NASTRAN INPUT DATA PREPARATION USING THE FEM EDITOR

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ABSTRACT

A software development project currently under-way at BCS is the FEM Editor, which provides special-purpose preprocessing capabilities for creating and modifying NASTRAN input data. Card image forms, one each NASTRAN card type, are displayed on a color graphics screen, along with descriptions of the card fields. Data input consists of filling out the form, tabbing from field to field, and editing and data generation using a command menu. The user selects the specific card form either through a menu traversal or by explicitly keying in the NASTRAN card name.

FEM EDITOR
DESIGN CONCEPT

PROVIDE A DATA PREPARATION TOOL

TO FILL THE GAP BETWEEN

SOPHISTICATED MESH GENERATION

AND THE

MANUAL CREATION OF "DATA CARDS"

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FEM EDITOR
DESIGN CONSIDERATONS

- DEAL WITH NON-GEOMETRY INPUTS AS WELL AS GEOMETRY
- DEAL WITH NATIVE NASTRAN DATA
- USEFUL FOR "SHOTGUN" DATA
- USEFUL WITHOUT HAVING TO LEARN SUBTLE GENERATION SCHEMES

FEM EDITOR
SOLUTION

A SPECIALIZED EDITOR USING DATA ENTRY INTO NASTRAN DATA FORMS ON A TERMINAL SCREEN

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FEM EDITOR
FEATURES

- DATA ENTRY INTO LABELLED WINDOWS, SIMILAR TO THE FORMS IN THE USERS' MANUAL
- FORWARD AND BACKWARD TABS SET AUTOMATICALLY
- DATA SELECTED FOR MODIFICATION BY "POINTING"
- MULTI-RECORD GENERATION FROM A BASE RECORD
- MENU TRAVERSAL TO ISOLATE THE APPROPRIATE FORM

FEM EDITOR
IMPLEMENTATION

- LOCAL MICROPROCESSOR (PDP 11/23)
- COLOR RASTER TERMINAL (DEC VSV/11)
- EDITOR CONTROL
  - TRACKING CROSS VIA DIGITIZER
  - KEYBOARD
- TABLE DRIVEN
  - FORMS
  - MENUS