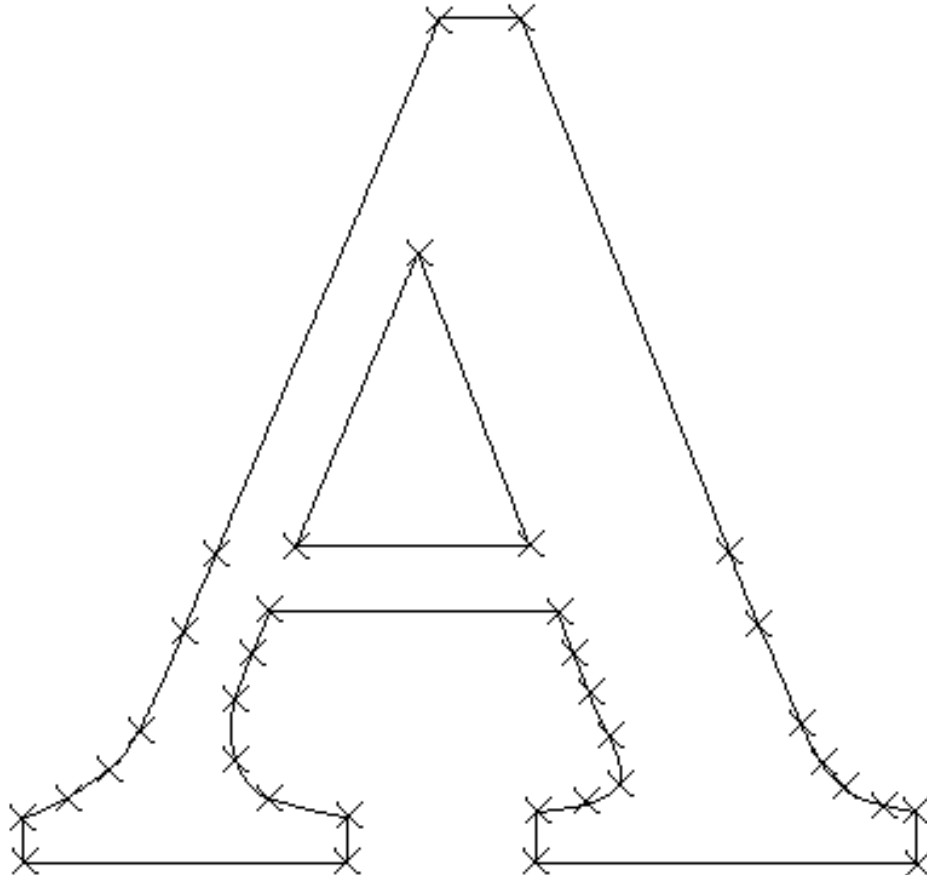


January 13, 1976

To: CSL/SSL
From: Patrick Baudelaire
Subject: FRED

1. Introduction

FRED is an interactive editor of curves, intended to be used mainly for creating fonts. FRED is used to define outlines of characters.



FRED manipulates spline curves, which are piecewise parametric cubic functions fitting a set of points called knots (shown as "x" above). Spline curves are created and modified by simple operations on these knots.

Usually, when creating font outlines, the curves should correspond to the shape of a character perhaps designed by a graphic artist. To help define such outlines, FRED will display a "background" image to use as a reference when editing the curves.



2. Summary of commands

The Alto screen is divided into three areas: a display area for drawing spline curves, a menu area and a message area. User input comes mainly from the mouse, when the cursor is in the display and the menu areas. The result of an interaction usually shows as a new curve in the display area.

FRED displays a menu of commands which are invoked by pointing at them with the cursor and pressing any mouse switch. In response to certain of these commands, another menu of subcommands may in turn appear. Subcommands are invoked in the same fashion. FRED commands are described in the following sections of this document:

section 3: basic operations

- 3.1: m a k e
- 3.3: r e p l a c e
- 3.5: n e x t

section 4: transformations

- 4.1: m o v e
- 4.2: c o p y
- 4.3: d r a g
- 4.4: r e p e a t

section 5: other operations

- 5.1: w i p e
- 5.2: u n d o
- 5.3: b r e a k
- 5.4: j o i n

section 6: refresh

- 6.1: r e f r e s h
- 6.2: s h i f t
- 6.3: n e w b a c k g r o u n d

section 7: r e a d, w r i t e, p l o t

section 8: f o n t