MessagePad 2100

# Making Newton Fonts: Tools & Tribulations

Welcome.

Making Newton Fonts: Tools & Tribulations

A little bit about me.

# Making Newton Fonts: Tools & Tribulations

## A little bit about me.

Grant Hutchinson

Born and raised in Calgary, Canada

Married, two daughters, one dog

Web design, user interface, typography

Newton user since 1996, fan since 1993

Computer collector

Newton community projects

## Making Newton Fonts: Tools & Tribulations

# A little bit about me.

The Newted Community

newted.org

Newton Stowaway Keyboard Project

splorp.com/newton/stowaway

Newton Glossary

splorp.com/newton/glossary

Newton Personal Data Sharing (NPDS)

npds.free.fr

# Making Newton Fonts: Tools & Tribulations

A couple things about this talk.

# Making Newton Fonts: Tools & Tribulations

## A couple things about this talk.

Not an in-depth technical discussion

Not a step-by-step tutorial

Provide background information

Overview of interesting things and concepts

Jumping off points for further exploration

# Making Newton Fonts: Tools & Tribulations

## What is a Newton font?

## Making Newton Fonts: Tools & Tribulations

# What is a Newton font?

TrueType format

Contains bitmap data

Contains width data or metric information

Does not contain any outline data

Flexible encoding support (Unicode)

Large character set support (Kanji)

# Making Newton Fonts: Tools & Tribulations

An extremely brief history of TrueType.

# Making Newton Fonts: Tools & Tribulations

## An extremely brief history of TrueType.

Developed by Apple

Adopted by Microsoft

Alternative to proprietary PostScript

TrueType GX extensions

Most common cross-platform font format

TrueType Open evolved into OpenType

Highly extensible architecture

# Making Newton Fonts: Tools & Tribulations

The sbit hits the fan.

