Uncle G's Fan Club University of Texas

Kevin Shah, Enrique Rodriguez, at Dallas

Jonathan Campbell, Shrinath Rao

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Music Player Protocol Specification

1. Introduction

This is a protocol that is used to test the connections between multiple network entities on Mininet (controller, renderer and server). We used python code interfaced with Mininet to implement a music player. The protocol allows the controller to request for list of media from server, render media files from renderer and request the render to pause, play, resume or start from beginning of stream. The Server which holds the media files, stream media files to renderer when requested. The renderer renders the media file for the controller and can request media files when requested by the controller

2. Protocol Specification

To start the protocol the server accepts requests on port 9005. Then the controller contacts the host and sends the message "listFiles". After the host receives the message, the server responds by sending the appropriate data (stored in list.txt). The controller, then asks the render on port 9006 to go and fetch a user given file. While the renderer asks the server on port 9005 for the file using a "sendFile (fileName)" message, the controller connects to server on port 9007 to give commands to server (play/pause/restart). To signify the end of a file, the server will send a "^" character to the render to tell it to stop rendering and wait for another file to be streamed. If the user enters pause in the command line of controller a "pause," using threads a message is sent to the server pausing the stream until a "play" message is sent. If a "restart" message is sent by the controller, the server will restart sending the appropriate file.

Author's Address

Enrique Rodriguez, Kevin Shah,

Jonathan Campbell, Shrinath Rao

University of Texas at Dallas

800 W Campbell Rd

Richardson, TX 75080

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