Steps in the DES Approach

Component Models → Test Sequence/Controller Model → System Model → Diagnoser → Diagnostic Requirements

Analysis: Is it Diagnosable?
Design: How to Diagnose?

Step 1: Build Discrete Event Model of System  Step 2: Build Diagnoser

Eleventh International Workshop on Principles of Diagnosis
20000608
Application 1: Real Time Diagnosis of the Paper Feeder System in a Digital Copier

The Xerox Document Center DC265

+ HUAC
+ NASA'S DEEP SPACE ONE
+ AHS
The DC265 Paper Feeder System Components

- Paper Trays
- Wait Station Sensor
- Drives Plate - Feed & Elevator Motors, Paper Size Sensors
- Feed Roll Cartridge
- Stack Height Sensor
- Nudger Solenoid,
Paper Feeder Diagnostic System

DIAGNOSER → LOCAL UI → REMOTE UI

EVENT GENERATOR

DIGITAL DATA STREAM

DISCRIMINANT ANALYSIS

FEATURE EXTRACTION

ANALOG DATA STREAM

Failure 2

Event 1: Feed Motor Fail
Event 2: Stack Hi Count

FAILURE
Broken Feed Roll Cartridge

Cluster 2

Eleventh International Workshop on Principles of Diagnosis
2000/06/08