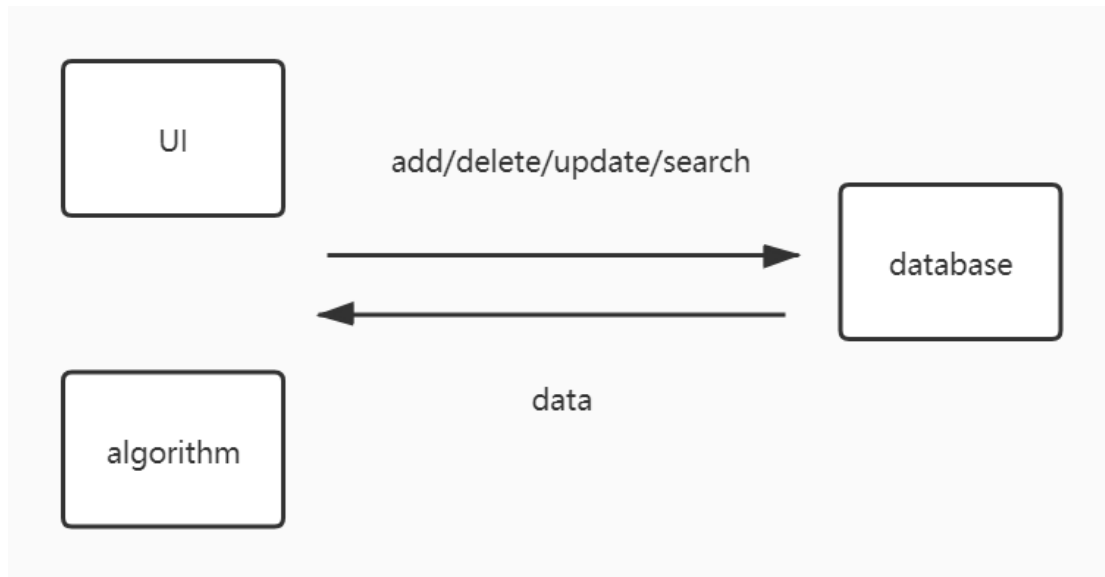# Database Design Document

1.Introduction

Database is an important part of a recommendation system. It needs to save the user information from the interface and a large number of song lists from the data crawling part. When the recommendation algorithm needs to recommend songs, the database needs to transfer the data to the algorithm. For other modules, they can add, update, delete and search for the data if necessary.

2.Database Design

2.1 The tables in the database

allsong	time	author	album	songlist	
songlist	listname	author	viewct		
user	userid	username			

usersong	songname	author	viewct	username	

There are four tables designed for the database,they are allsong ,songlist,user and usersong.

2.2 physical design

Table Name: allsong
Schema: **recommend**
Charset/Collation: gb2312 / gb2312_bin
Engine: InnoDB
Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
songname	VARCHAR(250)	☑	☑	☐	☐	☐	☐	☐	☐	
time	VARCHAR(250)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
author	VARCHAR(450)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
album	VARCHAR(450)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
songlist	VARCHAR(450)	☐	☐	☐	☐	☐	☐	☐	☐	NULL

Table Name: songlist
Schema: **recommend**
Charset/Collation: utf8 / utf8_bin
Engine: InnoDB
Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
listid	INT	☑	☑	☐	☐	☐	☐	☐	☐	
listname	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
author	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
viewct	INT	☐	☐	☐	☐	☐	☐	☐	☐	NULL

Table Name: songrelation
Schema: **recommend**
Charset/Collation: utf8 / utf8_bin
Engine: InnoDB
Comments:

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
songname	CHAR(30)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
songid	INT	☑	☑	☐	☐	☐	☐	☐	☐	
listid	INT	☑	☑	☐	☐	☐	☐	☐	☐	
songrelationcol	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL

2.3 Database environment description

We use mysql 8.0 database, using mysql8.0 will command the crawler CSV files in the database how, spiders crawl the file location in C: / ProgramData/MySQL/MySQL Server 8.0 / Uploads / 4000.