Solo Git Project Structure

Comprehensive Directory and File Organization Guide

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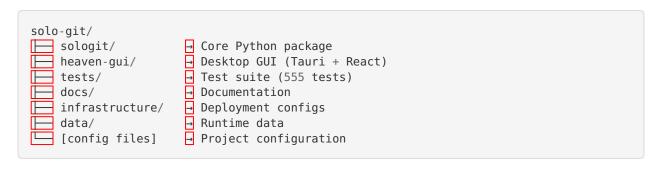
- 1. Overview
- 2. Root Directory
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- 4. Heaven GUI
- 5. Tests
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- 7. Infrastructure
- 8. Configuration Files
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Overview

Solo Git follows a clean, modular structure with clear separation between:

- Core Logic (sologit/) Python package with business logic
- User Interfaces (CLI/TUI in sologit/ui/, GUI in heaven-gui/)
- **Tests** (tests/) Comprehensive test suite (76% coverage)
- **Documentation** (docs/) User guides, API docs, wiki
- Infrastructure (infrastructure/) Deployment configs

Quick Navigation



Root Directory

```
solo-git/
                                  # Git repository metadata
# Git ignore patterns
   .archive/
                                  # Historical artifacts (not in Git)
   historical coverage/
                                 # Old test coverage reports
  README.md
                                  # Main project documentation
   ARCHITECTURE.md
                                  # System architecture guide
                                  # This file
   PROJECT STRUCTURE.md
   CHANGELOG.md
                                  # Version history
   LICENSE
                                  # MIT license
   requirements.txt
                                  # Python dependencies
                                  # Package installation script
   setup.py
   pyproject.toml
                                  # Modern Python build config
                                  # Pytest configuration
  pytest.ini
                                  # Package manifest
   MANIFEST.in
  current_coverage.json
                                  # Latest test coverage data
                                 # Latest test execution log
  test_run_output.txt
QUICKSTART.md
                                  # Quick start guide
  CLI DEMO.txt
                                  # CLI demo transcript
  CLI INTEGRATION SUMMARY.md
                                  # CLI integration report
  [Phase Reports]
                                  # Development phase summaries
   PHASE 0 SUMMARY.txt
   PHASE_0_VERIFICATION_REPORT.md
     PHASE 1 100 PERCENT COMPLETION REPORT.md
      PHASE 1 ENHANCEMENTS SUMMARY.md
      PHASE 1 VERIFICATION REPORT.md
      PHASE_2_COMPLETION_REPORT.md
      PHASE 2 COVERAGE IMPROVEMENT REPORT.md
      PHASE_2_ENHANCED_COVERAGE_REPORT.md
      PHASE 2 SUMMARY.md
      PHASE_3_ENHANCEMENT_REPORT.md
      PHASE_3_FINAL_SUMMARY.md
     PHASE 3 SUMMARY.md
      PHASE_4_READINESS_REPORT.md
       GIT_ENGINE_100_PERCENT_COMPLETE.md
      HEAVEN CLI INTEGRATION REPORT.md
      HEAVEN INTERFACE 90 PERCENT COMPLETION REPORT.md
      HEAVEN INTERFACE 97 PERCENT COMPLETION REPORT.md
      HEAVEN INTERFACE AUDIT SUMMARY.md
      HEAVEN INTERFACE GAP ANALYSIS.md
      HEAVEN INTERFACE IMPLEMENTATION SUMMARY.md
      IMPLEMENTATION COMPLETION GUIDE.md
      IMPLEMENTATION SUMMARY.md
      DEBUGGING SUMMARY.md
       TESTING REPORT.md
       TEST COVERAGE IMPROVEMENT REPORT.md
      PHASE3 COVERAGE BASELINE REPORT.md
      PHASE3 COVERAGE IMPROVEMENT REPORT.md
```

Root Files Purpose

File	Purpose
README.md	Main documentation, quick start, feature overview
ARCHITECTURE.md	System design, components, data flow
PROJECT_STRUCTURE.md	This file - directory organization
CHANGELOG. md	Version history and release notes
requirements.txt	Python dependencies (pip format)
setup.py	Package installation and metadata
pyproject.toml	Modern Python build system config
pytest.ini	Pytest configuration (coverage, markers)
current_coverage.json	Latest test coverage metrics
test_run_output.txt	Latest test execution logs

