J.S. Bach CD Library - background information

The staff of Classical SM, Euphoric State's classical radio station are trying to sharpen their act up. One of the key issues is managing information about their CD collection. Naturally they thought of a relational database since the students in the Computer Science department of Euphoric have already worked out a system for the university's course and grade management. Can they achieve a similar effect at Classical SM?

The head of the classical section, D.A. Capo, has tried himself with a small record handling system but the results have not been encouraging (see List 1, List 2).

Everyone at the station requires a slightly different variant of the information. A flat file may or may not be the answer! In the end, D.A. Capo has decided to enlist the whizz-kids at Euphoric's CS department to build a basic prototype and hopefully treble the efficiency at Classical SM.

The choice for a prototype study is J.S. Bach and the station's collection of Bach CDs is attached for information. The station runs a sunday morning request program - CD phonies! Some people just request a harpsichord piece, some request their favourite artist such as Glenn Gould and the clever dicks at the music faculty always request the BWV number! The DJs have a pretty good memory but feel an on-line system would really allow them to impress their listeners.

The radio station actually shares the CD library with the Music Department and the latter note that this would be a good opportunity to build a detailed catalog of all their CDs and be able to find such recordings as say Tatiana Nikolaeva playing the "Canon alla Duodecima" from The Art of The Fugue (Die Kunst der Fugue to the German music faculty).

Other typical queries might be:-

- list all the **keyboard** pieces in the library (keyboard = piano, harpsichord, organ)
- list all available concertos
- list all CDs with a recording of BWV 780, together with artists' names and CD titles
- list all the Glenn Gould recordings and how many
- which harpsichord pieces are available on the Naxos lable?
- how many recordings in the library are of the same piece - and which are these?
- the Film Department wants a 60 minute recording (max) of Bach **piano** music - what do we recommend?

- how many CD lables does the library buy?

and so on...

D.A. Capo has got together with Al Fine, the head of the Music Department, to try to write a specification and be able to talk to the high-fliers from Computer Science. To this end, they have gone on an introductory database course and understand what a relation is (they hope!).

They also think that they can spot a few problems already. Somebody clearly foresaw databases when they catalogued Bach's works with the BWV numbers so this seems a good candidate for a primary key as far as the musicologists are concerned. However the CD producers all have different numbering systems and Capo thinks that the radio station should have its own catalog numbers. One CD can include several of Bach's works but on the other hand "The Art of the Fugue" is recorded on 2 CDs with 2 catalog numbers. The 'Cello Suites and Christmas Cantata are both also recorded on 2 CDs but with one catalog number. How should one deal with this?

Further, Capo and Fine have discovered that the current librarian, soon to retire, is a short-sighted dypsomaniac who has been compiling the catalog by candlelight and perhaps it would be a good idea to build in some integrity checks into the new system!

Al Fine, coming from New York, doesn't particularly want to get involved and feels the student consultants can just get on with it! His favourite key is however F# minor and he would like a list of all Bach's pieces in that key.

Good Luck!