Database schema for MusicPrint

The database consists of a combination of SQL and noSQL databases. On the SQL side we have the following tables:

- User-basic table - provides us with the basic information about our user, it gets filled as new users create accounts, connected to users-advanced table with a one-to-one relationship
- User-advanced table - an extension of the user-basic table provides us with more information about our user
- Song-Artists table - consists of all songs/artists that our users have put in their profiles, the tables data is sorted in increasing order to make the process of finding songs/artists by ID faster (I suggest that the possible bottleneck of sorting the table frequently when there is a high number of queries solved by creating a temporary table which will be added to the main table after the number of queries have lowered)

On the other hand our noSQL database consist of two main components:

- Unstructured graph data - of shared favorite songs/artists making it easier to find new music lovers
- Unstructured document data - complex file structure containing all the photos/comments/profile pictures/etc.

User-basic table							
USER-ID (Primary key)	Username:	Encrypted password	Platform:	Date of account creation	Recovery email	Phone number	Subscription plan
12dstewrt	muhamed.h	*724!840%^&	Android	5. Nov. 2020	muhamed.hamzic@stu.ibu.edu.ba	387/60xxxxxxx	2
-	-	-	-	-	-	-	-

Defining data types and input validation for User-basic table:

USER-ID - [string type] - characters ranging from ‘0’ -> ‘9’ or ‘a’ -> ‘z’ or ‘A’ -> ‘Z’

Username - [string type] - lower and upper case letters of the english alphabet, no spaces, characters ‘-’, ‘.’ and ‘_’ allowed in the middle of the string (a letter must be present on the left and right side), numbers are allowed at the end of the username.

Encrypted password - [string type] - encrypted, a password must be at least 8 characters long, it must contain at least one upper case and lower case letter, at least one number and at least one special character.

Platform [Boolean value] - 0 -> Android 1 -> iOS

Date of account creation [Date] - first creation

Recovery email - [email/string] - must be a valid email address and activated through a code send to the email in question

Phone number - [string/phone number] - must be a valid phone number and activated through a code send to the phone number in question

Subscription plan - (0 - free), (1 - no ads), (2 - premium)

Users-advanced table				
USERS-ID (Primary key) Connected to table Users-basic (one-to-one)	Favorite artists	Favorite songs	Recommended songs/artists	Friends
12dstewrt	0000001 -> Artist	00000001	02003022	162sdote, 23xzg96
-	-	-	-	-