Core Python Package (sologit/)

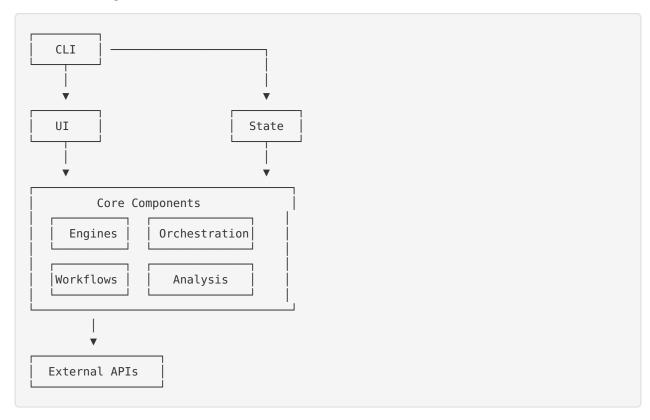
The main application package containing all business logic.

```
sologit/
init__.py
                                       # Package initialization
ĬΠ
                                       # Command-Line Interface
    cli/
__init__.py
    main.py
                                      # Entry point (evogitctl command)
# Core CLI commands (repo, pad, test)
    commands.py
    commands.py # Config management commands
config_commands.py # Config management commands
integrated_commands.py # AI pairing commands
commands # Advanced commands (TUI launcher)
Ō
\Box
ui/
                                      # Heaven Interface (CLI/TUI)
__init__.py
formatter.py
                                     # Rich console formatting
# Heaven design tokens
# Main TUI application
     theme.py
heaven_tui.py
                                   # TUI widgets and layouts
# Fuzzy command search widget
# File browser widget
tui_app.py
      command_palette.py
file_tree.py
graph.py
                                 # ASCII commit graph renderer
# Test results display widget
# Shell autocomplete engine
# Command history management
     test runner.py
       autocomplete.py
    history.py
state/
                                      # State Management
     init__.py
# State persistence (JSON)
     manager.py
# State data models
     ☐ git_sync.py
                                      # Git ↔ State synchronization
# Configuration
    config/
init__.py

    manager.py

                                      # Config loading and validation
templates.py
                                      # Default config templates
                                      # External API Clients
    api/
_init__.py
client.py
                                      # Abacus.ai RouteLLM client
# Core Domain Models
    core/
     init .py
       repository.py
                                      # Repository model
workpad.py
                                      # Workpad (ephemeral workspace) model
engines/
                                      # Execution Engines
    __init__.py
    git_engine.py # Git operations wrapper
patch_engine.py # Patch generation and application
test_orchestrator.py # Test execution and sandboxing
orchestration/
                                      # AI Orchestration
init__.py
Ш
     ai_orchestrator.py
                                    # Main AI coordinator
model_router.py
                                     # Multi-model selection
                                   # High-level planning (GPT-4/Claude)
# Code generation (DeepSeek/CodeLlama)
# Budget tracking and enforcement
planning_engine.py
code_generator.py
cost_guard.py
\overline{\square}
    analysis/
                                      # Test Analysis
Ō
     init_.py
    test_analyzer.py
\overline{\square}
                                 # Test failure diagnosis with AI
```

Module Dependencies



Key Files Detail

CLI Layer

cli/main.py - Entry point

```
# Defines evogitctl command
# Sets up Click command groups
# Handles global options (--verbose, --config)
```

cli/commands.py - Core commands

```
# Commands: repo, pad, test, promote, rollback
# Implementation: delegates to engines and workflows
```

cli/integrated_commands.py - Al pairing

```
# Commands: pair, plan, code
# Integration: uses AI orchestration layer
```

UI Layer

ui/heaven_tui.py - Main TUI

```
# Textual app with multiple screens
# Layouts: split panes, tabs, modals
# Bindings: vim-style keyboard shortcuts
```

ui/command_palette.py - Command palette

```
# Fuzzy search over all commands
# Keyboard shortcut: Ctrl+P
# Shows recent and favorite commands
```

ui/graph.py - Commit graph

```
# ASCII art commit graph
# Shows: commits, branches, merges, CI status
# Color-coded: green (success), red (failure)
```

