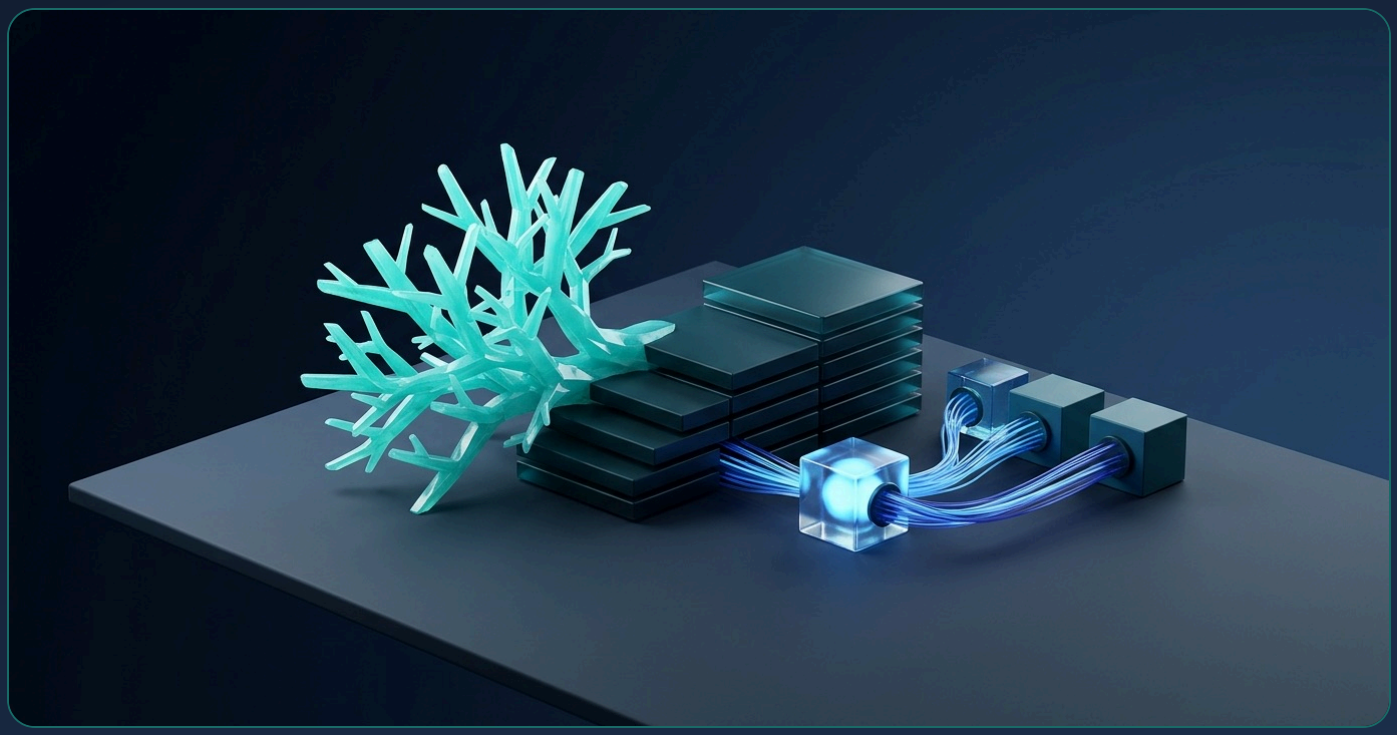
OPEN HARNESSES • AIDER & BLOCK GOOSE FIELD GUIDE

Aider & Block Goose: Git Pair Coding & Local MCP Recipes

Master two flagship open-source terminal harnesses—pairing Aider's tree-sitter PageRank Repo Map, `/architect` dual-model splits, and atomic Git commits with Block Goose's native MCP extensions, Lead/Worker routing, and reusable YAML Recipes.

- Tree-Sitter PageRank Map
- /architect + Editor Split
- Atomic Git & /undo Safety
- Goose MCP Extensions
- Parameterized YAML Recipes
- Lead/Worker & Smart Approve



Surgical Git Pair Coding

Aider builds a weighted symbol map across your repository, scopes editable files via `/add` and `/read-only`, auto-runs linters and tests, and logs clean commits you can revert with one `/undo`.

Open MCP Agent Recipes

Block Goose (now stewarded under Linux Foundation AAIF) unites CLI, Desktop, and built-in or custom MCP servers inside parameterized YAML Recipes with isolated `sub_recipes`.

Dual-Model Cost & Guardrails

Pair frontier planners with local Ollama workers using `--editor-model` and `GOOSE_LEAD_MODEL`—guarded by `GOOSE_MODE`, `permission.yaml`, and ignore files.

Two Open-Source Terminal Harnesses, One Seamless Craft

Proprietary coding assistants lock you into one cloud model and one workflow style. By combining **Aider**—a precision Git-first pair programmer—with **Block Goose**—an extensible Model Context Protocol (MCP) task orchestrator—you gain total ownership over models, context windows, version control, and repeatable team automations.