# Making Newton Fonts: Tools & Tribulations

## The sbit hits the fan.

Extension to TrueType

Allows inclusion of hand-tuned bitmaps

Clearer, more legible screen fonts

Not reliant on outline data to render

# Making Newton Fonts: Tools & Tribulations

# Why do I need more fonts?

# Making Newton Fonts: Tools & Tribulations

## Why do I need more fonts?

More flexible text formatting

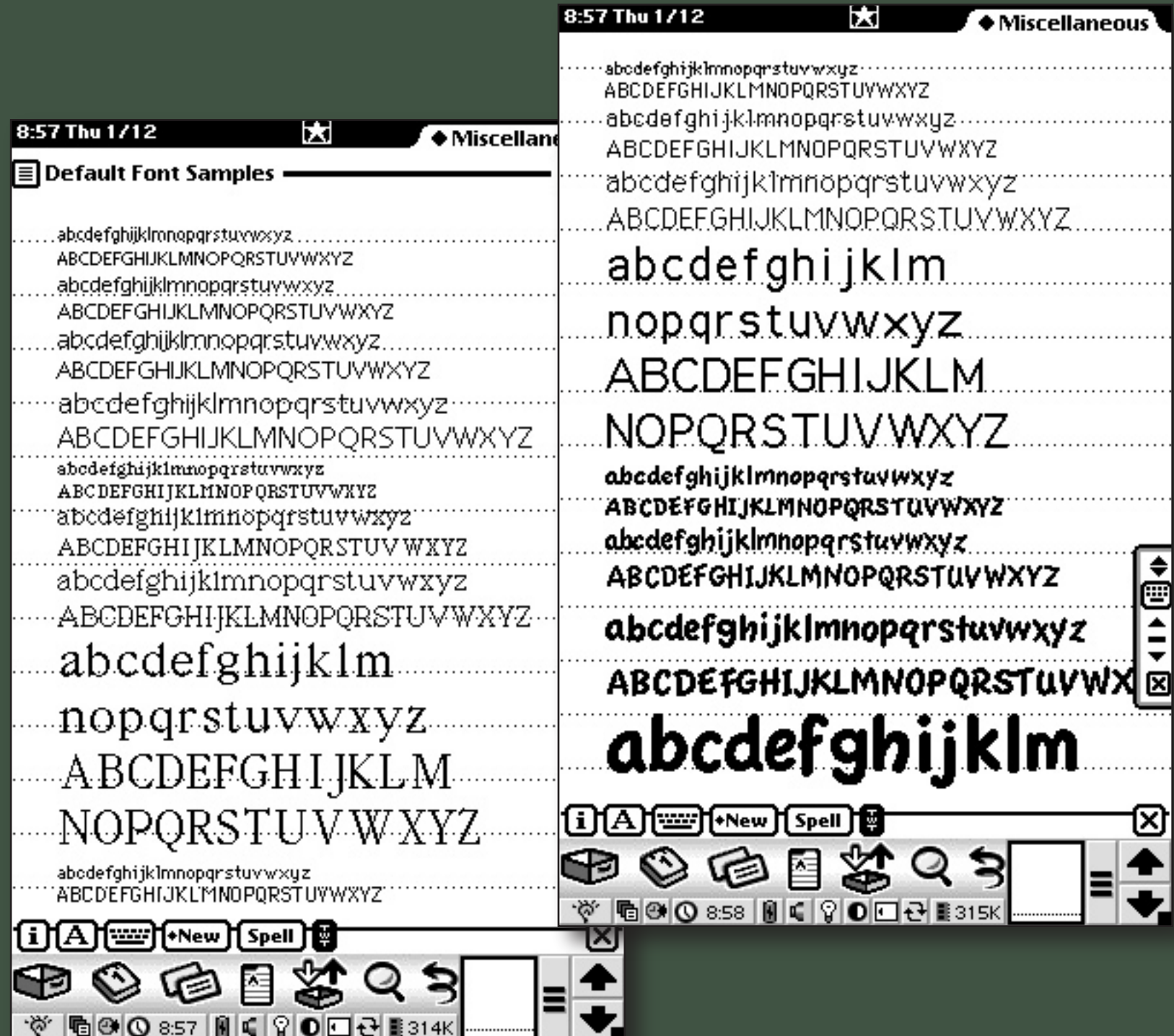Optimizing screen real estate

Creative expression

Language support

Special symbols

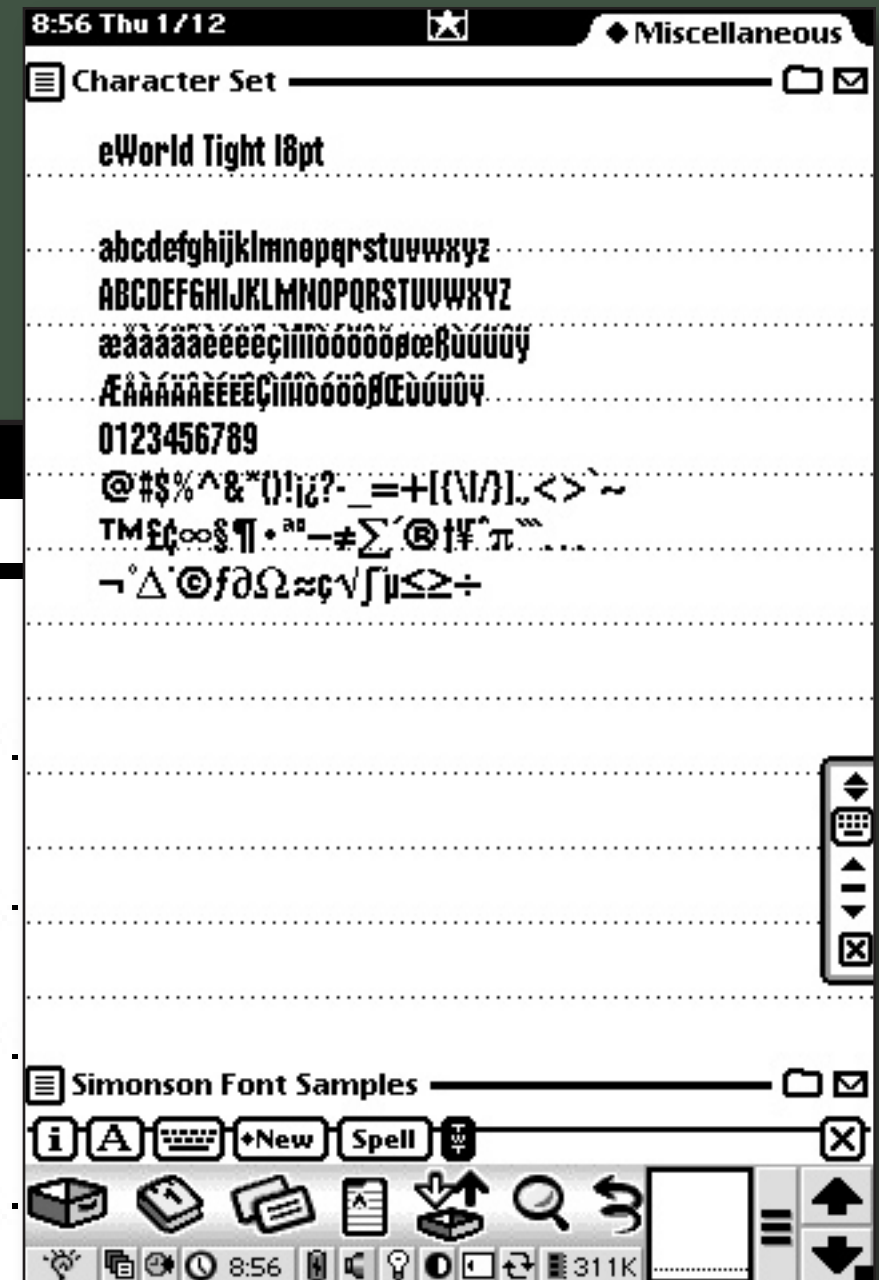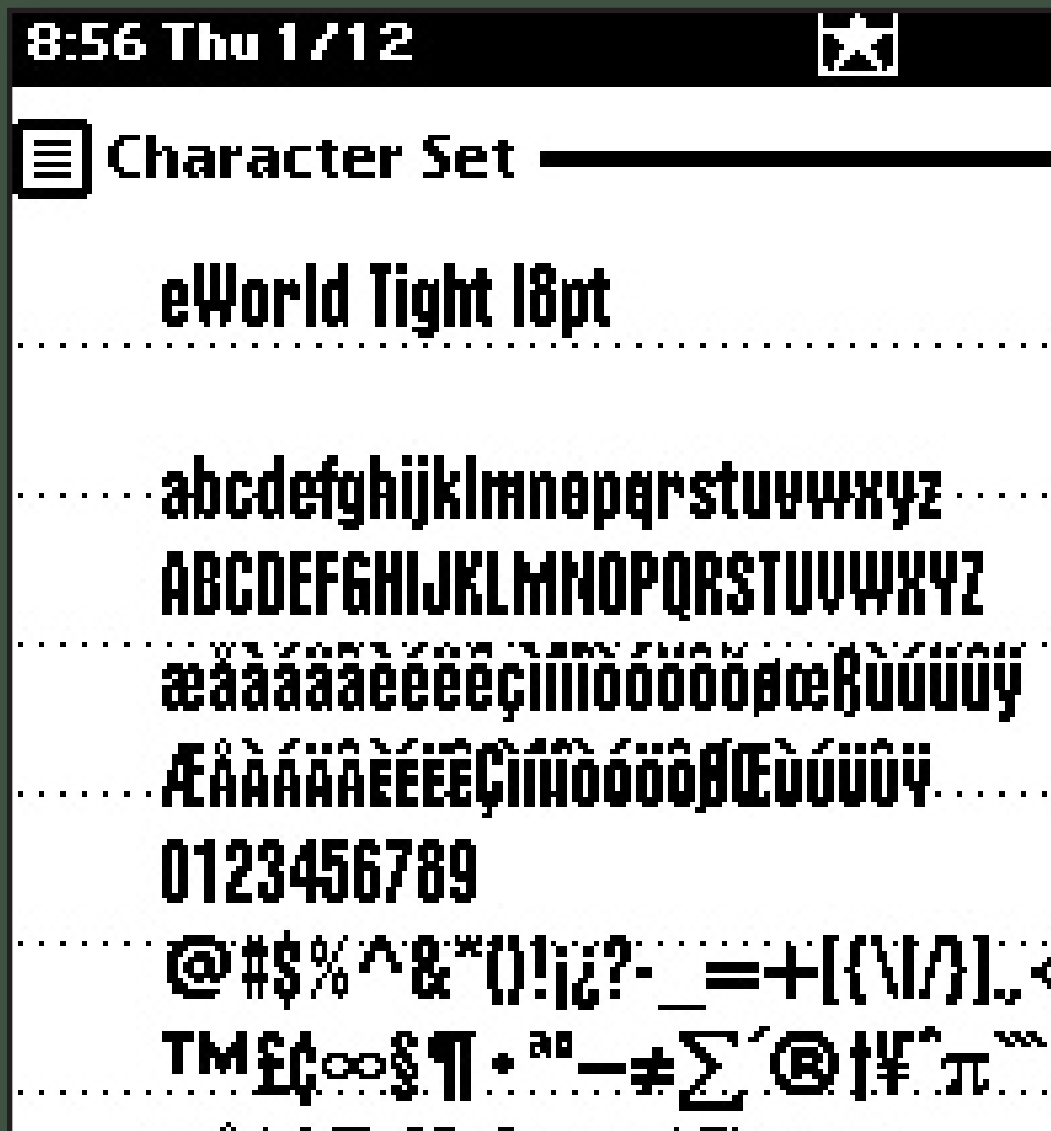Why not?

