# Brief Implementation Plan

## 3-Phase Development Roadmap 🚧

* Phase 1: MVP (Weeks 1–3)

- Develop mobile app (Flutter) with audio + floor plan upload

- Create backend services to handle file storage and job queueing

- Integrate Whisper transcription engine

- Build basic React dashboard to view transcription + raw notes

* Phase 2: AI Processing (Weeks 4–6)

- Integrate GPT-4o Mini for metadata and insight extraction

- Build cross-referencing logic between transcription and floor plans (OCR + fuzzy match)

- Enable database storage of structured summaries, action items

- Add partial edit controls for dashboard reviewers

* Phase 3: Polishing + Monitoring (Weeks 7–9)

- Add Prometheus + Grafana for system monitoring

- Implement retry and fallback for LLM or transcription failures

- Refine UI/UX with loading states, status indicators, and better error messaging

- Final QA, stakeholder testing, and cloud deployment

## Key Risks ⚠️

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| --- | --- |
| Risk | Mitigation |
| Low transcription accuracy in noisy sites | Use Whisper with noise training / voice activity detection |
| Ambiguous user speech (unclear decisions) | Fine-tune prompts or allow manual correction on dashboard |
| Room names mismatch | Improve fuzzy matching logic; add manual override |
| LLM cost spikes | Batch processing and fallback to cheaper models |
| Scaling issues | Use ECS/Fargate auto-scaling and PostgreSQL indexing |

## Success Metrics ✅

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| --- | --- |
| Goal | Metric |
| Transcription Quality | >90% accuracy in controlled test audios |
| AI Summary Usefulness | ≥80% match with manually written reports |
| User Time Saved | Site report time reduced by 50%+ |
| Adoption | 80% of site engineers using mobile app weekly |
| System Stability | ≥99% uptime over 30-day period |