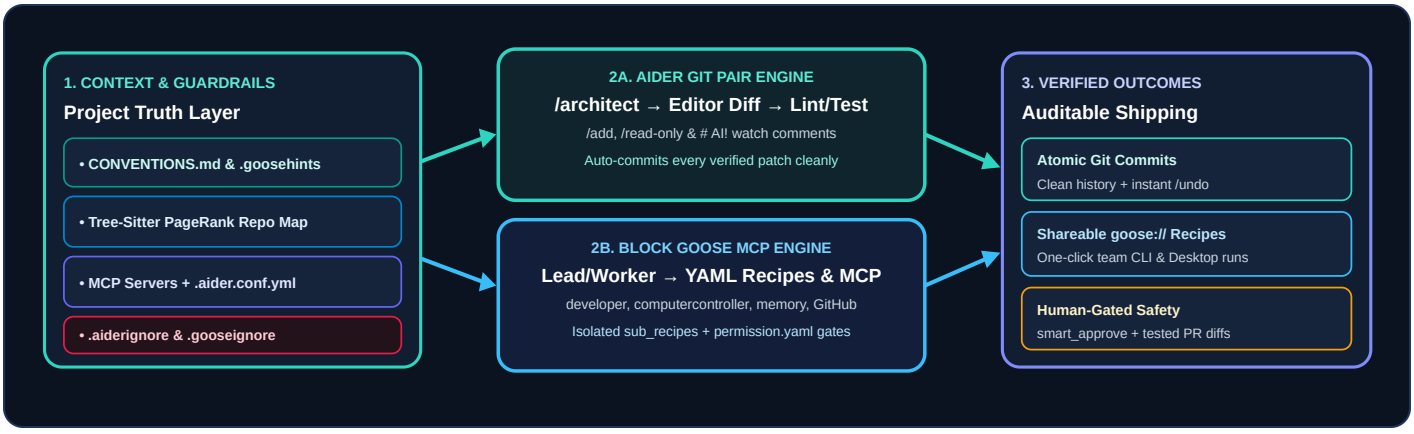
Quick Navigation

1. Dual-Harness Mental Model p. 2
2. Install, Edit Formats & Matrix p. 3
3. Annotated Split-Terminal Tour p. 4
4. Repo Map, /add & /architect Loops p. 5
5. Watch Comments & 5-Part Formula p. 6
6. Goose CLI, Desktop & MCP Extensions p. 7
7. YAML Recipes & Lead/Worker Routing p. 8
8. 5 Copy-Paste Harness Recipes p. 9
9. Git Safety, Permissions & Teams p. 10
10. Cross-Tool Synergy Pipeline p. 11
11. Troubleshooting & Pre-Flight p. 12
Golden Rule: Scope Context, Commit Often All

When Aider Leads vs. When Block Goose Leads

Think of **Aider** as your master surgical coder inside a Git working tree: it reads symbol relationships across hundreds of files via tree-sitter and PageRank, drafts tight diffs, verifies linters and unit tests, and writes clean commits. Think of **Block Goose** as your versatile automation orchestrator across apps and APIs: it speaks native MCP to shell tools, GitHub, databases, browsers, and desktop UI, executing multi-step YAML Recipes with strict tool-level approvals.

Architecture: Shared Project Rules Driving Two Specialized Loops



The Division-of-Labor Principle

Keep tightly coupled code changes inside **Aider**, where tree-sitter symbol ranking and instant `/undo` protect your Git history. Reach for **Block Goose** when a workflow crosses boundaries—querying GitHub or databases via MCP, driving desktop or browser tools, or running repeatable team YAML Recipes.

Installation, Aider Edit Formats & Harness Matrix

Both Aider and Block Goose install cleanly on macOS, Linux, and Windows (WSL2 or native) without vendor lock-in. Choosing the right installation channel and Aider edit format prevents patchy diffs and wasted tokens on your very first run.

1 Fast Install: Aider & Block Goose

- **Aider via uv (Recommended):** Run `uv tool install aider-chat` (or `python -m pip install aider-install && aider-install`) inside an initialized Git repo.
- **Aider Model Prefixes:** Set API keys in environment or `.env`, then launch with `anthropic/...`, `openai/...`, `gemini/...`, or local `ollama_chat/...`.
- **Goose CLI v1.60.1 (AAIF / Block):** Run `curl -fsSL https://github.com/aaif-goose/goose/releases/download/stable/download_cli.sh | bash` or `brew install block-goose-cli`, then run `goose configure` across **85+ LLM providers**.
- **Goose Desktop, Web & 2.0 Beta:** Install Desktop via `brew install --cask block-goose` (or launch `goose web` / preview **Goose 2.0 beta**) for visual recipe forms, interactive **MCP Apps** UIs, and clickable `activities`.

2 Mastering Aider Edit Formats

- `diff` **(Search/Replace):** Default for most frontier models; replaces targeted blocks using `SEARCH` / `REPLACE` fences so large files stay cheap.
- `udiff` **(Unified Diff):** Simplified unified diff syntax ideal for reasoning models like GPT-4o/o-series on multi-hunk edits across long files.
- `whole` **(Full File Rewrite):** Model outputs the entire updated file; reliable for smaller files or local 7B–14B Ollama models that fumble line anchors.
- `architect` + `editor-diff` / `editor-whole`: Separates free-form design reasoning from strict syntax patching across two specialized models.

60-Second Dual-Harness Verification Commands

1. **Aider Architect Pair:** `aider --architect --model anthropic/claude-sonnet-4-5 --editor-model ollama_chat/qwen2.5-coder:32b --read CONVENTIONS.md`
2. **Goose Safe Interactive / Recipe Run:** `GOOSE_MODE=smart_approve goose session` | `goose run --recipe ./recipes/pr-audit.yaml --params branch=main`

