HEALTHCARE AND AI

AI outbound voice

An AI calling program for a healthcare company, built so that every call, including the ones that fail, ends in a fixed, auditable record and never leaves health information on a voicemail.

197	271	3	2026
Commits on the dialer	Commits on the event service	Checks on every inbound request	Principal architect since January

THE PROBLEM

The client, a healthcare company running those programs, needed outbound calling engineered for tens of thousands of calls a day. Frank Robles joined in January 2026 as its principal AI services architect, accountable for the services architecture and for the ratio of human work to machine work.

An AI voice agent solves the volume. It creates a different problem: in healthcare, a call nobody can reconstruct afterwards is a liability. What was said, what the patient agreed to, whether a do-not-call request was honored, what went on a voicemail. A vendor console does not answer those questions the way a compliance officer asks them.

WHAT WE BUILT

- **A dialer the company controls.** Its own command line tool, campaign builder and inbound API, built on a replica of the voice vendor's API surface and engineered for tens of thousands of calls a day.
- **An event service.** Every webhook from every call is authenticated, stored whole, and made ready for export.
- **Deterministic call scripts.** Every branch writes a fixed tag, and failures use the same vocabulary as successes.
- **Push-to-dial** from the care portal, through a telephony application Frank built. Tested and in production.

THE DIALER

Frank replicated the voice vendor's API surface in his own code, then built the tooling the business actually operates on top of it. Campaigns are defined in the company's tooling, and every call is configured explicitly.

- **Per-call control.** Voice, persona, agent name and role, and maximum duration.
- **Transfer routing by campaign**, so a live handoff goes to the right team.
- **Voicemail behavior with a retry ladder** and optional SMS follow-up.
- **Dispositions and knowledge base attachments.**
- **Throttling** to control the pace of a campaign.
- **Dry-run payload preview.** See exactly what will be sent before a single number is dialed.
- **Batch dialing by tag or CSV**, with archive and rollback.

> THREE LOCKS ON THE INBOUND DOOR
>
> Every inbound request is checked by API key, by IP allowlist, and by HMAC signature with a clock-skew window, so a captured request cannot be replayed later.

THE EVENT SERVICE

A voice platform reports back in pieces: a call starts, rings, connects, ends, reports late, reports twice. The event service turns that stream into one record per call.

- **Authenticated webhook ingestion.** Headers, raw body, parsed payload and tags are all stored, so the original message is never lost to a parsing decision.
- **Partial updates, matched.** Each update is matched by call request ID or idempotency key, so a late or repeated event updates the right call instead of creating a new one.
- **A ready-for-export pipeline** and call status lookup.
- **An operator console** showing live and processed events.
- **Redacted request logging**, so the logs themselves do not become a store of patient data.

DETERMINISTIC CALL SCRIPTS

The AI speaks; the script decides what gets recorded. Every branch of the call script writes a fixed tag. Telephony failures map into the same vocabulary, so a busy signal is as reportable as a completed call.

Do-not-call is a hard stop, not a preference. Voicemail carries no protected health information.

PUSH-TO-DIAL

Not every call should be an AI call. Push-to-dial places a call from the care portal through a telephony application Frank built, so staff dial from the screen they already work in.

It is tested and in production. Deciding which calls go to the agent and which to a person is the human-to-machine ratio the role is accountable for.

HOW IT IS BUILT

The dialer and the event service are Python and FastAPI against PostgreSQL, with a document database as an export target.

Python · FastAPI · PostgreSQL · Document database · Webhooks · HMAC signing · IP allowlisting · Idempotency keys

AROUND THE CODE

The voice program sits next to work that is harder to buy: a care navigator training workbook, a structured hiring instrument, and three formal security reviews of inherited systems, with every finding verified rather than asserted.

WHAT WE CAN START ON

An AI voice program from script design to production, with the consent and audit model a regulator would ask about. An event layer for a vendor that reports in fragments. Or a verified security review of a system you inherited.

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