

Server Communication Protocol Documentation

Xu Ziyang

Overview

The server communication protocol defines how clients interact with the server to perform various multimedia operations. The server listens for commands from clients, processes them, and sends back appropriate responses.

Commands

The server supports the following commands:

1. **search**
2. **play**

Each command must be followed by the necessary parameters. Commands and parameters are separated by spaces.

Command Details

1. search

- **Description:** Searches for multimedia objects by name.
- **Format:** `search <name>`
- **Parameters:**
 - `<name>`: The name of the multimedia object to search for.
- **Response:** Returns the details of the multimedia object if found, otherwise returns an error message.
- **Example:**
 - **Request:** `search photo`
 - **Response:** `Multimedia details: ...`

2. play

- **Description:** Plays the specified multimedia object.
- **Format:** `play <name>`
- **Parameters:**
 - `<name>`: The name of the multimedia object to play.
- **Response:** Returns a message indicating that the multimedia object is being played.
- **Example:**
 - **Request:** `play video`
 - **Response:** `Playing multimedia: video`

Error Handling

If the server receives an unknown command, it responds with an error message:

- **Response:**

Unknown command:

Example Interaction

1. Client Request:

```
1 | search photo
```

Server Response:

```
1 | Multimedia details: ...
```

2. Client Request:

```
1 | play video
```

Server Response:

```
1 | Playing multimedia: video
```

3. Client Request:

```
1 | unknownCommand
```

Server Response:

```
1 | Unknown command: unknownCommand
```

Implementation Example

The following code snippet shows how the server processes the commands:

```
1 response = oss.str();
2 } else if (command == "play") {
3     std::string name;
4     iss >> name;
5     manager.playMultimedia(name);
6     response = "Playing multimedia: " + name;
7 } else {
8     response = "Unknown command: " + command;
9 }
```