Open-Source Terminal Harness Decision Matrix

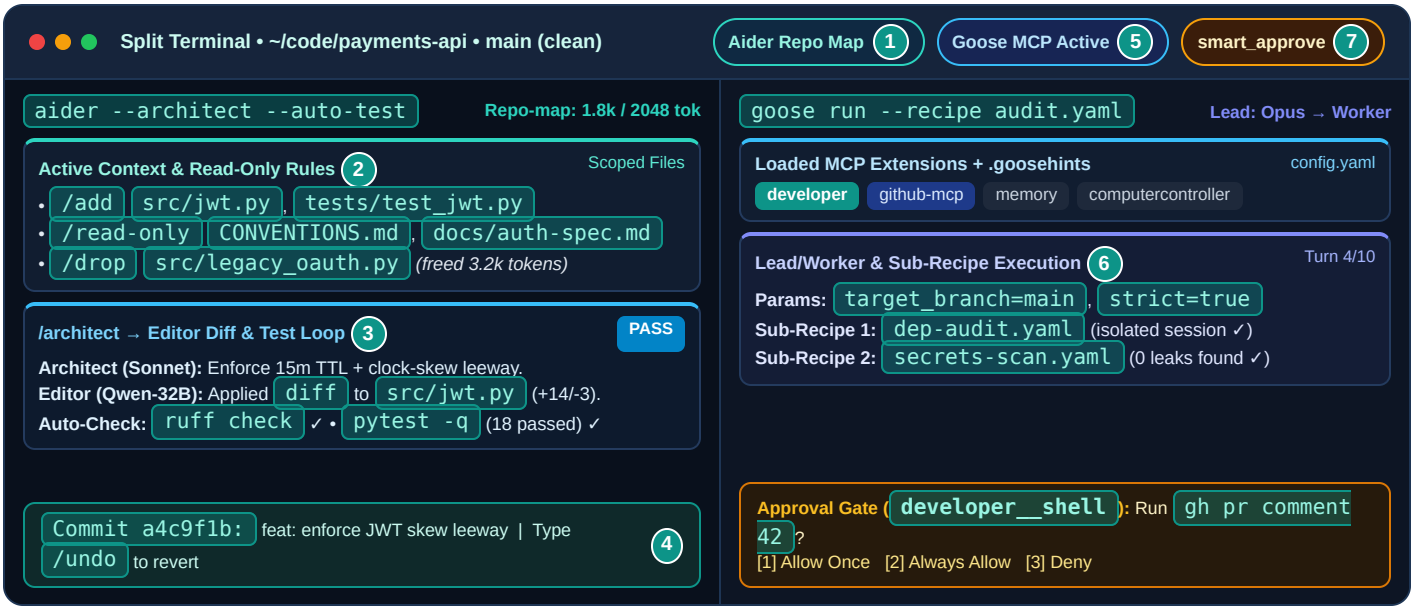
Tool / Harness	Core Superpower	Context & Discovery	Multi-Model Routing	Safety & Undo Guardrail
Aider *Git Pair Coder*	Surgical code diffs, IDE `# AI!` watch loops & atomic Git commits.	Tree-sitter + PageRank Repo Map (`/map`) + explicit `/add` & `/read-only`.	`/architect` planner + `--editor-model` + `--weak-model` commits.	Instant `/undo` Git revert, `--dirty-commits` & `.aiderignore`.
Block Goose *MCP Orchestrator*	General-purpose local agent running MCP tools, Desktop UI & YAML Recipes.	`.goosehints`, `AGENTS.md`, persistent `memory` & MCP resources.	`GOOSE_LEAD_MODEL` + fast worker turns + failure fallback.	`GOOSE_MODE=smart_approve`, `permission.yaml` & `.gooseignore`.
OpenCode *TUI Agent*	Interactive Plan/Build TUI with LSP diagnostics & TypeScript plugins.	`@file` fuzzy search, `@explore` subagent & live LSP errors.	Per-agent routing in `opencode.json` across 75+ providers.	Git snapshot `/undo` & granular `allow` / `ask` / `deny` rules.
IDE Copilots *Cursor / Continue*	Inline tab autocomplete (FIM) & visual editor diff gutters.	Open editor tabs, local embeddings & IDE workspace indexing.	Separate chat vs. autocomplete model endpoints.	Editor buffer undo; weaker headless CI or Git commit discipline.

First-Run Rule: Never Launch Into a Dirty Git Tree Without Snapshot Protection

Aider expects a Git repository so it can isolate each AI change into a reversible commit. Run `git status` first, commit or stash unrelated human edits, or keep `dirty-commits: true` enabled so `/undo` never wipes your own unfinished work.

Annotated Tour: Inside Aider & Block Goose Sessions

Running Aider alongside Block Goose in split terminal panes pairs disciplined Git patching on the left with multi-tool MCP orchestration on the right. Here are the seven live controls that keep context sharp, costs low, and execution safe.



1 **Tree-Sitter PageRank Repo Map:** Indexes classes and signatures across your repo inside a tight token budget (`--map-tokens`) so Aider sees callers without reading every file.

2 **Scoped Chat Context:** Only `/add` files you want edited; pass rules or specs via `/read-only` and clear finished modules with `/drop`.

3 **/architect + Editor Auto-Loop:** Separates reasoning from patch formatting, then automatically triggers `/lint` and `/test` until checks pass.

4 **Atomic Git Commits & /undo:** Every AI edit writes a descriptive Git commit immediately—letting you roll back cleanly with a single `/undo` command.

