SCIENCE AND ENGINEERING RESEARCH COUNCIL

RUTHERFORD APPLETON LABORATORY
INFORMATICS DEPARTMENT

INFORMATICS GROUP LEADERS MEETING

Divisional Targets for 1988   issued by
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DISTRIBUTION: Informatics Department

1   INTRODUCTION

As last year we have constructed a set of Divisional Targets for the
year. This year we have tried to concentrate on fewer targets with less
interdependencies. They vary from easy to hard. The aim is to give the
staff some idea of the non-routine tasks that management believes is
important.

2   INFRASTRUCTURE GROUP

2.1 Management

Agreement on disposal of all equipment associated with the Alvey
Infrastructure.

2.2 Infrastructure Section

2.2.1 Projects

(a) Linotron providing full service to RAL.

(b) First collaborative project with IBM involving the 6150 completed.
     all requested kit obtained.

2.2.2 Communications

(a) Prototype X.400 system mounted on a UNIX machine.

(b) SUS access to Cray/COS service (from Sheffield).

2.2.3 EASE

(a) Provision of a set of EASE benchmarks which cover all schedules.

(b) Pyramid Central Server in full service.

2.2.4 Management Support

(a) Completion of Finance Project. Extra facilities defined in Finance Project Specification (30 March 1987) included (addition of data from non-FDS sources, thresholds, spend profiles, staff costs).

(b) Existing Alvey Mail closed down.

2.2.5 ECSTASY

(a) TSIM mounted and issued to test sites.

(b) ECSTASY alpha evaluation completed.

2.3 HCI Section

(a) Obtain and equip Human Factors Laboratory, run at least one experiment and publish a paper.

(b) Get one CSSC proposal funded.

(c) Publish paper on SPY.

2.4 Image Processing Section

(a) Submit final report on the 2D OBJECTID project.

(b) Organise the first version of a documented demonstration of the Image Processing Algorithms Library (IPAL) running on at least one of VAX (VJ), SUN, a cheap IBM-PC clone.

(c) Get funding for two more image processing projects, using a UNIX-based system.

(d) Move section to R1.

2.5 IKBS Technical Support Section

(a) Publish updated PROLOG benchmarks paper.

(b) Document AI software on Alvey infrastructure machines.

2.6 Alvey SE Management

(a) Analyse the routes used in uptake of Alvey Deliverables for exploitation of products, and publish the result.

3   SOFTWARE AND KNOWLEDGE ENGINEERING GROUP

3.1 IKBS

(a) To submit five proposals for funding.

(b) To have two major new funded projects.

(c) To have a running usable intelligent front-end to aid expert users in entering data into ESP.

(d) To have a configurable architecture running for Paralfex.

(e) To have five papers accepted for books/journals - of which two on Paralfex.

(f) To present six external seminars.

3.2 Software Engineering

3.2.1 Formal Specification (DAD, MSP)

Produce a paper on extensible primitive set for GKS and a paper on PHIGS/GKS compatibility.

3.2.2 IPSE 2.5 (BR, JCB)

Specify and implement the left-hand side model of the formal reasoning IPSE.

3.2.3 FORSITE (BMM, SR)

Deliver yacc in ML implementation to Oxford.

3.2.4 Knuth Bendix (AJJD, JRK)

Establish a collaboration involving a major application of ERIL and submit a paper to a conference or refereed journal.

3.2.5 CSP

Obtain funding for work in this area.

3.2.6 ESPRIT

Survive long enough to submit an ESPRIT proposal.

4 ENGINEERING COMPUTING GROUP

4.1 ECF General

4.1.1

Have EASE accepted by the Engineering Board by July.

4.1.2

Acceptance of EASE by a specific engineering user community by selection of items by them from schedules A and B.

4.1.3

AMT DAP and Meiko Computing Surface available on network as compute servers and reasonable use of them at RAL, shown by the production of two reports on projects using them.

4.1.4

Implement short term recommendations of the 4 CFTAG workshops (UIMS, Databases, Numerical Methods, Software Integration) including:

- get SUN INGRES up and available
- evaluate PASET Database
- evaluate METIS Software

4.2 Management and Operations

4.2.1

Produce and implement rational scheme for Lab 11 by 1 May 1988.

4.3 Numerical Algorithms

4.3.1 Device and Process Modelling

Submit 6 papers to refereed journals and conferences.

4.3.2 Electromagnets

Use the code from this project for EASE evaluation.

4.3.3 Finite Element Library

(a) Supply Release 4 of Library to NAG.

(b) Propose and let two EMR contracts on Library Developments (boundary elements and non-linear materials).

4.3.4 Parallel Processing

ESPRIT project 1962 (ACCORD)

Submit 2 papers to refereed journals and conferences.

4.4 Application Package Support

4.4.1

Adapt the BIM2D package to the AMT DAP.

4.4.2

Fully implement FAM on the SUN with easy access to FE solvers on IBM and Cray.

4.4.3

Complete the work on the RALBIC neutral file system with interfacing to FAM.

4.4.4

Appraisal of LUSAS on the PYRAMID for decision on whether to implement on SUN and Cray.

4.4.5

Implement transient PE2D on the Cray.

4.5 Engineering Data Exchange

4.5.1

Complete new 2D potential analysis program for the SUN (with Vector Fields).

4.5.2

Implement an engineering application onto an SQL DBMS (ie INGRES).

4.5.3

Complete port of EXPRESS to EASE environment

4.6 SUS/APPLICATIONS

4.6.1

Provide suitable interactive document production system for ECF and other external users that the section supports.

4.6.2

Have 4 approved systems in EASE and decide on successor to SUN 3.

4.6.3

Install at least three remote ECF supported Central Server machines.

4.6.4

At least 51% of SUS's to receive software and information from RAL via the network.

4.6.5

Make ESPRIT proposal in cooperation with Communications and SKE.

4.6.6

Evaluate SUN's GKS to level 2c.

4.6.7

Evaluate UNIRAS software and make available.

4.6.8

Make solid modelling software available.

4.6.9

Make rendering software available.

4.7 Transputer Initiative

4.7.1

Establish two additional Regional Centres (London and the South East at RAL, and Northern Ireland).

4.7.2

Complete Developments identified by Workshop. (Specific proposals not available at this time).

4.7.3

Centres to be seen to operate in line with their business plans.

4.7.4

RAL staff to be active in development/research activities.

5   GENERAL

5.1

Have over 90% of Informatics Department staff in R1.

5.2

Have no staff working on Alvey Infrastructure or Coordination and Support activities by March 1989.

5.3

Have a workstation in every office that requires it.

IGLM/P18/88/FRAHP2