Week 3 – AI Conversation Layer (AI Calling Platform)

This week introduces AI into the system. The core orchestration, scheduler, and rules engine MUST already be stable.

AI is strictly constrained. No free-form chatbots. No creativity. Only goal-driven conversations.

Day 1 – AI Layer Architecture

• Define AI layer as a plug-in, not core logic.

• Decide AI boundaries: input → intent → outcome.

• No direct DB writes from AI layer.

• AI can only return structured outcomes.

• Document AI responsibility clearly.

• Commit architecture doc.

Day 2 – Speech-to-Text Integration

• Integrate speech-to-text provider.

• Handle partial and final transcripts.

• Normalize transcripts into clean text.

• Handle silence and timeout cases.

• Log all transcripts.

• Commit code.

Day 3 – LLM Intent & Outcome Engine

• Define fixed intent list per bot.

• Define allowed outcomes per intent.

• Create prompt templates (no dynamic prompts).

• Force JSON-only LLM responses.

• Validate and reject invalid outputs.

• Commit code.

Day 4 – Text-to-Speech Integration

• Integrate text-to-speech provider.

• Generate speech only from approved responses.

• Ensure low-latency playback.

• Handle interruptions gracefully.

• Commit code.

Day 5 – Conversation State Machine

• Track conversation state per call.
• Map intents → responses → next state.
• Prevent infinite loops.
• Enforce max turns per call.
• Commit code.

Day 6 – AI to Rules Engine Bridge

• Translate AI outcomes to rule engine actions.
• Trigger COMPLETE, RETRY, ESCALATE events.
• Ensure AI cannot bypass stop conditions.
• Log every AI decision.
• Commit code.

Day 7 – End-to-End AI Call Test

• Run simulated inbound AI calls.
• Run outbound AI reminder calls.
• Verify outcomes match rules.
• Test failure and edge cases.
• Write Week 3 documentation.
• Final commit for Week 3.

Week 3 Rules (Must Follow)

• AI never controls scheduling directly.
• AI never writes to database.
• All AI outputs must be validated.
• Deterministic behavior over intelligence.

If Week 3 is completed correctly, AI becomes a safe worker, not a system risk.