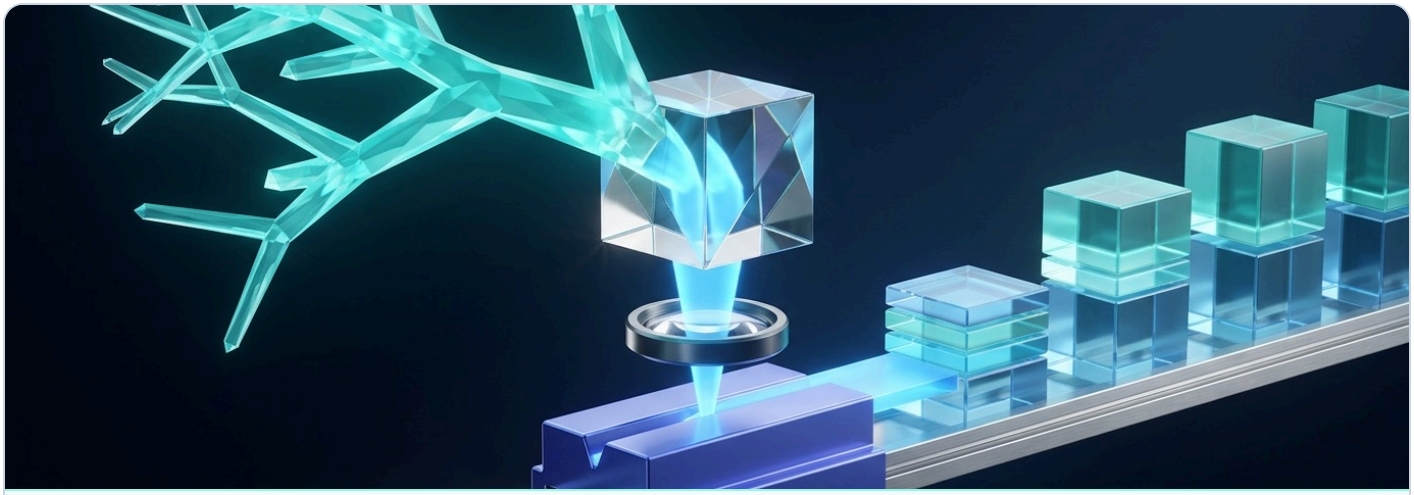
5 **Native MCP Extension Ecosystem:** Goose connects built-in `developer`, `memory`, and `computercontroller` tools alongside GitHub or database MCP servers.

6 **Lead/Worker & YAML Sub-Recipes:** Lead models handle planning and recovery while cheaper workers run parameterized recipes and isolated `sub_recipes`.

7 **Smart Approval & `permission.yaml` Gate:** `GOOSE_MODE=smart_approve` lets safe reads flow automatically while pausing shell mutations or external API posts for explicit confirmation.

Aider Mastery: Repo Map, Context Hygiene & Auto-Fix Loops

Aider earns its reputation on reliability: instead of stuffing random files into an overflowing prompt, it builds a graph-ranked map of your repository, edits only explicitly staged files, and tests every patch automatically.



Graph-Ranked Precision: Tree-sitter parses functions and call sites into a PageRank graph, guiding the `/architect` planner and fast editor model straight to the files that need atomic commits.

Four Habits That Make Aider Unbeatable on Real Codebases

1 Tune the Tree-Sitter Repo Map

Aider parses code into ASTs with tree-sitter and runs PageRank over cross-file symbol references. Default `--map-tokens` is `1024`; bump to `2048`–`4096` on multi-package repos, inspect with `/map`, or pass `--subtree-only` in giant monorepos.

2 Separate `/add` From `/read-only`

Add only the files you intend to modify via `/add path/to/file`. Load style guides, OpenAPI specs, or reference modules with `/read-only` so Aider reads them accurately without accidentally editing them, and run `/drop` as soon as a module is done.

3 Split Reasoning With `/architect`

Run `/architect` (or `--architect`) so a strong reasoning model proposes architectural changes in plain prose without wrestling diff syntax, while a fast `--editor-model` (such as a local Ollama coder or Haiku) applies exact `editor-diff` patches.

4 Wire Auto-Lint & Auto-Test Loops

Run `/lint` on modified files or `/test pytest -q` inside chat—or enable `--auto-lint` and `--auto-test`. Whenever a linter warning or test traceback fires, Aider captures stdout and self-corrects before moving on.

```
# Launch Aider in dual-model Architect mode with read-only conventions, 2048-token Repo Map, and test auto-fix loop:
aider --architect \
  --model anthropic/claude-sonnet-4-5 \
  --editor-model ollama_chat/qwen2.5-coder:32b --editor-edit-format editor-diff \
  --read CONVENTIONS.md --map-tokens 2048 \
  --lint-cmd "ruff check" --auto-lint --test-cmd "pytest -q" --auto-test
```

Pro Tip: Use `/ask` Before Refactoring, `/code` When Ready

Unsure how a module interacts with billing or auth? Prefix a turn with `/ask` (or switch temporarily out of edit mode) to interrogate the Repo Map with zero file modifications, then return to `/code` or `/architect` once the plan is crisp.

`.aider.conf.yml`, Watch Comments & the 5-Part Formula

Once your repo includes `.aider.conf.yml` and `CONVENTIONS.md`, starting Aider takes two words. Watch mode (`--watch-files`) turns any IDE or text editor into a live prompt canvas using inline `AI!` and `AI?` comments.

Editor-Native Watch Mode (`--watch-files`)

- `# ... AI!` **(Trigger Edit):** Save a comment like `// Add rate-limit retry with backoff AI!` in VS Code, Neovim, or Zed. Aider modifies the code, deletes the marker, and commits cleanly.
- `# ... AI?` **(Ask Without Editing):** Save `# Why does this deadlock under load? AI?` to get an explanation right in the terminal pane without altering source files.
- **Zero Context Switching:** Works alongside any editor, Markdown doc, or Obsidian note—ideal when spotting small bugs mid-review.

Config Precedence & `CONVENTIONS.md`

- **4-Layer Precedence:** CLI flags override environment variables (`AIDER_*`), which override repo-root `.aider.conf.yml`, which overrides `~/.aider.conf.yml`.
- **Persistent `CONVENTIONS.md`:** List `read: [CONVENTIONS.md]` in YAML so Aider always obeys your typing rules, test fixtures, and error conventions read-only.
- **Weak Model Savings:** Assign `weak-model` to a fast inexpensive model to generate Git commit messages and Repo Map summaries automatically.

