications – smart sensors for military "fire and forget," automatic analysis of reconnaissance pictures, automated manufacturing and robotics.

1985 Military Balance

Mark A. Heller, Aharon Levran, Zeev Eytan
Edited by Mark A. Heller

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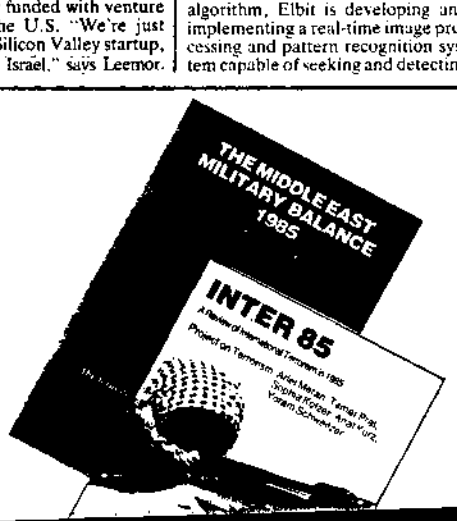
INTER 85. A Review of International Terrorism 1985

Ariel Merari, Tamar Prat, Sophia Kotzer, Anat Kurz, Yoram Schweitzer

Statistical data and analysis of trends in Palestinian terrorism, Shi'ite terrorism, and in western states' response.



Off-the-shelf progra – a blessing for 'uniqu

Doron Pely

THE MOST obvious beneficiaries of small desk-top computers are small businesses. As a host of programmes, designed to help small, medium and large businesses run every facet of their operation, followed the development of the small computers, increasing numbers of business firms and small factories, retailers and wholesalers bid a happy [illegible]

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