

!!! info inline end ""

!!! danger ""

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

Tech Stack

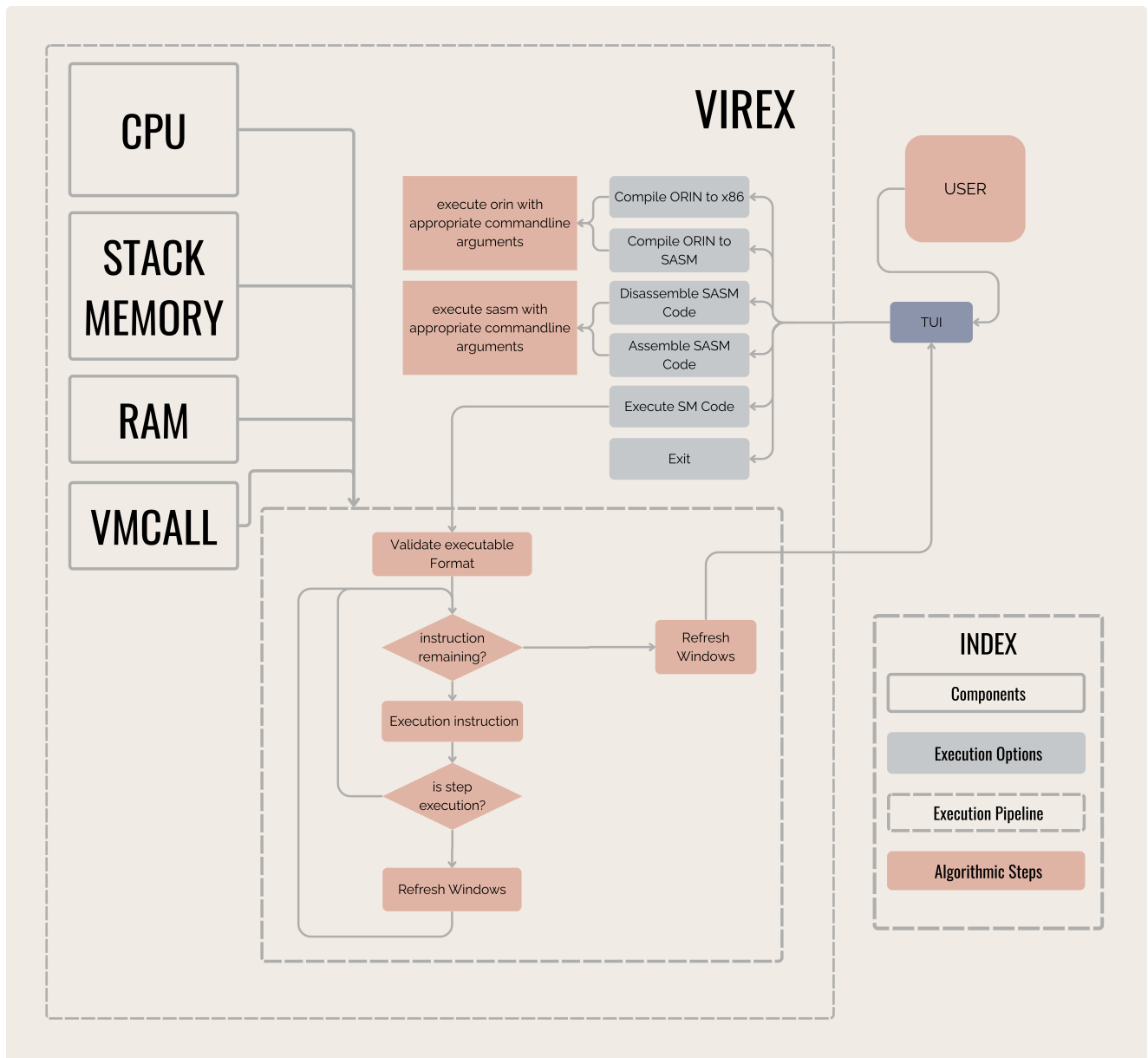
!!! warning ""

Other than the above mentioned tools, we have also used libraries like NCurses to build the UI.