The 5-Part Open-Harness Execution Formula

[1. Repo Map & Hints] Scoped AST graph + `CONVENTIONS.md` / `.goosehints`, **[2. Architect / Lead Plan]** reasoned by a frontier model without syntax clutter, **[3. Editor / Worker Diff]** patched cleanly into scoped files or MCP actions, **[4. Lint, Test & Smart Approve]** verified by automated gates & human consent, **[5. Atomic Commit / Recipe]** and saved as a reversible Git commit or YAML Recipe.

Harness Stage	What It Governs	What Breaks When Skipped
Repo Map & Hints	Supplies real symbol names, repo conventions, and off-limits secrets.	Models hallucinate non-existent helpers or invent inconsistent patterns.
Architect / Lead Plan	Isolates multi-file design choices before generating line-by-line diffs.	Single-pass coding models jump into dead-end patches and waste turns.
Editor / Worker Diff	Uses fast, low-cost models tuned for clean `diff` / `whole` or tool calls.	Frontier models burn 5x–10x budget rewriting boilerplate lines manually.
Verify & Approve	Runs `/lint`, `/test`, and `smart_approve` checks before acceptance.	Silent regressions or unsafe shell side effects slip into your workspace.
Commit / Recipe	Records an atomic Git SHA (`/undo`) or reusable Goose YAML workflow.	Broken multi-file edits tangle with human WIP and cannot be cleanly reverted.

```
# .aider.conf.yml (commit to repo root so every teammate inherits identical guardrails):
model: anthropic/claude-sonnet-4-5
architect: true
editor-model: ollama_chat/qwen2.5-coder:32b
weak-model: openai/gpt-4o-mini
read: [CONVENTIONS.md]
map-tokens: 2048
watch-files: true
auto-commits: true
dirty-commits: true
auto-lint: true
auto-test: true
test-cmd: pytest -q
```

Block Goose: CLI, Desktop & Native MCP Extensions

Originally open-sourced by Block and permanently hosted at `github.com/aaif-goose/goose` under the Linux Foundation's Agentic AI Foundation (AAIF), **Goose** (`v1.60.1` stable + `2.0 beta`) treats every capability as a standard MCP extension or interactive **MCP App** across CLI, Web, and Desktop.

1 CLI, Web & Desktop

Start interactive terminal coding via `goose session`, run headless jobs via `goose run`, launch `goose web`, or use **Goose Desktop** (`brew install --cask block-goose`) for visual extensions and clickable recipe `activities`.

2 MCP & Interactive MCP Apps

Goose ships built-in MCP extensions (`developer`, `computercontroller`, `memory`), renders interactive **MCP Apps** tool UIs directly in Desktop, and connects any stdio/HTTP server via `goose configure`.

3 `.goosehints` & `AGENTS.md`

Drop a `.goosehints` file (or `AGENTS.md`) into any repository root alongside global rules in `~/.config/goose/.goosehints` so every Goose session starts knowing your build, test, and style rules.

Core Built-In & Ecosystem MCP Extensions for Daily Workflows

Extension	Type / Source	What Tools It Exposes	High-Leverage Workflow
`developer`	Built-In MCP *(Enabled Default)*	Text editor, shell execution, ripgrep search, file tree inspection.	Repository triage, test debugging, script running & multi-file automation.
`computercontroller`	Built-In MCP *(Toggle in Config)*	Web scraping/browsing, PDF/Word/Excel parsing, desktop OS automation.	Extracting local reports, driving browsers & automating non-CLI apps.
`memory`	Built-In MCP *(Local Persistent)*	Cross-session key/topic storage (global and project-scoped).	Remembering team conventions, preferred linters & deploy quirks.
GitHub / Linear	External MCP (*`npx`* / *`uvx`* / *HTTP*)	PR diffs, issue comments, CI check logs, backlog triage & labels.	Pulling failing CI context and turning issues into clean PR drafts.
SQLite / Postgres	External MCP *(Read-Only Preferred)*	Schema inspection and parameterized read queries against staging DBs.	Validating migration indexes or diagnosing customer data anomalies safely.

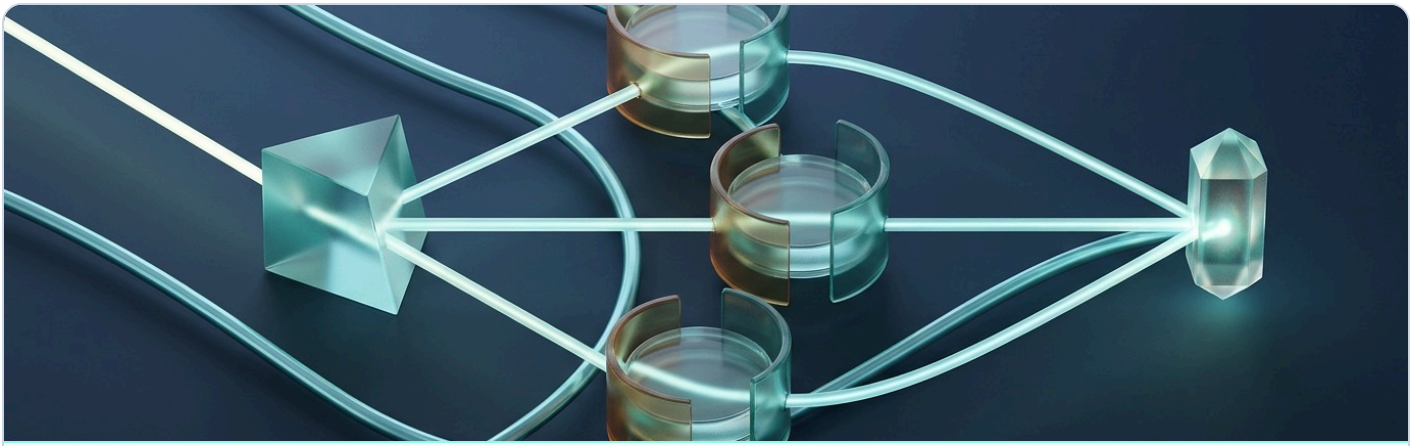
```
# .goosehints (place at repo root; auto-loaded by Goose CLI & Desktop at session start)
Project: payments-api (Python 3.12 + FastAPI + SQLAlchemy).
- Always run "uv run pytest -q" and "uv run ruff check" before reporting a task complete.
- Never modify Alembic migration files already merged to main; create a new revision instead.
- Check docs/openapi.yaml before changing any /v1/webhook response schema.

# Launch an ad-hoc Goose CLI session with extra built-in or custom MCP extensions:
goose session --with-builtin "developer,memory" --with-extension "uvx mcp-server-git"
```

