

UDP Streaming Protocol:**Table of Contents**

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1. Introduction

This is a simple protocol, which has been designed to stream music from a server to a client. The server receives a message with the song title from a client and then the server starts streaming the song to the client.

All the messages will contain different characters, which defines the type of message.

2. SONG TITLE

SONG TITLE message is a message which marks the start of the streaming process. It contains the title of the song. If the song is available the client will receive a ACK message from the server otherwise a NACK message. During the streaming process the same client can send the same message again, maybe with a different title, but it will get ignored. When the streaming process is done, which is when the client has received the FINISHED STREAMING message or through a timeout, the client can try again to send a SONG TITLE message. If it happens through a timeout, the client has to wait a few seconds till he can start again because the server needs some time to realize that the client is no longer connected. s

3. FINISHED STREAMING

The FINISHED STREAMING message must send to let the client know that the server is done with streaming. It marks the end of the streaming process. The message contains additional information in shape of the song title.

4. ACK

The ACK message must send to acknowledge received chunks from the server or to the client for a song title which is available.

5. NACK

The NACK message must send to not acknowledge a received song title from a client. Which means that the preferred song title is currently not available or not part of the library. The client can then try again and send another SONG TITLE message with a different song title.

6. DATA

The DATA message is used to transfer chunks of content. A chunk has normally a size of 1024 byte. It doesn't contain any additional information.

7. PACKAGE FORMAT

Here is a detailed explanation of the package format. As you see in Figure 1 the message has the size 64byte. The first 3 Characters tell us which type of message it is. Then there are 13 characters reserved for a timestamp.

48 Characters are reserved for some content. In our case it is the name of the song.
See Figure 2 for an example.

s

```

0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
|U P X|      Timestamp      :|
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
|                                     |
|          Content                   |
|                                     |
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+

```

Figure 1

```

+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+
|
|  UP1                X can be 1 for SONG TITLE message
|                      2 for FINISHED STREAMING message
|                      3 for ACK message
|                      4 for NACK message
|
|  181117171255:      18th day of Month
|                      11th Month
|                      17 Year
|                      17 Hour
|                      12 Minutes
|                      55 Seconds
|
|  songtitle.wav      Name of the song
|
+--+--+--+--+--+--+--+--+--+--+--+--+--+--+--+

```

Figure 2

