

Shapemix Data Architecture

Nomenclature

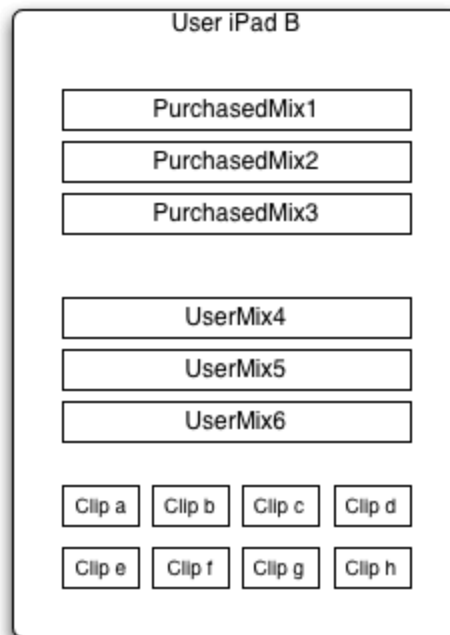
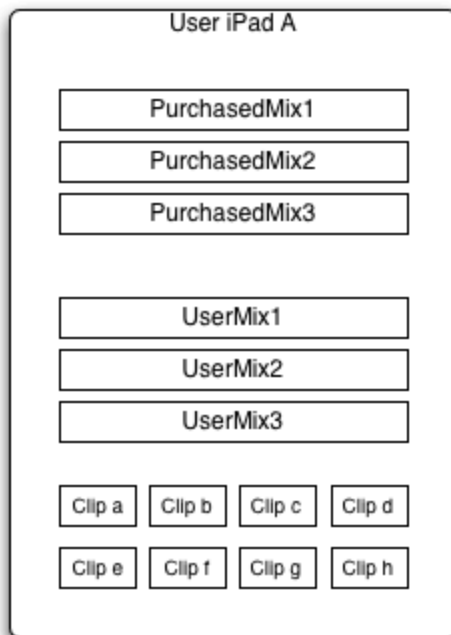
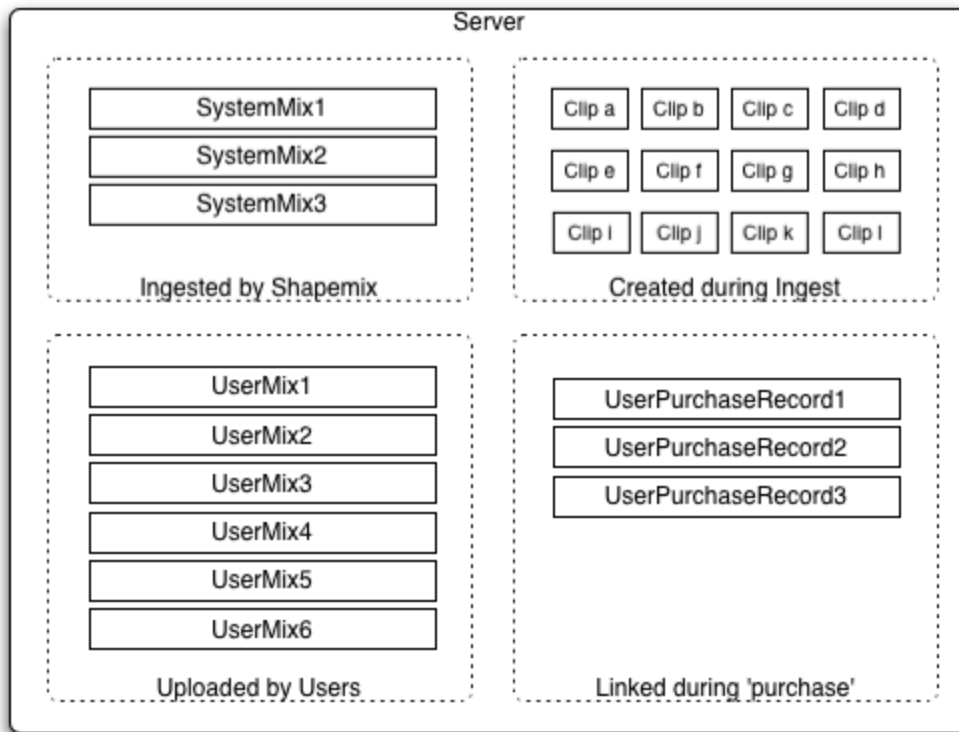
We have a major issue in that the UserInterface and The DataModel nomenclature use the same Nouns to refer to conflicting concepts.