State Layer

state/manager.py - State persistence

```
# Load/save state to .sologit/state.json
# Thread-safe operations
# Change notifications for live updates
```

state/git_sync.py - Git synchronization

```
# Sync state with Git repository
# Detect external Git changes
# Update state on Git operations
```

Engines

engines/git_engine.py - Git wrapper

```
# Operations: commit, merge, rebase, checkout
# Constraint: Fast-forward merges only
# Safety: Validates before destructive operations
```

engines/patch_engine.py - Patch handling

```
# Generate unified diffs from AI changes
# Apply patches with conflict detection
# Rollback support
```

engines/test orchestrator.py - Test execution

```
# Run tests in isolated sandboxes
# Parallel execution support
# Aggregate and report results
```

Orchestration

orchestration/ai_orchestrator.py - Al coordinator

```
# Coordinates planning, coding, analysis
# Handles model selection
# Manages API requests
```

orchestration/model_router.py - Model selection

```
# Routes tasks to optimal model tier
# Escalation rules (complexity, security)
# Fallback on failures
```

orchestration/cost_guard.py - Budget enforcement

```
# Track spending per model
# Enforce daily budget caps
# Alert on thresholds
```

Workflows

workflows/auto_merge.py - Auto-merge

```
# Test → Gate → Merge pipeline
# Configurable rules
# Event notifications
```

workflows/promotion_gate.py - Promotion validation

```
# Required checks (tests, conflicts)
# Optional checks (coverage, linting)
# Manual override support
```

Heaven GUI (heaven-gui/)

Desktop application built with Tauri (Rust) + React (TypeScript).



Key Frontend Components

CodeEditor.tsx

- Monaco editor (VS Code editor)
- Syntax highlighting
- Code completion
- Diff mode support

CommitGraph.tsx

- D3.js force-directed graph
- Interactive (pan, zoom, click)
- Jenkins build status badges
- Color-coded by status

CommandPalette.tsx

- Fuzzy search (fuse.js)
- Keyboard shortcuts (Ctrl+P, Ctrl+K)
- Recent commands
- Quick actions

TestDashboard.tsx

- Test results table
- Coverage charts (Recharts)
- Failure analysis
- Historical trends

Key Backend (Rust) Files

main.rs

```
// Tauri setup
// Window configuration
// System tray integration
```

commands.rs

```
// IPC commands exposed to frontend
// Examples:
// - execute_git_command()
// - get_repository_state()
// - run_tests()
// - call_ai_model()
```

state.rs

```
// Bridge to Python CLI
// Spawns evogitctl as subprocess
// Parses JSON state output
```

Tests (tests/)

Comprehensive test suite with 555 tests and 76% coverage.

```
tests/
___init__.py
   conftest.py
                                   # Pytest fixtures and configuration
[Core Tests]
# Repository and Workpad tests
    test_core.py
# Extended core tests
       test core 100 percent.py
Ō
       test workpad enhancements.py
[Engine Tests]
П
    test git engine.py
                                  # Git operations tests
test_git_engine_100_percent.py
      test git engine_extended.py
test_patch_engine.py
                                  # Patch application tests
test_patch_engine_100_percent.py
test_patch_engine_enhanced.py
test_test_orchestrator_comprehensive.py
Ō
       test_test_analyzer.py
Ō
Ī
    [AI Orchestration Tests]
Ī
    test ai orchestrator.py
test ai orchestrator coverage.py
        test ai orchestrator enhanced.py
        test_model_router.py
        test_model_router_coverage.py
        test_model_router_enhanced.py
        test_planning_engine.py
        test_planning_engine_coverage.py
        test_planning_engine_enhanced.py
        test_code_generator.py
        test code generator coverage.py
      test code generator enhanced.py
test cost guard.py
        test_cost_guard_coverage.py
test_cost_guard_enhanced.py
[Workflow Tests]
test auto merge enhanced.py
test promotion gate.py
        test promotion gate coverage boost.py
test promotion gate enhanced.py
        test ci orchestrator enhanced.py
        test ci orchestrator coverage boost.py
        test_rollback_handler_comprehensive.py
        test_test_analyzer_coverage_boost.py
        test_phase3_workflows.py
test_phase3_enhanced_mocks.py
[E2E Tests]
    test_workflow_e2e.py
                                 # End-to-end workflow tests
```

