Solo Git Vision Document

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🎯 The Vision

Solo Git reimagines version control for the AI age. It's built on a simple premise: when you're working with AI assistants, **tests are more reliable than human review**.

The Solo Developer's Dilemma

Traditional Git workflows are optimized for teams:
- **Branches** require naming, switching, and mental overhead
- **Pull Requests** assume human reviewers who are often the same person
- **Merge conflicts** disrupt flow and waste time
- **CI/CD** often runs too late to prevent broken trunk commits

For solo developers working with AI assistants, these patterns create friction without adding value.

The Solo Git Solution

1. Ephemeral Workpads Replace Branches

Instead of `git checkout -b feature/login`, you simply say:

> "Add passwordless magic link login"

The system:
- Creates a disposable workpad (`pads/add-login-20251016-1423`)
- Copies trunk into an isolated sandbox
- Never requires you to name, switch, or manage it
- Auto-deletes after 7 days if unused

Mental Model: Workpads are scratch paper. Use them freely. They disappear when done.

2. Tests Are The Review

Traditional: Code → Human Review → Merge
Solo Git: Code → Test Suite → Auto-Merge (if green)

3. The Pair Loop

You speak natural language:

```
"Add Redis caching to the search endpoint with 5-minute TTL"
```

System responds with actions:
1. **Plan** (2-4 seconds): Smart cloud model analyzes codebase
2. **Patch** (5-10 seconds): Specialized coder model generates changes

3. **Test** (15-30 seconds): Sandboxed test execution
4. **Merge** (1 second): If green, changes are in trunk

Total time: Under 1 minute for typical changes.

4. Intelligent Cloud Model Selection

All through Abacus.ai RouteLLM API:

- **Planning & Strategy**: GPT-4, Claude 3.5 Sonnet, Llama 3.3 70B
- **Specialized Coding**: DeepSeek-Coder, CodeLlama, Llama 3.1 70B
- **Fast Operations**: Llama 3.1 8B, Gemma 2 9B, Mistral 7B

5. Safety Through Sandboxing

Every test runs in an isolated Docker container. Trunk is never touched by tests.

6. Jenkins as "Team Principal"

After auto-merge, Jenkins runs comprehensive smoke tests:
- If **green**: Celebrate, deploy if configured
- If **red**: Auto-rollback last commit, re-open workpad, alert user

Philosophy

What You Keep

- ✅ Git's integrity, reproducibility, and time machine
- ✅ Full audit trail of all changes
- ✅ Ability to export to standard Git at any time

What You Drop

- ❌ Manual branch management
- ❌ Pull request ceremony
- ❌ Blocking reviews by the same person
- ❌ Context switching between branches

What You Gain

- ✨ Ephemeral workpads (disposable, auto-named)
- ✨ Test-gated auto-merge (green = instant trunk promotion)
- ✨ AI pair programming at every step
- ✨ Sub-minute cycle time for typical changes

Related Documents

- Game Plan (./2025-10-16-game-plan.md)
- Original Concept (./2025-10-16-concept.md)

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