

```
!!! info inline end ""
```

```
!!! danger ""
```

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

Tech Stack

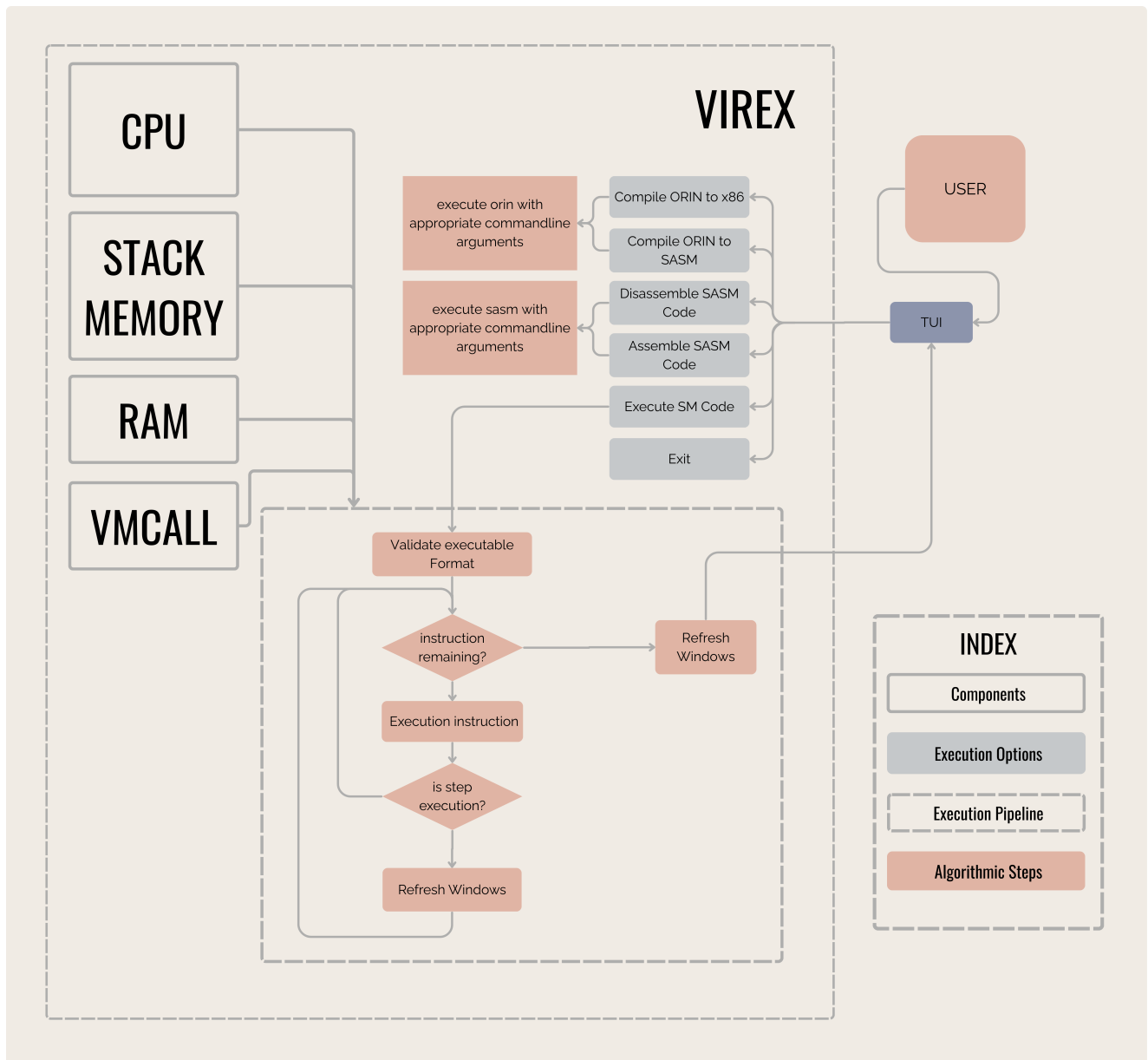
```
!!! warning ""
```

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

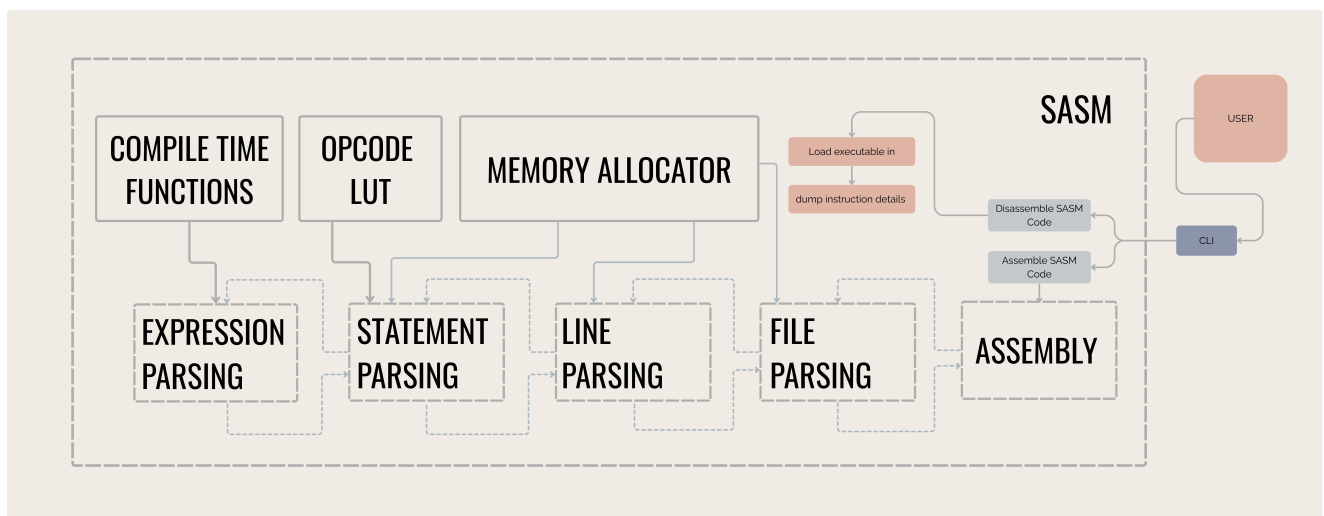
```
``title="Project Structure" VIREX |— build/ |— docs/ # Reference documentation |— examples/ #  
Sample programs |— extras/ |   |— orin_grammar.txt # Grammer for ORIN (PROTOTYPE) |— html/  