Test Any MCP Server Directly With `goose mcp`

Suspect an extension isn't registering tools properly? Run `goose mcp computercontroller` (or inspect `~/.config/goose/config.yaml`) to boot and verify an extension standalone before blaming your prompt or recipe.

YAML Recipes, Sub-Recipes & Lead/Worker Routing

Once a multi-step MCP workflow clicks, freeze it into a versioned **Goose YAML Recipe**. Recipes lock down exact extensions, typed parameters, isolated `sub_recipes`, and **Lead/Worker** model routing—and share cleanly across teams via `goose://` deeplinks.



Composable Isolation: A parent YAML Recipe delegates independent scans to isolated `sub_recipes` so worker sub-sessions never bloat the parent context window, then merges verified results safely.

1 Parameters, Sub-Recipes & Deeplinks

- **Typed `parameters`:** Define `key`, `input_type` (`string`, `number`, `boolean`, `date`, `file`, `select`), and `requirement` (`required`, `optional`, `user_prompt`), interpolated via `{{ key }}`.
- **Isolated `sub_recipes`:** Delegate parallel audits or clean-room subtasks without polluting parent chat memory.
- **Validate & Share:** Run `goose recipe validate file.yaml`, execute via `goose run --recipe`, or mint a clickable Desktop link with `goose recipe deeplink file.yaml`.

2 Lead/Worker Cost & Recovery Routing

- **Smart Handoff:** Set `GOOSE_LEAD_MODEL` (plus `GOOSE_LEAD_PROVIDER`) for planning while your configured fast `GOOSE_MODEL` executes routine tool steps.
- **`GOOSE_LEAD_TURNS`:** Controls how many opening turns the Lead model directs architecture before handing execution to the worker.
- **Auto-Rescue Thresholds:** Set `GOOSE_LEAD_FAILURE_THRESHOLD` (e.g., `2` errors) and `GOOSE_LEAD_FALLBACK_TURNS` so the Lead model automatically steps back in whenever the worker gets stuck.

```
version: "1.0.0"
title: "PR Security & Dependency Audit"
description: "Runs isolated dependency and secret checks against a target branch."
parameters:
  - key: target_branch
    input_type: string
    requirement: optional
    default: "main"
    description: "Git branch or tag to diff against"
instructions: |
  Diff current changes against {{ target_branch }}, invoke both sub-recipes, and return a concise Markdown risk
report.
extensions:
  - type: builtin
    name: developer
    timeout: 300
sub_recipes:
  - name: "dep_audit"
    path: "./subrecipes/dep-audit.yaml"
  - name: "secrets_scan"
    path: "./subrecipes/secrets-scan.yaml"
```

5 Real-World Copy-Paste Harness Recipes

Drop these proven recipes straight into your terminal, `.aider.conf.yml`, or `.goose/recipes/` directory to standardize quality across feature builds, zero-switch refactors, PR release digests, security sweeps, and bug triage.

Recipe & Use Case	Copy-Paste Command or YAML / Prompt Spec	Guardrail & Output
1. Dual-Model Feature *Aider Cost + Quality*	`aider --architect --model anthropic/claude-sonnet-4-5 --editor-model ollama_chat/qwen2.5-coder:32b --editor-edit-format editor-diff --read CONVENTIONS.md`	Frontier design + $0 local diffs + clean atomic Git commit.
2. IDE Watch Triage *Zero-Switch Editing*	`aider --watch-files --auto-lint --auto-test --test-cmd "pytest -q"` → save inline `# Validate expiry & return 401 AI!` or `# Explain flow AI?` in editor.	Auto-strips `AI!` marker, verifies `pytest` & commits.
3. PR Release Digest *Goose GitHub MCP*	`goose run --recipe ./recipes/release-notes.yaml --params since_tag="v2.4.0"` — queries `github-mcp` merged PRs & groups Features, Fixes, and Breaking Changes.	Read-only `smart_approve` + structured Markdown changelog.
4. Parallel Sub-Audits *Goose Sub-Recipes*	Parent YAML calls isolated `sub_recipes` (`dep-audit.yaml`, `secrets-scan.yaml`, `license-check.yaml`) and aggregates JSON findings into one PR checklist.	Zero parent context bloat; deterministic pass/fail gate.
5. Goose → Aider Fix *Issue to Verified PR*	Step 1: Goose pulls CI traceback via MCP and writes repro test. Step 2: `aider --yes-always --auto-test --message "Fix failing test_auth_refresh" src/auth.py tests/test_auth.py`	Combines cross-tool discovery with reversible Git commit.

```
# Validate, execute with parameters, and generate a clickable Goose Desktop deeplink for teammates:
goose recipe validate ./recipes/pr-audit.yaml
goose run --recipe ./recipes/pr-audit.yaml --params target_branch="release/2.5"
goose recipe deeplink ./recipes/pr-audit.yaml -p target_branch="main"

# Set Lead/Worker environment routing before launching Goose CLI on complex multi-step tasks:
export GOOSE_PROVIDER=openai GOOSE_MODEL=gpt-4o-mini
export GOOSE_LEAD_PROVIDER=anthropic GOOSE_LEAD_MODEL=claude-sonnet-4-5
export GOOSE_LEAD_TURNS=3 GOOSE_LEAD_FAILURE_THRESHOLD=2 GOOSE_LEAD_FALLBACK_TURNS=2
```

