

# Take-Home Test Voice-Only Property Sales AI Agent

## Goal

Ship a working **phone-based voice agent** that qualifies a buyer, answers FAQs, handles objections, and **books an appointment** for a (fictional) Melbourne apartment development. Any stack is fine. We just need to **dial it from Australia** and use it without logins.

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## What to Submit (must-have)

### 1. Phone number we can call

- Reachable from Australia; no PINs/logins. Retell/Twilio/VAPI/etc. all fine.

### 2. Booking that actually works

- Agent must book a **15-min** call or display-suite visit.
- Use Calendly/Google Calendar **or** a mock API (see spec below).

### 3. Call transcript + recording

- Provide an auto-generated transcript and recording link for each call.

### 4. Short README (max 2 pages)

- Stack & LLMs, prompt/flow design, grounding approach, guardrails, logging, cost to run 100 calls, what you'd improve next.

### 5. 2-minute Loom

- Quick walkthrough of your design and the trade-offs you made.

## 6. Code or config peek

- GitHub/zip **or** architecture diagram + key prompts/tools/functions.

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## Voice Agent — Required Behaviours

- **Natural, interruptible conversation** (barge-in supported).
- **Latency targets:** first response  $\leq 2.5s$ , turn-taking gap  $\leq 800ms$ .
- **Aussie-friendly STT/TTS** (handle Australian English, names, addresses).
- **Qualification (at least):** budget band, bedrooms, parking, timeframe, owner-occ vs investor, finance status, preferred suburb(s), contact details.
- **FAQs & objections:** Answer from the knowledge pack; never bluff. If unsure, offer a human follow-up.
- **Appointment booking:** Offer 2–3 concrete slots, confirm, and read back details.
- **Summary & logging:** Generate a concise lead summary and store a JSON of key fields + outcome.
- **Compliance:** No legal/financial advice, recognise “STOP/unsubscribe,” and offer professional referral where appropriate.
- **Recovery:** Handle silence (“Are you still there?”), mishears (“Did you mean...?”), and escalation (“I can get a specialist to call you back”).

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## Property Knowledge Pack (fictional ground truth)

**Project:** Riverstone Place (Fictional)

**Suburb:** Abbotsford, VIC

**Developer:** Harbourline Developments (fictional)

**Builder:** Apex Construct (fictional)

**Completion target:** Q4 2027 (indicative)

**Amenities:** Rooftop pool, gym, co-working lounge, residents' dining, parcel lockers, EV chargers, bike storage

**Sustainability:** 7.5+ NatHERS target; solar-assisted common power; green tariff option

**Display suite:** 123 Swan St, Richmond — Sat/Sun 10:00–16:00; weekdays by appointment

**Handoff email (test):** sales@riverstoneplace.example

**Indicative inventory & pricing (do NOT promise exact stock):**

- 1-Bed (50–55 m<sup>2</sup>): from **\$585k**; optional car +\$65k (limited)
- 2-Bed (75–85 m<sup>2</sup>): from **\$845k**; **1 car** included (most)
- 3-Bed (105–120 m<sup>2</sup>): from **\$1.28m**; **2 cars** included (limited)

**Deposit:** 10% on exchange. **Pilot 1% holding** (max \$10k) can hold a chosen apartment for 14 days **before** topping to 10% (subject to approval, limited).

**Indicative strata (not a quote):** 1-Bed ~\$2.8–3.6k/yr; 2-Bed ~\$3.6–4.6k/yr; 3-Bed ~\$4.8–6.2k/yr.

**Common Q&A (model answers):**

- Construction start target late 2025; completion targeted Q4 2027 (indicative).
- No rental guarantees; can refer to a property manager for market guidance.

- Foreign buyers may face extra approval/taxes; agent cannot advise—offer referral.
- Finance: we can refer to a broker; no personal finance advice.
- Finishes: limited customisation windows, subject to availability/cost.
- Parking: limited for 1-Beds and paid extra; not guaranteed.

**Offer these appointment slots (AEST):**

- **Mon–Fri:** 10:00, 13:00, 16:00 (video or display-suite)
- **Sat:** 10:00, 12:00 (display-suite preferred)

**Lead capture (minimum):** name, mobile, email, budget band, beds, parking need, timeframe, finance status (pre-approved / in-progress / not started), preferred slot, notes.

**Recommendation logic (baseline):**

- Budget < **\$650k** → steer to 1-Bed; warn parking is limited/extra.
- **\$650k–\$1.1m** → 1- or 2-Bed; confirm beds/parking/timeline.
- **> \$1.1m** → include 3-Bed; confirm two car spaces.

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## Booking — Mock API Option (if you don't wire a real calendar)

Expose **one** endpoint your agent calls:

None

POST /book\_appointment

Body:

```
{  
  "name": "Alex Tran",  
  "phone": "+61400000001",  
  "email": "alex.tran@example.com",  
  "slot_iso": "2025-09-26T10:00:00+10:00",  
  "mode": "video|display-suite",  
  "notes": "2-bed, budget 900k, pre-approved"  
}
```

Response:

```
{ "ok": true, "booking_id": "RS-20250926-1000", "message": "Booked Fri 26 Sep  
10:00 AEST" }
```

Your agent should read the response and **speak back** a confirmation.

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## Logging — Minimum JSON per call

None

```
{  
  "timestamp": "2025-09-23T11:04:00+10:00",  
  "caller_cli": "+614XXXXXXX",  
  "summary": "Investor, 2-bed, $850-950k, pre-approved, prefers  
Abbotsford.",  
  "qualification": {  
    "budget_band": "850k-950k",  
    "beds": 2,  
    "parking": 1,  
    "owner_occ": false,  
    "timeframe": "3-6 months",  
    "finance_status": "pre-approved",  
    "suburbs": ["Abbotsford", "Richmond"]  
  },  
  "booking": {  
    "slot_iso": "2025-09-27T12:00:00+10:00",  
    "mode": "display-suite",  
    "booking_id": "RS-20250927-1200",  
  }  
}
```

```
"status": "confirmed"  
},  
"compliance_flags": [],  
"transcript_url": "https://...",  
"recording_url": "https://..."  
}
```

## What We'll Test (we'll place 3–5 calls)

1. **Price-sensitive owner-occupier:** \$600–650k budget, wants parking, move-in 12+ months, not pre-approved.
2. **Investor, pre-approved:** \$900k, wants 2-Bed, timeline 3–6 months, asks about yields (should decline to advise; offer referral).
3. **Foreign buyer probe:** asks about FIRB and stamp duty surcharges (should not advise; offer referral + book consult).
4. **Objection handling:** "Strata sounds high" / "Can you guarantee completion date?"
5. **Unsubscribe:** Says "STOP" or "Don't contact me."

## Constraints & Notes

- Treat the knowledge above as **authoritative** for the test.
- Use only test numbers/emails; no real personal data.
- If you SMS/email confirmations, route to your own test inbox/number.
- Keep the entire build **callable within 4–6 hours** of effort—show working value fast over perfection.