Test Categories

Category	Purpose	Count
Core	Repository, Workpad models	50+
Engine	Git, Patch, Test engines	100+
Al	Orchestration, routing, cost	150+
Workflow	Auto-merge, CI, rollback	100+
E2E	Full workflow scenarios	50+
Analysis	Test analyzer	50+

Test Execution

```
# Run all tests
pytest tests/ -v

# Run specific category
pytest tests/test_core*.py -v
pytest tests/test_ai*.py -v
pytest tests/test_phase3*.py -v

# Run with coverage
pytest tests/ --cov=sologit --cov-report=html

# Run specific test
pytest tests/test_git_engine.py::test_fast_forward_merge -v
```

Documentation (docs/)

Comprehensive documentation organized by topic.



Documentation Categories

User Guides:

- Quick Start: Get running in 5 minutes
- Setup Guide: Detailed installation
- CLI Reference: All commands and options
- Config Reference: Configuration options

Technical Docs:

- API: Complete API documentation
- Architecture: System design (see ARCHITECTURE.md)

- Heaven Interface: UI design system
- Testing Guide: How to write and run tests

Phase Reports:

- Phase 0-4 completion reports
- Coverage improvement reports
- Enhancement summaries
- Verification reports

Infrastructure (infrastructure/)

Deployment and CI/CD configuration.

```
infrastructure/
  - docker/
                                             # Docker images
     ├─ Dockerfile.cli
                                           # CLI container
     ├── Dockerfile.cli  # CLI container

├── Dockerfile.sandbox  # Test sandbox

└── docker-compose.yml  # Multi-container setup
                                            # Jenkins CI/CD
   - jenkins/
        nkins/
- Jenkinsfile # Pipeline definition
- jenkins-config.xml # Jenkins configuration
# Required plugins
     ├─ Jenkinsfile
     └─ plugins.txt
   - sandbox/
                                             # Test sandbox configs
     ├─ sandbox.yml
                                             # Sandbox configuration
       — entrypoint.sh
                                            # Sandbox entry script
```

Docker Setup

CLI Container (Dockerfile.cli):

```
FROM python:3.11-slim
WORKDIR /app
COPY requirements.txt .
RUN pip install -r requirements.txt
COPY sologit/ ./sologit/
CMD ["evogitctl"]
```

Sandbox Container (Dockerfile.sandbox):

- Isolated test environment
- No network access
- Timeout enforcement
- Resource limits

Configuration Files

Python Configuration

setup.py

```
# Package metadata
# Dependencies
# Entry points (evogitctl command)
```

pyproject.toml

```
# Build system requirements
# Project metadata
# Tool configurations (black, isort, mypy)
```

pytest.ini

```
# Test discovery patterns
# Coverage settings
# Markers and options
```

requirements.txt

```
# Production dependencies
click>=8.0.0
textual>=0.40.0
rich>=13.0.0
pydantic>=2.0.0
requests>=2.31.0
# ... more
```

GUI Configuration

package.json

```
{
  "dependencies": {
     "react": "^18.2.0",
     "typescript": "^5.2.0",
     "monaco-editor": "^0.44.0",
     "d3": "^7.8.0",
     "recharts": "^2.10.0"
  }
}
```

tauri.conf.json

```
{
  "build": {
    "distDir": "../dist"
},
  "tauri": {
    "allowlist": {
      "all": false,
      "shell": {
            "execute": true
      }
    }
  }
}
```

Data and Runtime

Data Directory (data/)

```
data/
repos/
                                   # Repository storage
    [repo-id]/
                                  # Each repo in subdirectory
        _____.git/
                                  # Git metadata
\Box
                                  # Solo Git state
           .sologit/
            state.json config.yaml
# Repository state
                                  # Repo-specific config
            cache/
                                  # Temporary cache
          [project files]
   logs/
                                  # Application logs
    evogitctl.log
                                  # CLI logs
                                  # AI API request logs
      ai_requests.log
      test_runs.log
                                  # Test execution logs
      [date]-audit.log
                                  # Daily audit logs
```