Save Team Recipes in Git (`.goose/recipes/`)

Check non-secret `.aider.conf.yml`, `CONVENTIONS.md`, `.goosehints`, and `.goose/recipes/*.yaml` straight into your repository so new engineers inherit your best workflows on clone.

Earn Headless `--yes-always` After Dry Runs

Never wire `aider --yes-always` or `GOOSE_MODE=auto` into scripts on day one. Run every new workflow interactively first to tune file scopes, ignore rules, and test assertions.

Git Commit Safety, Permission Modes & Team Guardrails

Autonomous terminal agents hold real keys to your filesystem, Git history, and external MCP APIs. Pairing Aider's clean commit isolation with Goose's risk-tiered `GOOSE_MODE` and `permission.yaml` policies keeps experimentation fearless and auditable.

1 Aider Git Isolation & Secret Masks

- `dirty-commits: true` + `/undo`: Commits any dirty human edits in their own commit first so AI changes land on a clean SHA that `/undo` reverts safely.
- **Commit Attribution:** Configure `attribute-author` and `attribute-committer` flags in `.aider.conf.yml` so code reviewers see AI-coauthored commits clearly.
- `.aiderignore` **Shield:** Block `.env*`, private keys, certificates, and bulky `node_modules/` or `dist/` builds from ever entering the Repo Map or chat.

2 Goose `GOOSE_MODE` & Tool Tiers

- **Four Macro Modes:** Choose `chat` (zero tools), `approve` (ask before every write/shell), `smart_approve` (auto-allow safe reads, prompt on risky writes), or `auto` (unattended—sandbox only!).
- `permission.yaml` **Rules:** Pin individual MCP tools under `always_allow`, `ask_before`, or `never_allow` inside `~/.config/goose/permission.yaml`.
- `.gooseignore` **Shield:** Uses gitignore syntax to block Goose from reading `.env` secrets, credentials, or sensitive customer exports.

Security & Autonomy Control Matrix for Engineering Teams

Safety Boundary	Aider Mechanism	Block Goose Mechanism	Recommended Default
Secret & File Exclusion	`.aiderignore` + `/read-only` protection	`.gooseignore` + read-only MCP scopes	Ignore `.env*`, `*.pem`, `secrets/`
Shell & Write Approval	Prompts before running `/run` commands; scoped `/add`	`GOOSE_MODE` + `permission.yaml` per tool	`smart_approve` + `ask_before` shell
Change Rollback	Atomic Git commit per turn + instant `/undo`	Git status diff + `approve` pre-write review	Always work on a feature branch
Model & Token Spend	`/tokens` budget, `/drop`, `--architect` split	`GOOSE_LEAD_MODEL` + isolated `sub_recipes`	Frontier Lead + cheap/local Worker

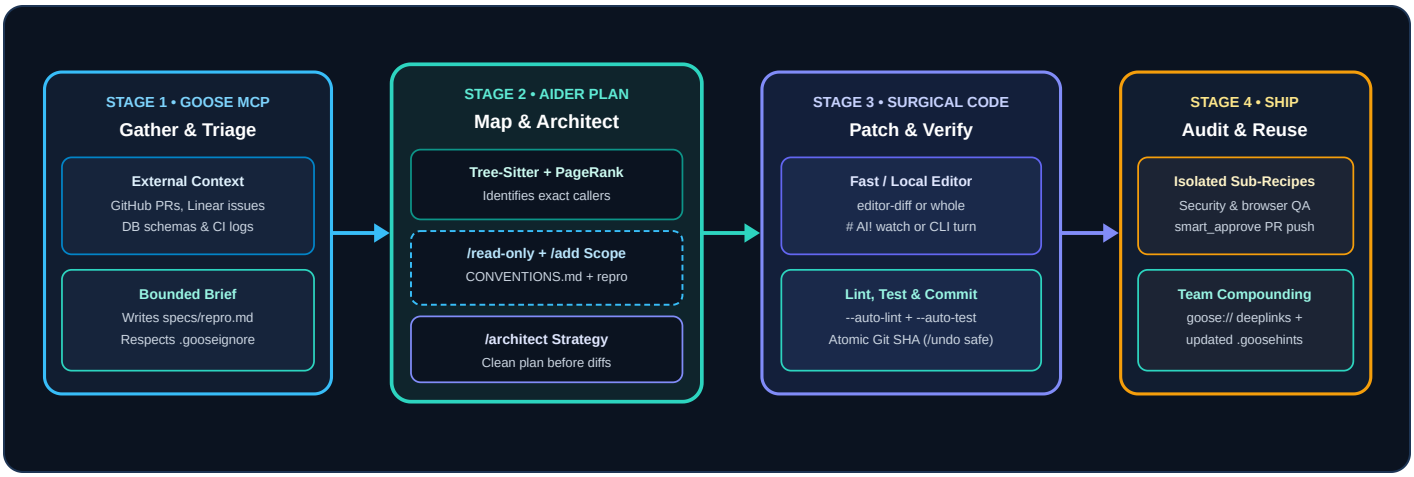
```
# ~/.config/goose/permission.yaml — Safe team workstation defaults (paired with GOOSE_MODE=smart_approve):
user:
  always_allow:
    - memory__remember
  ask_before:
    - developer__shell
    - developer__text_editor
    - github-mcp__create_pull_request
  never_allow:
    - computercontroller__system_shutdown
```

Prompt-Injection Watchout: Never Pair `GOOSE_MODE=auto` With Untrusted Web or Issue Data

When Goose scrapes live web pages via `computercontroller` or reads public GitHub issue bodies via MCP, hidden text inside untrusted inputs can attempt prompt injection. Keep `GOOSE_MODE=smart_approve` (or explicit `ask_before` on `developer__shell`) whenever external data enters the session.

