

SpeakUp

A Systems-Engineering Demonstration

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Repository: <https://github.com/brucedombrowski/SpeakUp>

About This Document

Purpose: This briefing is designed for asynchronous review by managers and customers. It can be read independently without a presenter.

What SpeakUp Is:

- A response to organizational calls for constructive employee input
- A response to customer requests for process improvement ideas
- A demonstration of systems-engineering discipline applied to knowledge work
- Vendor-neutral at the requirements level—no specific tool is proposed

Repository: All artifacts, verification evidence, and this briefing are available at:

<https://github.com/brucedombrowski/SpeakUp>

Problem Statement

The current operating environment has systemic constraints that limit effectiveness:

| Constraint | Impact |
|----------------------------------|-----------------------------------------------------------------------------------------------------|
| Fragmented workflows | Mobile ideation, desktop development, and execution environments are disconnected |
| Limited AI in trusted boundaries | Forces workflow degradation or excessive abstraction to stay compliant |
| Broadcast email as work proxy | Reduces signal-to-noise ratio and interrupts deep effort |
| Untracked coordination systems | Billable work in untracked systems limits traceability and auditability |
| Knowledge attrition risk | Legacy decommissioning, budget reduction, and personnel transition threaten institutional knowledge |

Governing Principle

Core Principle

Thinking is necessary and expected.

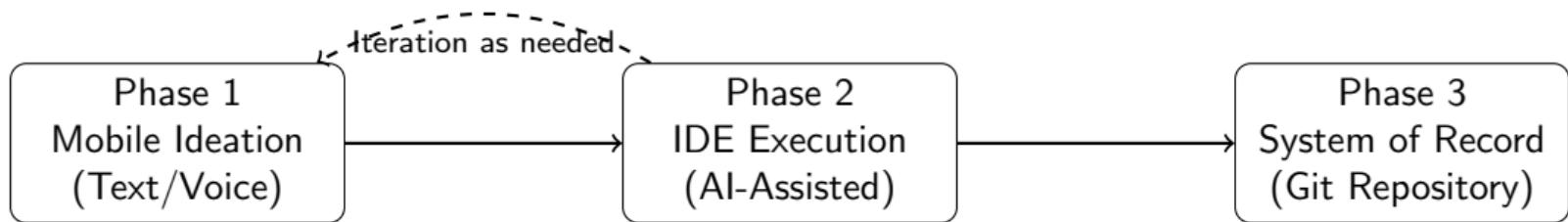
Accountable work begins when thinking is captured.

This principle guides the proposed workflow. Work performed in structured, tracked systems maximizes:

| Principle | Benefit |
|-----------------------------|----------------------------------------------------------------------|
| Work in structured systems | Enables automation support and reduces manual overhead |
| Capture in tracked systems | Provides traceability for audits and reviews |
| Git as system of record | Creates authoritative, version-controlled history |
| Email for notification only | Preserves email for time-critical coordination, not as work artifact |

Proposed Workflow Model

The workflow has three phases that can iterate:



Phase 1: Ideation

- Smartphone-based reasoning
- Text input always available
- Voice input when possible
- No controlled data required

Phase 2: Execution

- Modern IDE environment
- AI assistance (modular)
- Within trust boundaries
- Produces artifacts

Phase 3: Record

- Git version control
- Captures history
- Captures rationale
- Authoritative source

Functional Requirements (Solution-Agnostic)

These requirements define *what* is needed, not *how* to implement it:

| ID | Type | Requirement |
|------|-------------|-------------------------------------------------------------------------|
| FR-1 | Mandatory | Mobile ideation capability (smartphone, text/voice input) |
| FR-2 | Mandatory | IDE-centric execution with integrated, replaceable AI assistance |
| FR-3 | Mandatory | Git-based system of record capturing artifacts, history, and rationale |
| FR-4 | Mandatory | Identity and trust boundary alignment (security at identity and device) |
| FR-5 | Recommended | High-signal communication model (email for notification only) |

Security and Compliance

SpeakUp maintains existing security posture—no rules are relaxed:

Trust Boundary Alignment

- Security enforced at authenticated identity
- Security enforced at managed device
- AI operates in-boundary as assistive tool
- Classification and handling rules unchanged

Information Handling (This Project)

- No sensitive PII included
- No CUI included
- No proprietary information included
- No classified information included
- Verified by inspection (see repository)

Verification evidence: verification/Compliance-Statement.md

Value Proposition

The Core Point

With the right environment, I can produce significantly more software.

AI-assisted development with proper tooling dramatically multiplies output. The constraint is not capability—it is environment.

| Capability | Current State | Proposed State |
|------------------------|---------------------------------|--------------------------------|
| Work capture | Fragmented, untracked | Structured, version-controlled |
| AI assistance | Outside boundary or unavailable | In-boundary, modular |
| Knowledge preservation | At-risk | Durable artifacts |
| Automation readiness | Limited | Maximized |
| Auditability | Manual effort | Built-in traceability |

Implementation Approach

This project demonstrates the pattern by being the pattern:

- **Concrete enough to execute**
 - Working repository with all artifacts
 - Defined outputs and verification evidence
 - Reproducible workflow documented in `artifacts/Workflow-Log.md`
- **Abstract enough to remain vendor-neutral**
 - Requirements specify *what*, not *how*
 - Implementation choices documented separately
 - Alternative tools can satisfy same requirements
- **Self-demonstrating**
 - This briefing was created using the proposed workflow
 - Ideation on mobile, execution in IDE, artifacts in Git

Example project using this workflow:

<https://github.com/brucedombrowski/OpenSourceHouseProject>

Repository Contents

All project artifacts are available for review:

| File | Purpose |
|-------------------------------------------|------------------------------------------------------|
| README.md | Authoritative requirements and project specification |
| briefing/SpeakUp-Briefing.pdf | This document |
| briefing/SpeakUp-Briefing.tex | Source for this document (version-controlled) |
| verification/Compliance-Statement.md | Information handling verification evidence |
| verification/Requirements-Traceability.md | Requirements to evidence mapping |
| artifacts/Workflow-Log.md | Execution workflow documentation |

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Verification Summary

This project produces verification evidence as first-class artifacts:

| Method | Application | Evidence |
|---------------|--------------------------------------------|------------------------------|
| Inspection | Document review for completeness | Compliance-Statement.md |
| Analysis | Compliance assessment against requirements | Requirements-Traceability.md |
| Demonstration | Working repository as proof of concept | This repository |

Key Compliance Findings:

- All information handling requirements: **COMPLIANT**
- All functional requirements: **ADDRESSED** or **DEMONSTRATED**
- All expected outputs: **COMPLETE**

Adopt the SpeakUp workflow model as a pattern for:

- Converting thinking into durable, reviewable artifacts
- Preserving institutional knowledge as personnel transition
- Enabling automation and reducing manual audit effort
- Maintaining security and trust boundaries while using AI assistance
- Improving signal-to-noise in organizational communication

This pattern is applicable to:

- Engineering work
- Analytical work
- Knowledge work generally

Next Steps

- ① Review this briefing** and the repository contents
- ② Identify a pilot application area** where the workflow could be applied
- ③ Establish repository and workflow** for the pilot
- ④ Iterate** between ideation and execution phases
- ⑤ Measure and refine** based on results

This briefing was produced using the SpeakUp workflow model it describes.

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