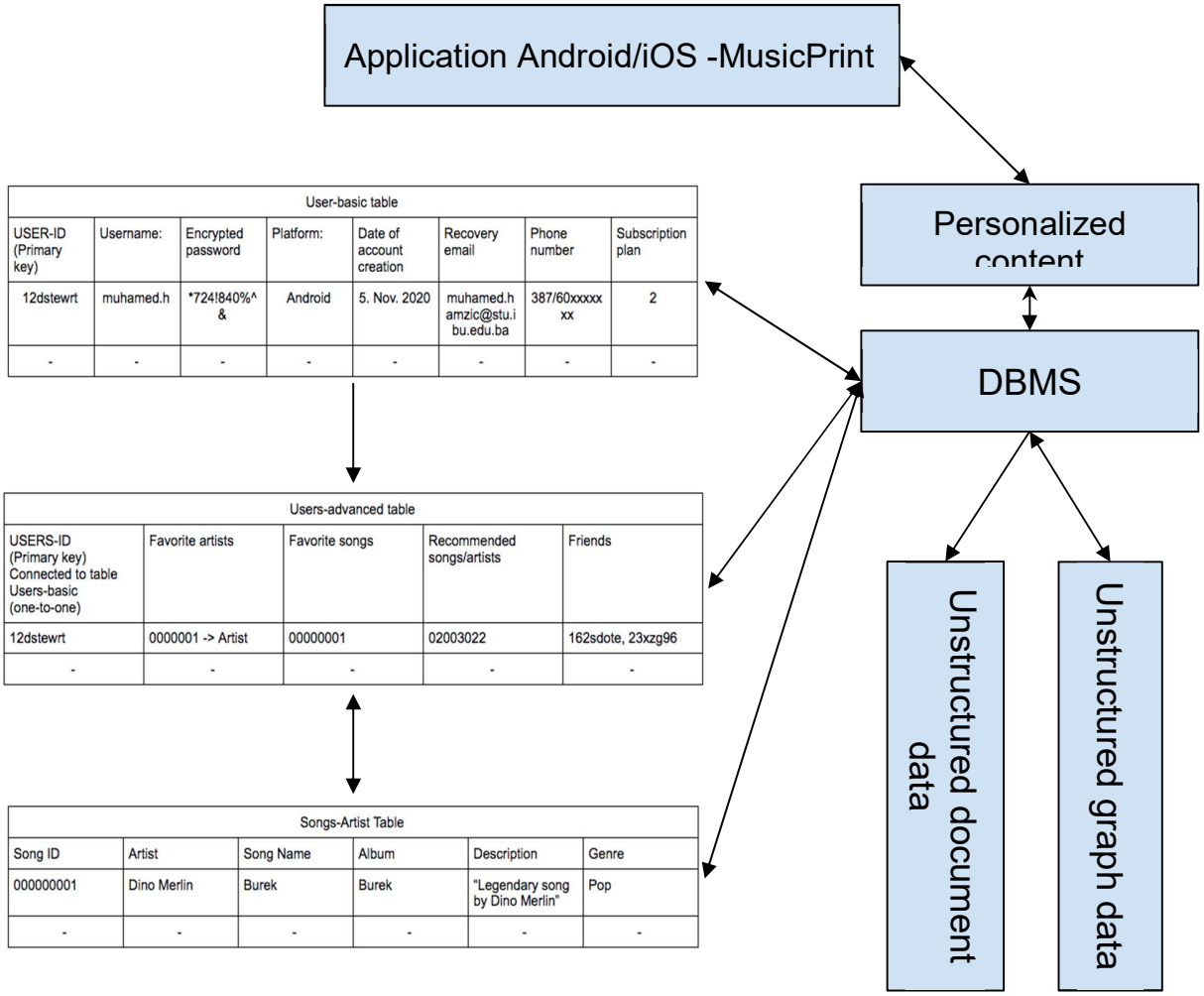
Defining data types and input validation for User-advanced table:

USERS-ID - [string type] - characters ranging from ‘0’ -> ‘9’ or ‘a’ -> ‘z’ or ‘A’ -> ‘Z’
Favorite artists - [string type] - foreign keys from Songs-Artist table
Favorite songs - [string type] - foreign keys from Songs-Artist table
Recommended songs/artists - songs/artists are foreign keys that have been found through a query coming from an application
Friends - [string type] - foreign keys that point to user-basic table

Songs-Artist Table					
Song ID	Artist	Song Name	Album	Description	Genre
000000001	Dino Merlin	Burek	Burek	“Legendary song by Dino Merlin”	Pop
-	-	-	-	-	-

Defining data types and input validation for Songs-Artist table:

Song ID [primary key/int]- unique song ID, sorted in increasing order
Artist [string type] - “All” characters allowed - SQL injection protection
Album [string type] - “All” characters allowed
Description [string type] - “All” characters allowed
Genre [string type] - “All” characters allowed



User-basic table

USER-ID (Primary key)	Username:	Encrypted password	Platform:	Date of account creation	Recovery email	Phone number	Subscription plan
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-	-	-	-	-	-	-	-

Users-advanced table

USERS-ID (Primary key) Connected to table Users-basic (one-to-one)	Favorite artists	Favorite songs	Recommended songs/artists	Friends
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-	-	-	-	-

Songs-Artist Table

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