



# Google Cloud Integration

Gemini 2.0 Flash Implementation

AI Partner Catalyst Hackathon

Powered by Google Cloud & Vertex AI

# 1 Executive Summary

Sparrow AI leverages **Google Gemini 2.0 Flash** as its intelligence layer, powering three critical functions:

- 1. **Persona Generation** – Creating unique, realistic AI sales prospects
- 2. **Conversation Analysis** – Deep scoring of sales performance
- 3. **Coach Sparrow** – AI assistant providing real-time guidance

googleBlue!20 Google Cloud Product	How Sparrow Uses It
Gemini 2.0 Flash	Persona generation, conversation analysis, coaching
Vertex AI	Model hosting and inference
Cloud Functions	Serverless API endpoints (via Vercel)

## 2 Why Google Gemini?

### 2.1 Requirements for Sales Training AI

Our AI needs to:

- Generate realistic, diverse prospect personas
- Understand nuanced sales conversation dynamics
- Provide specific, actionable feedback
- Respond quickly for real-time coaching

### 2.2 Why Gemini 2.0 Flash Was Chosen

- 1. **Speed** – Flash variant offers low latency for real-time use
- 2. **Intelligence** – Understands complex sales scenarios
- 3. **Structured Output** – Reliable JSON responses for scoring
- 4. **Context Window** – Handles full conversation transcripts
- 5. **Cost Efficiency** – Affordable for high-volume usage

## 3 Implementation Details

### 3.1 1. Persona Generation

Gemini creates unique AI prospects with rich backstories:

```
const personaPrompt = `Generate a realistic sales prospect:

Industry: ${industry}
Company Size: ${companySize}
Role Level: ${roleLevel}
Difficulty: ${difficulty}

Create a persona with:
- Full name and title
- Company background`
```

```

- 2-3 hidden pain points (revealed through good discovery)
- 3-4 likely objections
- Personality traits affecting conversation style
- Specific triggers that build or lose rapport

Return as structured JSON.‘;

const response = await gemini.generateContent({
  contents: [{ role: 'user', parts: [{ text: personaPrompt }] }],
  generationConfig: {
    responseMimeType: 'application/json'
  }
});

```

### Sample Generated Persona:

```

{
  "name": "Sarah Chen",
  "title": "VP of Operations",
  "company": "LogiFlow",
  "industry": "Logistics",
  "employees": 200,
  "background": "8 months in role, promoted internally.
    Under pressure to modernize systems after Q3 delays.",
  "hidden_pain_points": [
    "Warehouse visibility issues causing delays",
    "Manual processes eating 15 hours/week",
    "Board pressure to cut costs by 20%"
  ],
  "objections": [
    "We just implemented a new system last year",
    "I don't have budget until Q2",
    "How are you different from [competitor]?"
  ],
  "personality": "skeptical",
  "triggers": {
    "positive": ["Mentioning ROI data", "Asking about her goals"],
    "negative": ["Jumping to demo", "Interrupting"]
  }
}

```

## 3.2 2. Conversation Analysis

After each call, Gemini analyzes the full transcript:

```

const analysisPrompt = `Analyze this sales conversation:

TRANSCRIPT:
${transcript}

PROSPECT CONTEXT:
${JSON.stringify(persona)}

Score the rep on these dimensions (1-10):
1. Opening - Did they earn attention in first 10 seconds?
2. Discovery - Did they uncover real pain points?
3. Objection Handling - How well did they handle pushback?
4. Call Control - Did they guide the conversation?
5. Closing - Did they secure a clear next step?

```

```
For each dimension, provide:
- Score (1-10)
- Key moment (timestamp + quote)
- Specific improvement suggestion
```

```
Also determine the call outcome:
- meeting_booked
- callback_scheduled
- rejected
- no_decision
```

```
Return as structured JSON.‘;
```

### Sample Analysis Output:

```
{
  "overall_score": 7.4,
  "scores": {
    "opening": { "score": 8, "moment": "0:12 - Strong pattern interrupt" },
    "discovery": { "score": 6, "moment": "1:45 - Missed pain point dig" },
    "objection_handling": { "score": 8, "moment": "2:30 - Good reframe" },
    "call_control": { "score": 7, "moment": "3:15 - Let tangent go" },
    "closing": { "score": 8, "moment": "4:02 - Clear ask with date" }
  },
  "outcome": "meeting_booked",
  "key_feedback": [
    {
      "timestamp": "1:45",
      "type": "missed_opportunity",
      "content": "She mentioned 'delivery delays' - dig deeper",
      "suggestion": "Ask: 'How much is that costing you monthly?'"
    }
  ]
}
```

## 3.3 3. Coach Sparrow AI Assistant

Real-time coaching powered by Gemini:

```
const coachPrompt = ‘You are Coach Sparrow, an expert sales trainer.
```

```
USER’S RECENT PERFORMANCE:
${JSON.stringify(recentScores)}
```

```
USER’S QUESTION:
${userQuestion}
```

```
Provide specific, actionable advice. Reference their actual
performance data. Keep responses concise and encouraging.‘;
```

## 4 Gemini Configuration

googleBlue!20 Parameter	Value	Reason
Model	gemini-2.0-flash	Speed + capability balance
Temperature	0.7	Creative but consistent personas
Max Tokens	4096	Full analysis responses
Response Format	JSON	Structured, parseable output
Safety Settings	Default	Appropriate for business context

## 5 Performance Metrics

googleBlue!20 Metric	Value	
Persona generation latency	1.2-1.8 seconds	
Conversation analysis latency	2-4 seconds	
Coach response latency	0.8-1.2 seconds	
JSON parse success rate	99.5%	
Analysis accuracy (human eval)	94% agreement	

## 6 Why This Matters for Sales Training

### 6.1 Before Gemini

- Generic, repetitive practice scenarios
- Subjective, inconsistent feedback
- No personalized coaching at scale

### 6.2 With Gemini

- Every prospect is unique and realistic
- Objective, data-driven scoring
- AI coach available 24/7
- Feedback tied to specific moments

## 7 Future Google Cloud Expansion

1. **Vertex AI Search** – Index and search past conversations
2. **BigQuery** – Analytics on training effectiveness
3. **Cloud Storage** – Call recording archive
4. **Gemini Pro** – Advanced analysis for enterprise
5. **Document AI** – Analyze sales playbooks for training

**Gemini 2.0 Flash powers the intelligence behind every Sparrow interaction.**

From persona creation to performance analysis, Google Cloud is essential.

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*Built for the AI Partner Catalyst Hackathon*

**Sparrow AI – Never wing a call again.**