

Faust MCP Server

Yann Orlarey, EMERAUDE

IFC 2026

2026-06-03

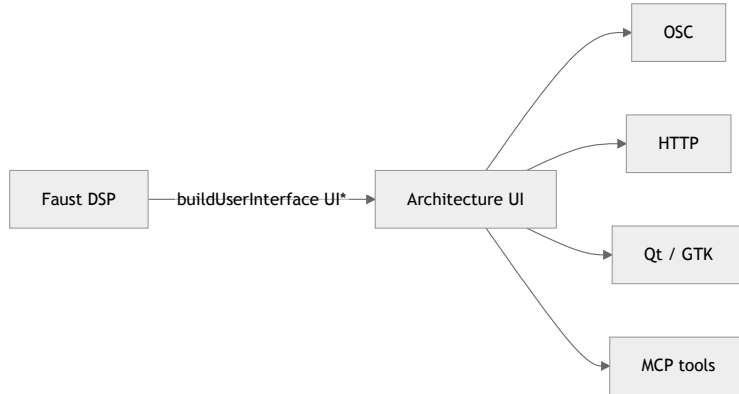
MCP Server

MCP = Model Context Protocol: an open protocol for connecting AI clients to external tools and data.

- MCP announced by Anthropic on 2024-11-25
- Core primitives: tools, resources, prompts
- Faust widgets become MCP tools

Why Faust Fits

Faust already separates DSP code from control interfaces. **MCP** is another Faust architecture target.



Handshake Messages

Client request:

```
{"jsonrpc":"2.0","id":0,"method":"initialize",  
  "params":{"protocolVersion":"2025-06-18",  
  "capabilities":{},"clientInfo":{"name":"claude-ai"}}}
```

Server response:

```
{"jsonrpc":"2.0","id":0,"result":{  
  "protocolVersion":"2024-11-05",  
  "capabilities":{"tools":{}},  
  "serverInfo":{"name":"GreetingServer","version":"1.0.0"}}}
```

Tool Discovery Messages

Client request:

```
{"jsonrpc":"2.0","id":1,"method":"tools/list","params":{}}
```

Server response:

```
{"jsonrpc":"2.0","id":1,"result":{"tools":[{"name":"HelloTool",  
"description":"A tool that greets users",  
"inputSchema":{"type":"object",  
"properties":{"value":{"type":"string"}},  
"required":["value"]}}]}}
```

Tool Call Messages

Client request:

```
{"jsonrpc":"2.0","id":4,"method":"tools/call",  
  "params":{"name":"HelloTool",  
    "arguments":{"value":"Yann"}}}
```

Server response:

```
{"jsonrpc":"2.0","id":4,"result":{"content":[{"  
  "type":"text",  
  "text":"Hello Yann!"]}}}
```

Tool Generation

```
myUI.openVerticalBox("Mixer");  
myUI.openVerticalBox("Channel 3");  
myUI.addHorizontalSlider("Level", &level, 0, 0, 1, 0.01);
```

```
Level + Channel 3 + Mixer  
=> Level_Channel_3_Mixer
```

The Faust UI path becomes the MCP tool name.

Tool Shape

```
{
  "name": "Level_Channel_3_Mixer",
  "description": "Control Level (Channel 3 > Mixer): range [0, 1]",
  "inputSchema": {
    "type": "object",
    "properties": { "value": { "type": "string" } },
    "required": ["value"]
  }
}
```

One tool, one controllable DSP parameter.