# Latest Build of the documentation website |— include/ # Public headers for VM, SASM, OCC |—  
install.sh # 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

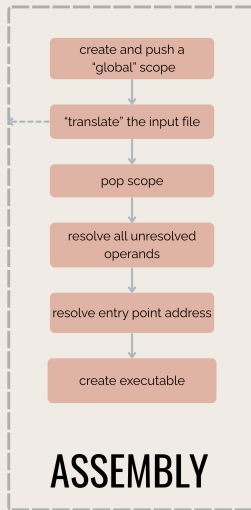
VIREX



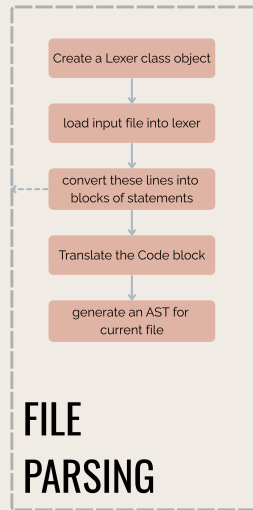
SASM



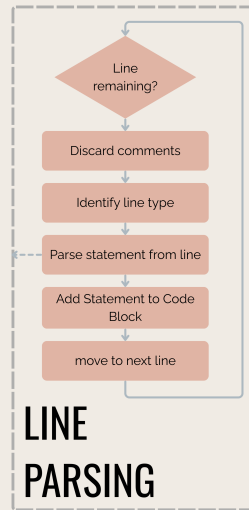
Individual Components of SASM



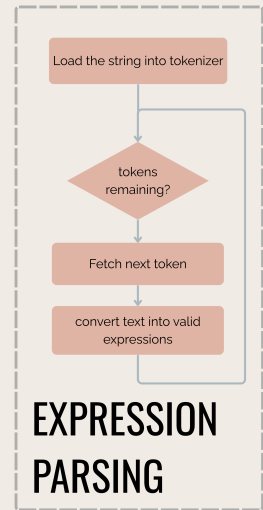
(a) Assembly Pipeline



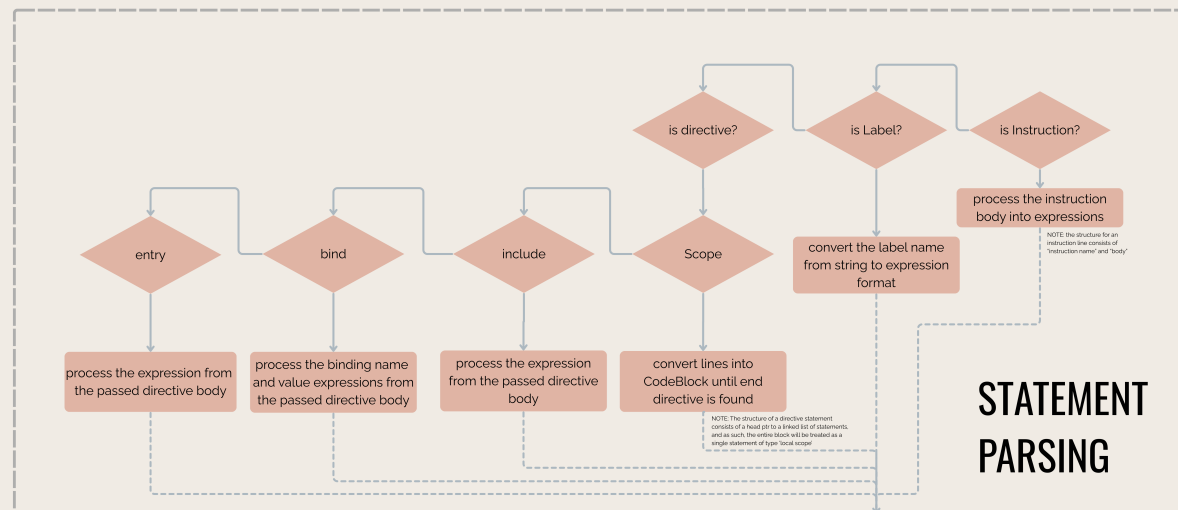
(b) File Parsing



(c) Line Parsing



(e) Expression Parsing



(d) Statement Parsing