Client Requirements Specification: Magic Scroll for Windows Feature: Remote Control

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Overview

This feature is being developed by Michael L. Mehr for ECS Video Systems, Inc. Project started Feb.20, 2018. The product involved is the ECS software product, Magic Scroll for Windows (MSW), version 6.

Operation of Main Feature

NOTE: This document uses Primary and Secondary as its politically-correct Master/Slave terms.

1. The **Purpose** of the feature is to allow the user of one instance of MSW (the Primary) to control another instance of MSW (the Secondary) for the purpose of editing and scrolling its scripts remotely from another physical location.
    a. However, any two machines running this version of MSW can enter into this relationship.
    b. The result of connecting the two machines up for this purpose is called a Remote Control Session or RCS.
2. **Versions**: Any instance of this version of MSW shall be able to operate in either role when involved in a Remote Control Session.
    a. Only this version of MSW (or those derived from it) can operate in this fashion.
    b. The Primary is the MSW instance that initiates the Remote Control Session
    c. The Secondary is the MSW instance that is being operated by the Primary during an RCS.
3. **Restrictions**:
    a. The Primary shall only be allowed to connect to one Secondary at any one time.
    b. The Secondary shall accept only one connection from a Primary at any one time.
4. **List of Remotes**: On the Primary, selection of the Secondary will be from a list of aliases (mapped to IP addresses) of the possible Secondary machines (see UI requirements).

5. **Disconnected Operation**: While the Primary and Secondary machines are not connected, all features of MSW operate locally as previously. This includes any local scrolling of script files.
6. When the Primary user **initiates an RCS connection**, the Primary will show and maintain a dialog window (the Remote Dialog) showing the desktop of the Secondary.
    a. During editing, the Primary's keyboard and mouse input will be directed into this window to operate the Secondary machine for whatever purpose is desired by the Primary user.
    b. Options for returning the Primary keyboard and mouse to local control, and back to the Secondary window, will be provided.
    c. On the Secondary, the MSW will display an indicator or message that the software is being controlled remotely. Local operation will be limited to severing the connection.
7. When the Primary user wishes to **initiate Remote Scroll mode** on the Secondary machine, they will press the Esc key on their machine.
    a. The Remote Dialog on the Primary will disappear,
    b. The Secondary lock indicator will go away, and
    c. Scrolling will initiate on the Secondary machine, as if the local user had pressed Esc.
    d. On the Primary machine, the MSW instance will start scrolling the remote text in sync with the Secondary instance of MSW. This will be maintained by the XMPP code developed by Steve Cox previously, including all speed adjustment commands.
8. When the Primary user wishes to **stop Remote Scroll mode**, they will again press the Esc key on the Primary machine.
    a. This will signal the Secondary machine to stop scrolling and return to Remote Indicator lockout mode.
    b. The Remote Dialog into the Secondary desktop will reappear on the Primary with keyboard and mouse redirected to the Secondary machine.
9. **Repeating**: The Primary user may initiate as many switches between Editing and Scrolling modes as they desire while they are connected to the Secondary machine.
10. When the Primary user wishes to **disconnect from the session**, they may:
    a. Select a menu entry to shut down the open connection
    b. Select a new Secondary machine from the list of possible machines to connect to. This will shut down the current connection, AND initiate the new one.
    c. Exit the Primary MSW program, which will shut down any open connection.
    d. On shut down, the connection to the Secondary machine is severed, allowing both machines to be available for other connections with another machine.
11. If the **Secondary user wishes to affect the operation** of the RCS during Remote Scroll Mode, currently they only have the option of overriding (severing) the connection. Are other requirements needed here?

Other Desirable Features

1. File Transfer Dialog
    a. While there is an active connection, the Primary user can transfer files between the two machines.
    b. This may be limited to only sending a single script file to save development time for now.
    c. It may also be desirable to receive a single script file back after editing remotely.
    d. It is not desirable to re-invent the functions of an FTP server or client. Perhaps existing browser features will suffice for transfer. More research required.
2. Client List Dialog
    a. Show list of possible Secondary machines known to this Primary
    b. Display the Name (alias) and Address (IP address) of each. (Using IPv4 for now.)
    c. List is maintained in alphabetical order by Name.
    d. Names shall allow Unicode characters.
    e. Way to Add new client name.
    f. Way to Edit existing client name.
    g. Way to Edit existing client IP address.
    h. Way to Remove list entry.
    i. Button to initiate an RCS with selected list entry. Disconnects any previous RCS.
    j. Button to disconnect the existing RCS, if any.
    k. Way to initiate a session from scratch using the provided IP address, asking for a Name, and saving the result into the list as the RCS initiates. (Preferred default?)