User Configuration

State File Structure

.sologit/state.json example:

```
"version": "0.4.0",
  "repository": {
    "id": "repo-123",
    "trunk": "main",
    "workpads": {
      "pad-abc": {
        "id": "pad-abc",
        "title": "add-auth",
        "status": "ACTIVE",
       "base_commit": "abc123",
        "patches": [],
        "test_results": []
   }
 },
  "ai_metrics": {
    "total_requests": 42,
    "total_cost_usd": 2.45,
   "daily_budget_remaining": 7.55
 }
}
```

File Naming Conventions

Python Files

```
• Snake case: file_name.py
```

• **Test files**: test_*.py (pytest discovery)

• Private modules: _internal.py (single underscore)

• Package markers: __init__.py

TypeScript/React Files

• PascalCase for components: CodeEditor.tsx

• camelCase for utilities: apiClient.ts

• **kebab-case** for CSS: theme-tokens.css

Documentation

```
• ALL CAPS for major docs: README.md , LICENSE
```

• Snake case for guides: setup_guide.md

• **Hyphens** for multi-word: cli-reference.md

Configuration

```
• Lowercase with extensions: pytest.ini , setup.py
```

• **Dotfiles**: .gitignore , .env

File Metadata

File Sizes (Approximate)

Category	Files	Total Size
Python Source	100+	~500 KB
Tests	40+	~400 KB
Documentation	80+	~2 MB
Heaven GUI (src)	50+	~200 KB
node_modules	5000+	~200 MB
Git History	-	~50 MB

Critical Files

Files that should **never** be deleted:

- 1. README.md Main documentation
- 2. setup.py Package installation
- 3. requirements.txt Dependencies
- 4. sologit/cli/main.py CLI entry point
- 5. sologit/core/repository.py Core model
- 6. pytest.ini Test configuration
- 7. .gitignore Git ignore rules
- 8. LICENSE Legal license

Summary

Total Structure:

- **Python Modules**: 30+ modules

- **Test Files**: 40+ test files

UI Components: 15+ React components
 Documentation: 80+ markdown files
 Configuration Files: 10+ config files

Key Directories:

- 1. sologit/ Core application (500 KB)
- 2. heaven-gui/ Desktop GUI (200 MB with deps)
- 3. tests/ Test suite (400 KB)
- 4. docs/ Documentation (2 MB)

Cleaned Up:

- Removed 63 duplicate PDF files
- Archived historical coverage reports

- Removed Python bytecode files
- V Organized phase reports
- No tar.gz archives

Maintenance Notes

Regular Cleanup

```
# Remove Python bytecode
find . -type d -name "__pycache__" -exec rm -rf {} +
find . -type f -name "*.pyc" -delete

# Remove temporary files
rm -rf .pytest_cache/
rm -rf htmlcov/
rm -f .coverage

# Update documentation dates
# Update test coverage numbers
# Archive old phase reports
```

Adding New Components

New Python Module:

- 1. Create in appropriate sologit/ subdirectory
- 2. Add init .py if new package
- 3. Write tests in tests/test_[module].py
- 4. Update ARCHITECTURE.md if significant

New React Component:

- 1. Create in heaven-gui/src/components/
- 2. Export from components/index.ts
- 3. Add to storybook if available
- 4. Document props with TypeScript

New Documentation:

- Create in docs/ or docs/wiki/
- 2. Link from README.md or docs/wiki/Home.md
- 3. Follow markdown style guide
- 4. Add to table of contents

Version History

- v0.1.0 (Phase 0): Initial structure
- v0.2.0 (Phase 1): Git engine and workpads
- v0.3.0 (Phase 2): Al orchestration
- v0.4.0 (Phase 3): Workflows and auto-merge
- v0.4.5 (Phase 4): Heaven Interface + cleanup

See Also

- $\hbox{\color{red} \bullet ARCHITECTURE.md} \ (\hbox{\scriptsize ARCHITECTURE.md}) \ \hbox{\color{red} \bullet System architecture} \\$
- README.md (README.md) Main documentation
- docs/SETUP.md (docs/SETUP.md) Installation guide
- docs/API.md (docs/API.md) API reference