Diva Data Overview

The Diva Vireo data structure is shown in the file VireoDataDiagram.pdf. With the exception of user presets, this is the same structure that was used in Diva Warbler (the Max/MSP version). In fact, the same data files were used, for the most part. As mentioned, Vireo and Warbler differed in how user presets were stored. Warbler used Max presets, while Vireo recorded text files for each user setting in the presets2 folder.

A lot of thought and planning went into the original (Warbler) data file structure. The changes in Vireo were made only because the Max presets were not human (or machine) readable.

 Some possible new directions to consider for Starling include:
* XML-based files
* Linking profile information to a user's system profile (e.g. in Users in OSX)
* Excel-based files

XML-Based Files

XML is a text-based data format. Qt (presently used to code the Diva interface) includes good XML support. Switching to XML-based files would make certain programming tasks easier, such as the loading and saving of user profiles. Other data, such as recordings, would only become more cumbersome to read, and take up far too much disk space.

For example, the following Vireo preset file:

```
name,  studio
tracker, usbserial-FTD2VXTD
cyberglove, WCGII-3017-WCGIIserialp-1
foot switch, keyboard
contact glove, keyboard
```

could easily be expressed as:

```
<preset name = "studio">
  <device name = "tracker"> usbserial-FTD2VXTD </device>
  <device name = "cyberglove"> WCGII-3017-WCGIIserialp-1 </device>
  <device name = "foot switch"> keyboard </device>
  <device name = "contact glove"> keyboard </device>
</preset>
```

However, data in tables, such as recordings, become unreasonably long and difficult to read:

```
<recording profile = "Cam" accent = "November_6" timestamp = "1259107689">

     <time name = "ts_synth"> 444363
          <time name = "ts_tracker"> 628528064 </time>
          <time name = "ts_tracker_bang"> 455919 </time>
          <tracker value = "X"> 0 </tracker>
          <tracker value = "Y"> 0 </tracker>
```

```
            ...

        </time>

        ...

    </recording>
```

The above represents only a single line in a table.

User Profiles

In the Vireo and Warbler systems, profile information was stored in the Data directory, and was considered part one of many project files. Often, these files were checked into the repository, along with development files. A different approach would store user-specific files with a user's system profile (e.g. in Users/<user-name>/DivaProfile). This would help eliminate confusion about where user profiles are (as well as permissions on those files).

Excel-Based Files

Excel files are human-readable. They are machine-readable, with the right code. Excel files represent only a slight improvement over our current design.