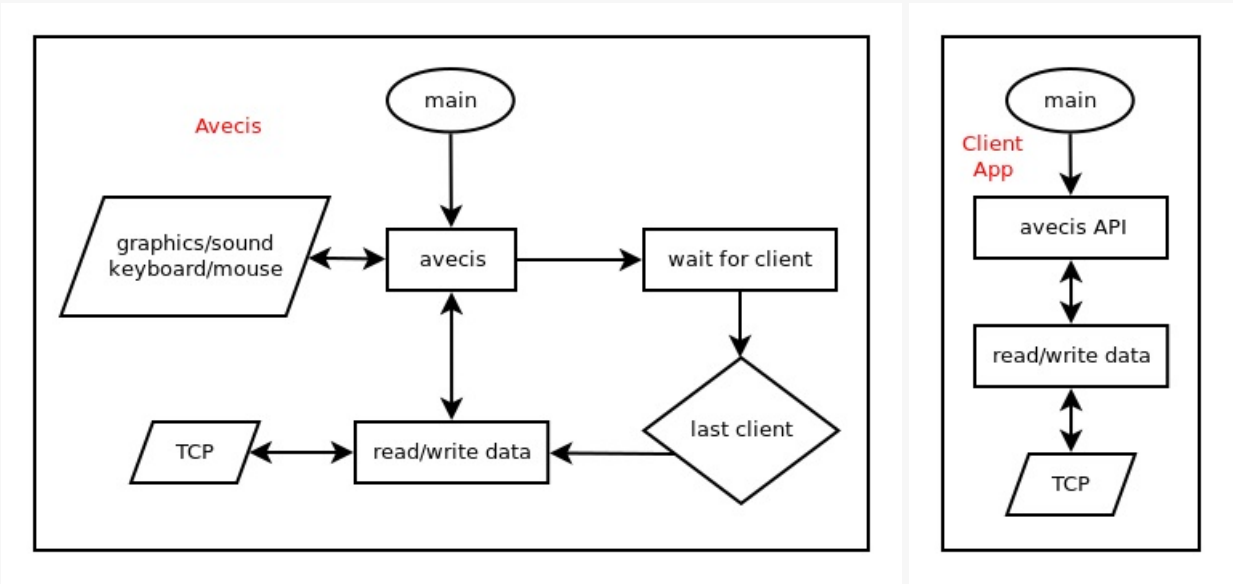


Avecis Specification

Description:

Avecis stands for audio, vector, input server and is a programmable window. Sound, graphics, and keyboard/mouse input can all be accessed and programmed through TCP.

General Flowchart:



Receivable Events:

Data representing keyboard and mouse events as well as "disconnect" and "playing last sound buffer" events can be read through a TCP client.

Accessible Functions:

There are 16 graphical/audio functions as well as a "print to status bar" and "end transmission" function. These functions along with their machine code are listed below.

Machine Code Format: [1 byte operation code] + [4 byte little-endian integer (data array byte count)] + [data array]

SET_VIEW_START

Sets the camera lens position in 3D space where lines and paths will be clipped.

Machine Code: 0x00 + 0x04,0x00,0x00,0x00 + [4 byte little-endian float]

SET_VIEW_END

Sets the distance in 3D space where lines and paths will be clipped.

Machine Code: 0x01 + 0x04,0x00,0x00,0x00 + [4 byte little-endian float]

SET_PERSPECTIVE

Sets the perceived scale contrast related to distance in a 3D scene.

Machine Code: 0x02 + 0x04,0x00,0x00,0x00 + [4 byte little-endian float]

SET_ORTHOGRAPHIC_MODE

Sets the view in orthographic mode if true.

Machine Code: 0x03 + 0x01,0x00,0x00,0x00 + [1 byte]

SET_FOG_MODE

Turns fog on if true.

Machine Code: 0x04 + 0x01,0x00,0x00,0x00 + [1 byte]

SET_FOG_COLOR

Sets the color of the fog.

Machine Code: 0x05 + 0x00,0x00,0x00,0x00

SET_FOG_START

Sets the distance at which the fog starts.

Machine Code: 0x06 + 0x04,0x00,0x00,0x00 + [4 byte little-endian float]

SET_FOG_END

Sets the distance at which the fog overtakes.

Machine Code: 0x07 + 0x04,0x00,0x00,0x00 + [4 byte little-endian float]

SET_ANTIALIASING_MODE

Turns antialiasing on if true.

Machine Code: 0x08 + 0x01,0x00,0x00,0x00 + [1 byte]

SET_COLOR

Sets color used for graphical objects.
The last color in buffer is used if no color is given.

Machine Code: 0x09 + [4 byte little-endian integer] + [byte array]

CLEAR_SCREEN

Paints each pixel with the color data and resets the z buffer.

Machine Code: 0x0A + 0x00,0x00,0x00,0x00

DRAW_LINE

Draws 3D lines.

Machine Code: 0x0B + [4 byte little-endian integer] + [little-endian float array]

DRAW_PATH

Draws 3D paths.

Machine Code: 0x0C + [4 byte little-endian integer] + [little-endian float array]

SHOW_CONTENT

Displays what has been painted or drawn.

Machine Code: 0x0D + 0x00,0x00,0x00,0x00

PRINT_STATUS

Prints text to the status bar.

Machine Code: 0x0E + [4 byte little-endian integer] + [byte array]

PLAY_SOUND

Plays the given sound data.

Machine Code: 0x0F + [4 byte little-endian integer] + [little-endian float array]

STOP_SOUND

Stops sound play before the next buffer.

Machine Code: 0x10 + 0x00,0x00,0x00,0x00

END_TRANSMISSION

Ends client/server communication.

Machine Code: 0xFF + 0x00,0x00,0x00,0x00