Cross-Tool Synergy: Goose Orchestration + Aider Commits

Instead of forcing one tool to do everything poorly, chain Block Goose and Aider across four crisp stages: Goose gathers cross-app evidence via MCP, Aider writes tested Git commits inside strict file scopes, and Goose ships verified PRs and reusable team recipes.



Four-Step Daily Execution Loop

1 Triage Cross-App Context in Goose

Let Goose pull issue comments, database schemas, or failing CI logs via MCP, then distill findings into a focused spec file (`specs/task.md`) before touching production code.

2 Scope & Plan Inside Aider

Add `specs/task.md` and `CONVENTIONS.md` via `/read-only`, `/add` only the modules to modify, and verify callers through the tree-sitter Repo Map and `/architect`.

3 Patch, Auto-Test & Commit Atomically

Let the editor model apply clean `diff` patches (or respond to `# AI!` watch markers), verify green `/lint` and `/test` runs, and keep or `/undo` each commit cleanly.

4 Verify & Package as a Team Recipe

Hand final checks back to Goose `sub_recipes` (browser smoke checks via `computercontroller`, PR updates via MCP), and export repeatable steps with `goose recipe deeplink`.

Compound Every Session Back Into Shared Hints

Whenever an agent trips over an obscure environment flag, mock fixture, or API quirk, add a single crisp bullet to both `CONVENTIONS.md` and `.goosehints` (or Goose's `memory` extension) so neither harness makes the same mistake twice.

Troubleshooting Clinic & Pre-Flight Checklist

Keep this clinic handy whenever Aider hallucinates out-of-scope symbols, local models break diff syntax, watch markers get ignored, or Goose MCP servers and YAML Recipes need a quick diagnostic check.

Symptom / Issue	Root Cause	10-Second Fix
1. Aider misses callers or invents wrong function names	`--map-tokens` too tight, or target files weren't added via `/add` or `/read-only`.	Run `/map` to inspect coverage, raise `--map-tokens 2048` (or `4096`), and add reference headers with `/read-only`.
2. Local Ollama model mangles `diff` patches	Small/mid local coders struggle with strict `SEARCH`/`REPLACE` fencing.	Pass `--edit-format whole` for small files, or pair a frontier `--architect` model with `--editor-edit-format editor-whole`.
3. `/undo` refuses or entangles human WIP	Dirty uncommitted edits in Git mixed with AI patches, or `--no-auto-commits` set.	Enable `dirty-commits: true` and `auto-commits: true` in `.aider.conf.yml`, or commit WIP before starting Aider.
4. `--watch-files` ignores `# AI!` comments	Comment syntax missing trailing `AI!`/`AI?`, or file matched `.aiderignore`.	End comment cleanly with `AI!` (edit) or `AI?` (question), save the file, and verify path is not excluded in `.aiderignore`.
5. Goose MCP extension fails or times out	Missing `npx`/`uvx` binary on `PATH`, bad env var, or default timeout too short.	Test standalone with `goose mcp <name>`, check `~/.config/goose/config.yaml`, and set `timeout: 300` on slow servers.
6. Goose runs shell commands without asking	Session launched in `GOOSE_MODE=auto` instead of gated approval.	Set `export GOOSE_MODE=smart_approve` (or `/mode approve` live) and place `developer__shell` under `ask_before` in `permission.yaml`.
7. YAML Recipe params fail or Lead/Worker loops	Missing `key`/`requirement` match or low `GOOSE_LEAD_FAILURE_THRESHOLD`.	Run `goose recipe validate file.yaml`, verify `{{ param }}` names match `parameters[].key`, and tune `GOOSE_LEAD_FAILURE_THRESHOLD=2`.

6-Point Open-Harness Production Pre-Flight Checklist

- ✓ **1. Clean Git Tree & Ignore Shields:** Verify `git status` is clean and commit `.aiderignore` + `.gooseignore` covering `.env*` and keys.
- ✓ **2. Shared Rules Committed:** Keep `CONVENTIONS.md` and `.goosehints` (or `AGENTS.md`) synced at the repo root.
- ✓ **3. Dual-Model Routing Tuned:** Pair `/architect` with `--editor-model` in YAML config and set `GOOSE_LEAD_MODEL` for complex jobs.
- ✓ **4. Auto-Lint & Auto-Test Active:** Wire project `--lint-cmd` and `--test-cmd` so every Aider commit passes deterministic verification.
- ✓ **5. Goose Permissions Hardened:** Lock `GOOSE_MODE=smart_approve` and pin risky MCP write/shell tools under `ask_before` in `permission.yaml`.
- ✓ **6. Team Recipes Validated:** Run `goose recipe validate` on every YAML workflow and share parameterized `goose://` deeplinks with teammates.

Final Takeaway: Own Your Models, Your Diffs & Your Workflows

Open-source terminal harnesses put engineering control back in your hands. Pair Aider's disciplined Repo Map and atomic Git commits with Block Goose's MCP extensions and parameterized YAML Recipes, and every sprint leaves behind cleaner code and reusable team automation.