Analysis of the MIDI Librarian for the Schmidt Synthesizer

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Contents

1 Introduction

This document analyses a MIDI Librarian for the Schmidt Synthesizer.

1.1 Structure of this document

Paragraphs starting with "[Annnn]" and ending with "¶" are tracable specification elements. They may be extracted automatically to feed a tracing database. They may be duplicated (same [Annnn] number) for legibility of the text.

Note: within the brackets, there may be several tag numbers separated with dots, representing a hierachical dependency path. A tag number may have several dependents ("parents") in the graph: the same specification items is reused in the specification of the parent item.

Only the last tag number identifies the specification item (paragraph).

Tag numbers starting with "S" refer the **specification** document. Tag numbers starting with "A" refer to the **analysis** document.

The [Snnnn] numbers have some structure:

L1...	visualization
L2...	editing
L3...	management
L4...	sharing
L5...	Synthesizer / MIDI
L6...	User Interface
L7...	Cloud features
L.1..	BankSet
L.2..	Bank
L.3..	Program
L.4..	Directory
L.5..	Synthesizer
L.6..	Categories
L.7..	MIDI

1.2 Versions of this document

Version	Date	Modification	Author
0.0.1	2021/04/28	Created.	Pascal Bourguignon

2 Analysis of the MIDI Librarian

2.1 Object Model

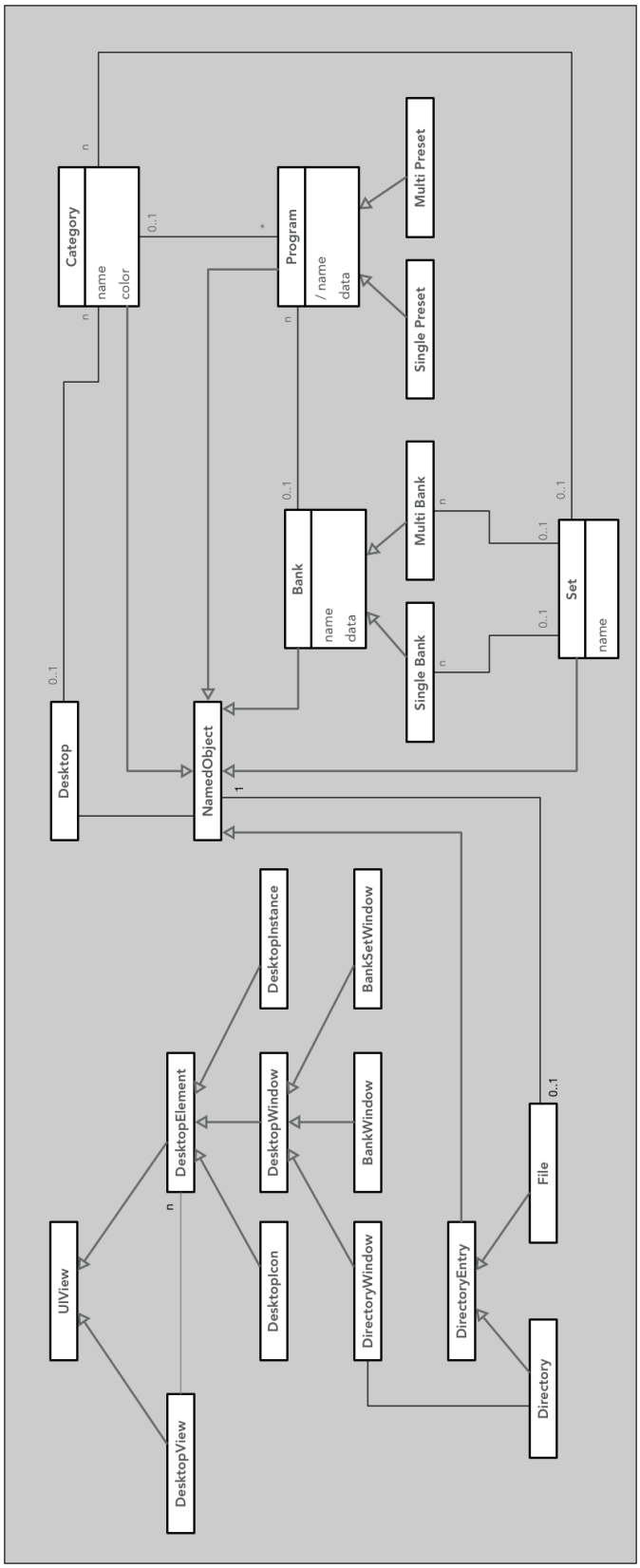

Figure 1: Object Model

2.2 Functionalities

2.2.1 [S1000.A1000] Display Current Program Parameters ¶

[A1000.A1001] When the synthesizer is connected, there must be a current Program, a current Bank, and current BankSet, to receive the updates from NPRN messages.¶

[A1000.A1002] Selecting a current program should make a working copy of the program data, since the user may edit it with the control panel, but not save it.¶

[A1002.A1020] Synthesizer has a current BankSet (with Banks and Programs), and a current Bank/Program index, and a current working Program.¶

[S1110.A1011] Upon reception of a program change event:

- update the current Bank/Program index of the Synthesizer;
- copy the parameters of the indicated current Bank/Program index of the Synthesizer into the current working Program of the Synthesizer;
- query the parameters of the current program from the Synthesizer.
- If possible and upon reception of the parameters, update the current working Program.
- If not possible, then the current working Program parameters already have parameters obtained from the local current Program of the Synthesizer.

¶

[S1120.A1013] display the program parameters. ¶

TBD see how to represent the program parameters graphically, showing notably the setting of the knobs, which is not reflected on the physical dead knobs. This display of the preset settings should be graphical (eg. envelops) and calibrated (for times and periods), to aid visualising the sound that would be generated. ¶

2.2.2 [S2000.A2000] Editing

- [S2000] **editing**: some preset editing is provided, but we don't want to replace the physical button and knob editing that is the strong point of a control panel such as the one of the **Schmidt Synthesizer**. On the other hand, preset renaming, changing or copying parameters globally to a group of presets, applying editing macros to one or multiple presets, for sophisticated editing, are features that should be provided. ¶