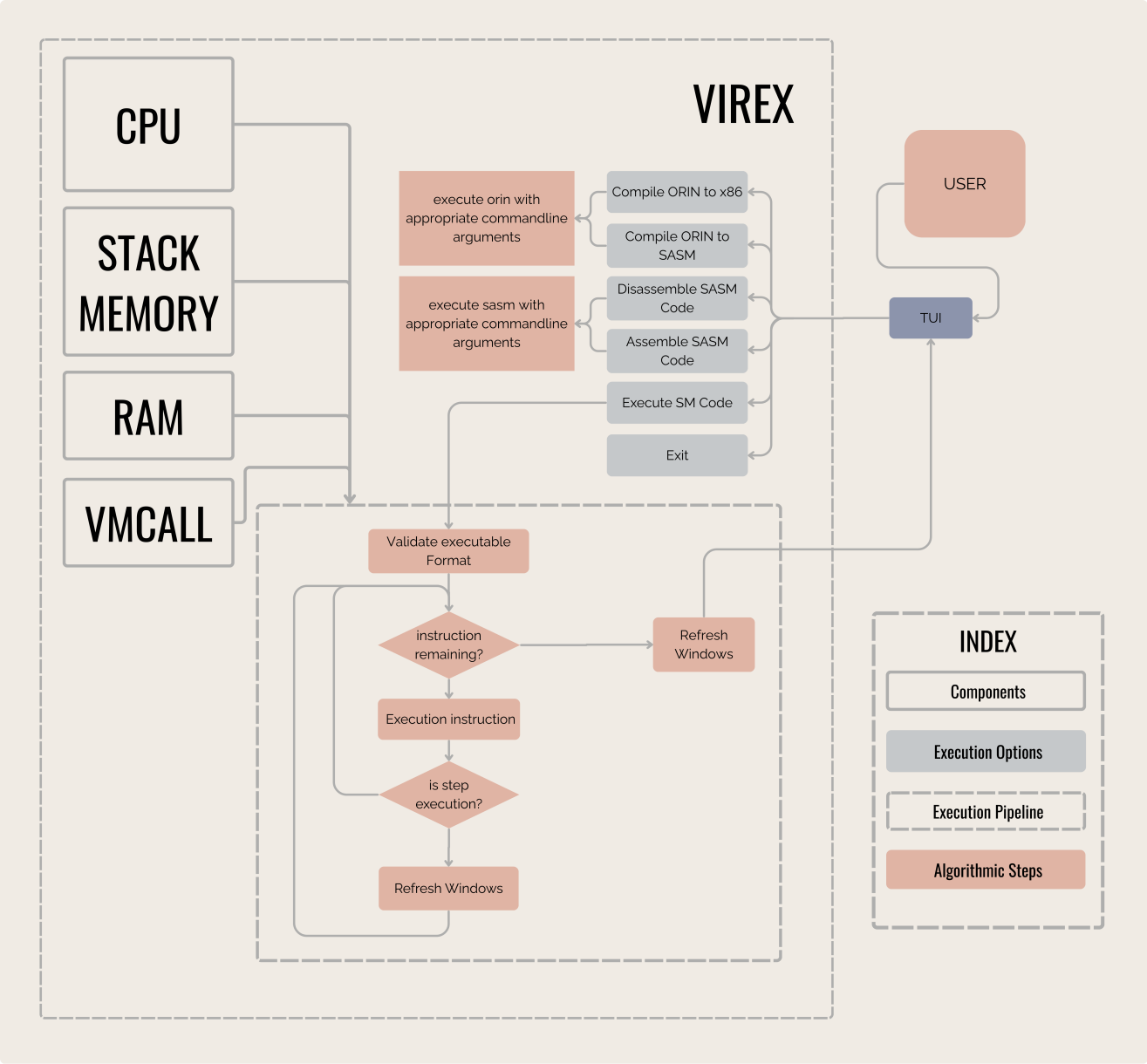
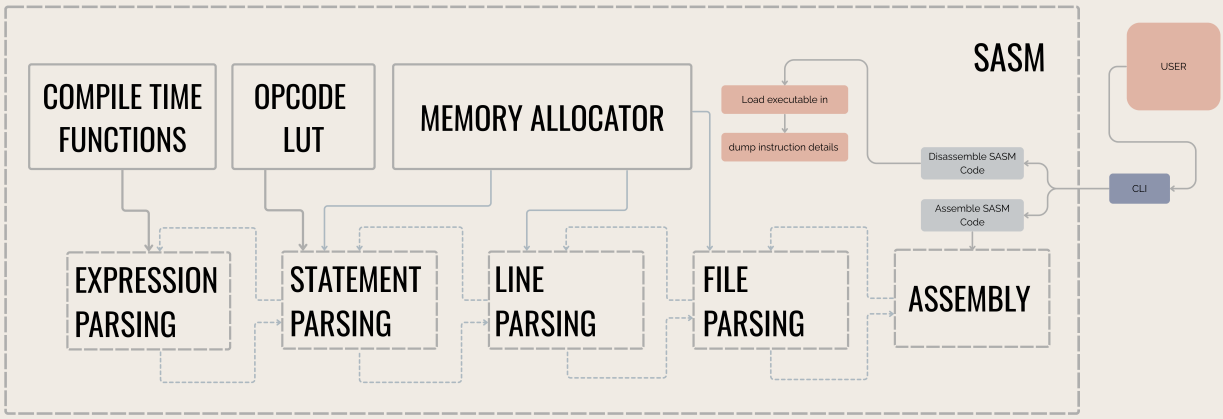
Tech Stack