	User Interface	Data Model	
1.	Song/Mix	Mix	
2.	Track	Channel	Typically a single instrument's timeline for the whole song
3.	(Clip?)	Track	A descriptor of a physical sound file asset
4.		Clip	Instance of Track as it is applied to the specific channel with start and end offsets, effects, etc

Note that this document uses the User Interface nomenclature.

Data Flow between Server and Application

The following diagram presents a very high-level overview of the data that is shared between the server and the Shapemix app running on two iPads (***note that this diagram does not fully describe the complete datamodel***):



Brief Description of the Various Flows:

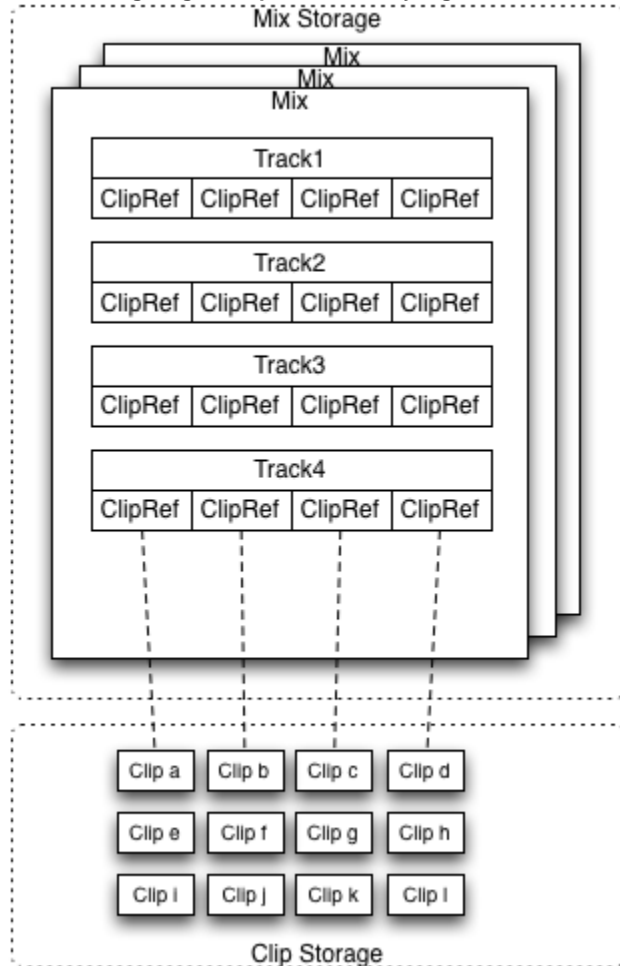
1. Shapemix (Colin) ingests mixes into the server. This creates a number of new columns in various tables; most importantly Mixes and Clips. Mixes have all the metadata, and Clips point at the physical asset either locally or at Amazon S3
2. A user 'purchases' a mix -- either Free or otherwise. A new 'ownership' association is created between the user and the Mix he purchased *as well as* between the user and all the clips contained within the purchased mixes.
3. The user Synchronizes one or more iPads with the server -> The iPad App will download everything that is listed in the UserPurchaseRecords -- all the mixes and clips listed there.
4. The user Saves a mix locally on one of his ipads (call this UserMix1). This mix uses clips from the System (Purchased) mixes but itself has unique metadata.
5. The user uploads UserMix1 to the server - both the metadata and the wav file of the mix are uploaded. If the mix is made public, it could

be viewed and 'purchased' (downloaded) by other users. If it's private, it can be shared by the user using the share page. Note that again none of the clips are uploaded together with the mix metadata since all the clips already exist on the server as a part of the system mixes.

6. User creates a mix on his second ipad (UserMix4) and uploads it. The user mixes are not synchronized between his ipads because they are not listed in his mix purchase record.

Mix Metadata Anatomy

The following diagram represents a very high-level overview of a single Mix and its components.



- Each mix HAS a number of tracks, which REFER to a number of clips.
- Clips may be shared (by id) between mixes, but tracks cannot be.
- Copying a track from one mix to another clones it, but keeps all the references to the same clips.