# Making Newton Fonts: Tools & Tribulations

Simple.

Fancy.

Casual.

System.

Yawn.

# Making Newton Fonts: Tools & Tribulations

## eWorld Tight

## Reinvigorating an old friend.

# Making Newton Fonts: Tools & Tribulations

## Making Newton Fonts: Tools & Tribulations

# Making Newton fonts.

# Making Newton Fonts: Tools & Tribulations

## Making Newton fonts.

No native creation tools

Unsupported Apple developer tools

Sourcing raw materials

Complex production processes

Is it all worth it?

## Making Newton Fonts: Tools & Tribulations

# Sourcing raw materials.

# Making Newton Fonts: Tools & Tribulations

## Sourcing raw materials.

Vintage Mac bitmap fonts

Adobe Type On Call

Generate from TrueType outline fonts

Generate from PostScript outline fonts

Scratch-build pixelly goodness

# Making Newton Fonts: Tools & Tribulations

Methods to the madness.

# Making Newton Fonts: Tools & Tribulations

# Methods to the madness. (Abridged)

# Making Newton Fonts: Tools & Tribulations

## Methods to the madness. (Abridged)

The quick and dirty method

The not quite as quick, but just as dirty method

The advanced, brain-snappingly complex method

# Making Newton Fonts: Tools & Tribulations

Quick and dirty.

# Making Newton Fonts: Tools & Tribulations

## Quick and dirty.

Newton Font Tool

Imports bitmap data and creates a resource file

ResEdit to modify the resource file signature

NTK to compile the data into a package

Install

# Making Newton Fonts: Tools & Tribulations

## Quick and dirty.

Works only with NFNT-based Mac OS bitmaps

Does not support double byte (Unicode) fonts

Tools must run in Classic

# Making Newton Fonts: Tools & Tribulations

Not quite as quick, but just as dirty.

# Making Newton Fonts: Tools & Tribulations

## Not quite as quick, but just as dirty.

Sbit Editor

Imports bitmap data similar to Newton Font Tool

Optional tweaking of extracted bitmap data

ResEdit to modify the resource file signature

NTK to compile the data into a package

Install

# Making Newton Fonts: Tools & Tribulations

## Not quite as quick, but just as dirty.

Even less stable than Newton Font Tool

Tools must run in Classic

# Making Newton Fonts: Tools & Tribulations

## Advanced, brain-snappingly complex.

# Making Newton Fonts: Tools & Tribulations

## Advanced, brain-snappingly complex.

Apple Font Tools

TrueEdit to review source files

AAT Font Tool to pre-process fonts

Fissioner to generate bitmaps

Fuser to merge bitmaps into sbits

TrueEdit to edit TrueType table data

ResEdit to modify the resource file signature

NTK to compile the data into a package

# Making Newton Fonts: Tools & Tribulations

## Advanced, brain-snappingly complex.

Very complex process

Requires multiple tools

All tools must run in Classic

# Making Newton Fonts: Tools & Tribulations

## Advanced, brain-snappingly complex.

Very complex process

Requires multiple tools

All tools must run in Classic


However…

# Making Newton Fonts: Tools & Tribulations

## Advanced, brain-snappingly complex.

More flexible process

Creating style linked font families

Supports Unicode fonts

Fully documented by Paul Guyot

# Making Newton Fonts: Tools & Tribulations

# Thoughts?

# Making Newton Fonts: Tools & Tribulations

## Thoughts?

Future tool development

Simplification of the creation process

Loss of Classic support on Intel-based Macs

Native bitmap font editor / installer

Web-based bitmap font editor / package generator

Integration of FreeType into DCL

Better documentation for existing tools

# Making Newton Fonts: Tools & Tribulations

# Questions.