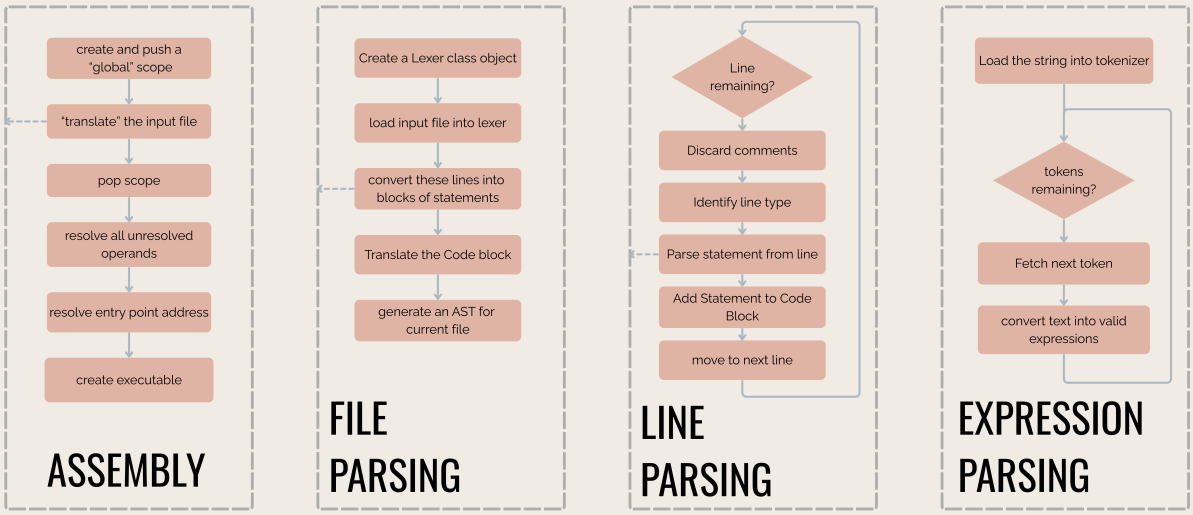
- **Programming Language:** C
- **Version Control:** Git
- **Build System:** GNU Make
- **AST VISUALIZER:** Graphviz

📦 Project Structure

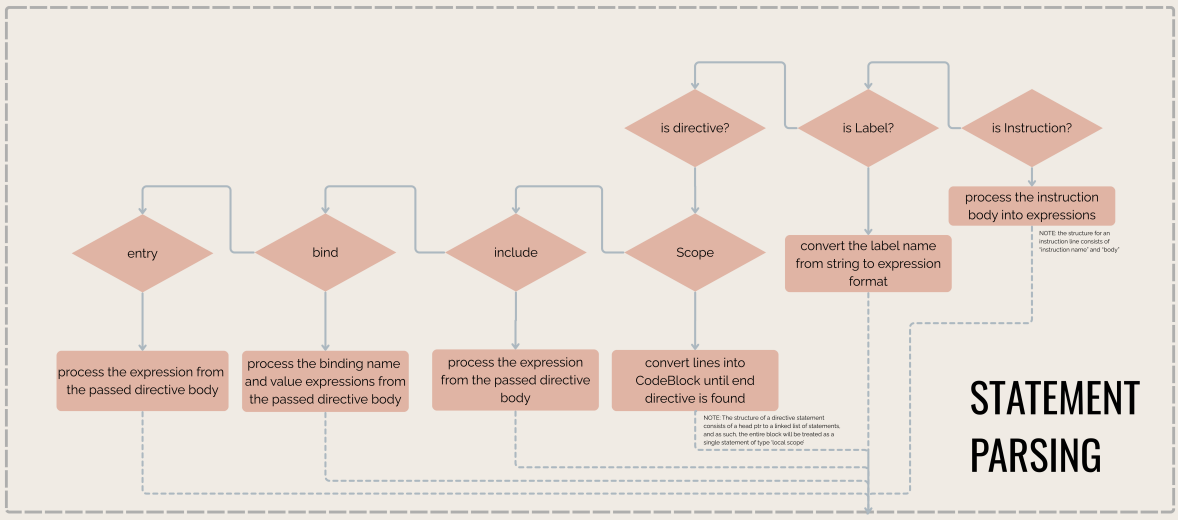
```
/docs/                    # Reference documentation
/examples/                # Sample programs
/include/                 # Public headers for VM, SASM, OCC
/src/                     # Core implementation (VM, assembler,
compiler)
/tests/                   # Simple Test programs written in SASM
/tools/themes/vs_code/    # VS Code syntax highlighter
/install.sh               # Install script for linux
```


VIREX
CPU
STACK MEMORY
RAM
VMCALL
USER
TUI
execute orin with appropriate commandline arguments
Compile ORIN to x86
Compile ORIN to SASM
execute sasm with appropriate commandline arguments
Disassemble SASM Code
Assemble SASM Code
Execute SM Code
Exit
Validate executable Format
instruction remaining?
Refresh Windows
Execution instruction
is step execution?
Refresh Windows
INDEX
Components
Execution Options
Execution Pipeline
Algorithmic Steps





(a) Assembly Pipeline (b) File Parsing (c) Line Parsing (e) Expression Parsing



(d) Statement Parsing