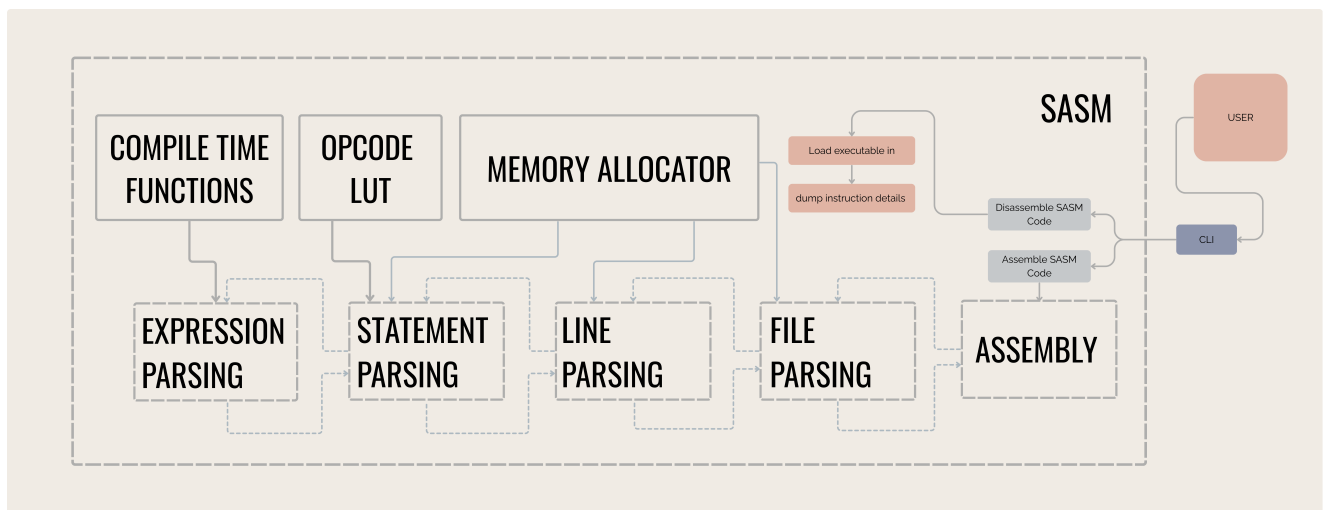
```
VIREX
├─ build/
├─ docs/                                # Reference documentation
├─ examples/                            # Sample programs
├─ extras/
│   └─ orin_grammar.txt                # Grammer for ORIN (PROTOTYPE)
├─ html/                                # Latest Build of the
documentation website
├─ include/                            # Public headers for VM, SASM,
OCC
├─ install.sh                          # Install script for linux
├─ LICENSE                             # GPL-3
├─ Makefile                            # RULES: virex, sasm, occ,
html, clean
├─ mkdocs.yml
├─ README.md
├─ requirements.txt                    # requirements for mkdocs
├─ src/                                # Core implementation (VM,
assembler, compiler)
├─ tests/                              # Simple Test programs written
in SASM
└─ tools/
    ├─ fonts/
    │   └─ EnvyCodeR/                  # font used when building TUI
    └─ themes/
        ├─ kitty/                      # kitty terminal conf used
when building TUI
        └─ vs_code/
            └─ sasm_syntax_highlight/   # VS Code syntax highlighter
```

## Architecture

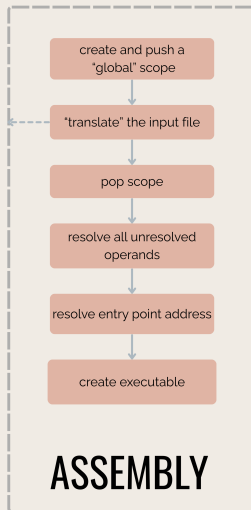
## VIREX



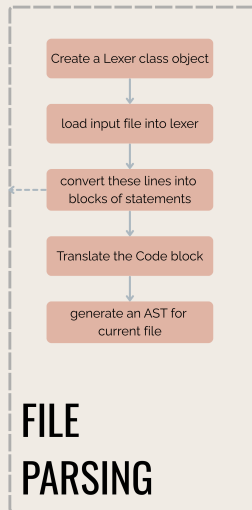
## SASM



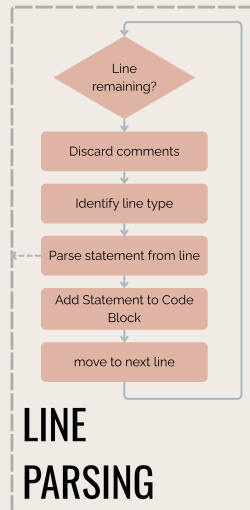
# Individual Components of SASM



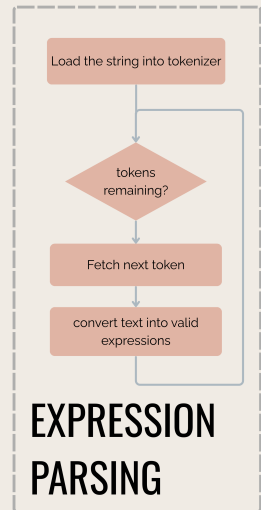
(a) Assembly Pipeline



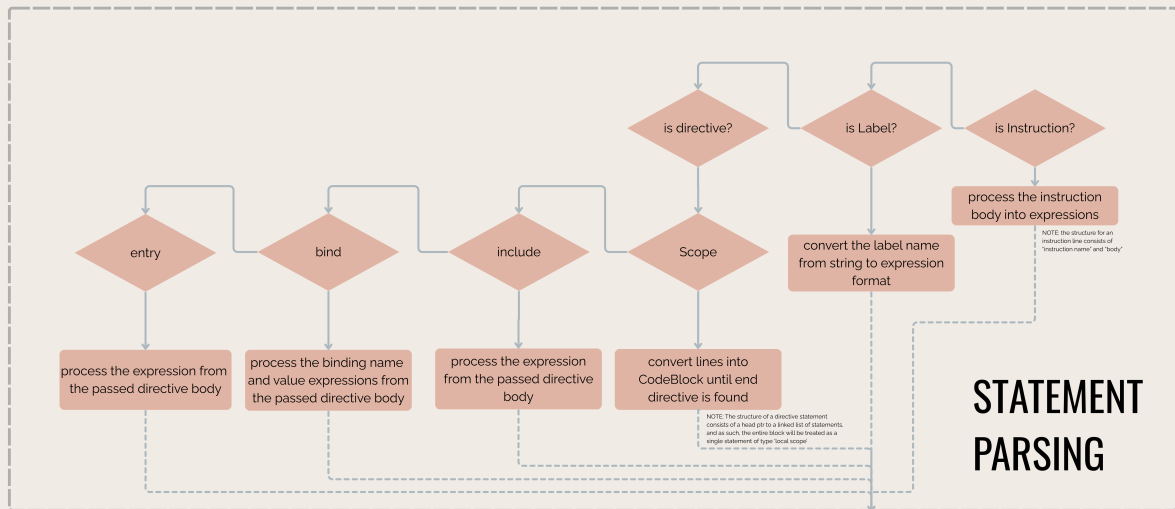
(b) File Parsing



(c) Line Parsing



(e) Expression Parsing



(d) Statement Parsing