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USER EXPERIENCE WITH REAPS SIMPLIFIED ALKON

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Mr. Breen has a B.S. degree in Mathematics and Computer Sciences from Purdue University.
1. WHAT IS ALKON?

A PARTS GENERATION SOFTWARE SYSTEM

- AUTOKON 1: PARTS GENERATION
- AUTOKON '71/'76: ALKON
- REAPS: SIMPLIFIED ALKON

GENERAL DYNAMICS

2. SPT (+0+0)

CIR: CNT(+50+0)
RAD (-50) EPT (+100+0)
SL: EPT (+0+0)

GENERAL DYNAMICS

3. WHAT IS SIMPLIFIED ALKON?

- AUTOKON '71 ALKON
- AUTOKON 1 PARTS GENERATION
  BY SOFTWARE ENHANCEMENTS
  TO AUTOKON '71
  BY INCLUSION OF
  SPECIALIZED NORMS

GENERAL DYNAMICS

4. SIMPLIFIED ALKON

A METHOD OF OFFERING A RELATIVELY SIMPLE
PARTS GENERATION LANGUAGE FOR N/C FLAME
CUTTING DEMANDS WHILE SIMULTANEOUSLY,
ALLOWING A SOPHISTICATED LANGUAGE FOR
DESIGN AND ADVANCED MANUFACTURING
REQUIREMENTS

GENERAL DYNAMICS
HOW HAS SIMPLIFIED ALKON BEEN DEVELOPED?

● APPROVED AS A REAPS DISCRETIONARY DEVELOPMENT PROJECT IN 1976

● JOINT EFFORT BETWEEN IIT RESEARCH INSTITUTE AND GENERAL DYNAMICS CORP.

IMPLEMENTATION SCHEDULE

A: PRELIMINARY SPECIFICATIONS
B: REAPS PARTICIPANTS' COMMENTS
C: REVISED SPECIFICATIONS
D: DISTRIBUTION OF BX2
E: REVISED REQUIREMENTS
F: DISTRIBUTION OF BX3
G: DISTRIBUTION OF BX4
WHY SIMPLIFIED ALKON?

- TRAINING
- TURN-AROUND
- ADDITIONAL CAPABILITIES
- SOFTWARE MAINTENANCE AND MODIFICATIONS
- COMPUTER MAINFRAME FACETS

GENERAL DYNAMICS

TRAINING

AUTOKON '71 ALKON

- BASIC - 6 WEEKS AT 20 HOURS/WEEK
  DOES NOT ALLOW FULL CAPABILITY NORM CODER

- ADVANCED - 4 WEEKS AT 20 HOURS/WEEK
  INCLUDES CONCEPTS SUCH AS WIRE MODELS,
  GOES BEYOND CAPABILITIES OF AUTOKON 1,
  ALLOWS NORM CODING PENDING USER

AUTOKON 1 PARTS GENERATION

- 2 WEEKS AT 20 HOURS/WEEK
  FULL PRODUCTION CODER
  ALLOWS NORM CODING PENDING USER
  CAN BE LEARNED BY “HAMMER AND NAIL” LOFTSMEN

GENERAL DYNAMICS

290
TURN-AROUND

NUMBER OF JOB SUBMISSIONS REQUIRED PER SUCCESSFUL MANUSCRIPT

● AUTOKON '71 ALKON: 3-5 SUBMISSIONS

Ž AUTOKON 1 PARTS: 2-4 SUBMISSIONS

GENERAL DYNAMICS

ADDITIONAL CAPABILITIES

ALL AUTOKON '71 ALKON FACETS ARE AVAILABLE TO THE AUTOKON 1 PARTS GENERATION CODER

GENERAL DYNAMICS

SOFTWARE MAINTENANCE AND MODIFICATIONS

● AUTOKON '71 ALKON:
  - THREE-PASS SYSTEM
  - A DATA BASE RECORD INCLUDES ALL RELATED MATRIX DATA
  - REAPS/IIT RESEARCH INSTITUTE SUPPORTED

● AUTOKON 1 PARTS GENERATION:
  - SIX-PASS SYSTEM
  - A DATA BASE RECORD IS COMPRISED OF A SINGLE GEOMETRIC CONTOUR

GENERAL DYNAMICS
## COMPUTER MAINFRAME FACETS:

<table>
<thead>
<tr>
<th>FACET</th>
<th>AUTOKON 1 PARTS</th>
<th>AUTOKON'71 ALKON</th>
<th>SIMPLIFIED ALKON</th>
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<tbody>
<tr>
<td>MEMORY</td>
<td>64K WDS</td>
<td>49K WDS</td>
<td>53K WDS</td>
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<td>MASS STORAGE</td>
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<td>1.7 MIL. WDS</td>
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<td>1 PART</td>
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<td>5 PARTS</td>
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