

EMMA Payroll

Prototype User Guide

Prototype Status (Read First)

EMMA Payroll is a functional prototype, not a production system.

- Built to demonstrate calculation, validation, and explanation capability
- Uses fully simulated data
- No real payroll processing
- No real employee data

The objective is to validate capability, not to replace payroll operations.

What EMMA Payroll Is

EMMA Payroll is an AI voice agent prototype designed for payroll analysis.

It demonstrates how an AI agent can:

- Simulate overtime scenarios
- Perform calculations reliably
- Explain payroll outcomes clearly

The focus is overtime payment estimation and explanation.

Purpose of the Prototype

The prototype exists to demonstrate how a Python-based agent can:

- Execute deterministic overtime calculations
- Apply repeatable logic
- Produce transparent, explainable results

What currently requires manual review across payroll periods can be explored in minutes through a guided interaction.

Language Configuration

- Spanish is the default language
- Optimized for Costa Rica payroll context
- Language behavior may change in future phases

Intended Audience and Access

- Intended users: Payroll team members
- No authentication required in this prototype
- Open access for demonstration purposes

This is safe because all data and scenarios are simulated.

Data Scope and Simulation Model

- All inputs are generated and fictional

- Data structures are modeled after HCM Oracle
- There is no connection to HCM Oracle or any production system

The prototype demonstrates logic and execution capability, not system integration.

EMMA Payroll Core Components (Prototype)

Scenario Generator

Creates simulated overtime entries based on HCM Oracle—like structures

Calculation Engine

Python-based logic that applies simulated overtime multipliers

Explanation Logic

Explains how approval dates and cutoff dates determine payroll periods

Email Report Generator

Produces structured summaries of the simulated analysis

Observability & Logging

Records conversation, tool usage, and calculation steps for traceability

Transparency, Validation, and Traceability

(What makes this agentic)

EMMA Payroll's calculation flow is designed to be repeatable and reviewable.

- Every calculation follows the same deterministic logic
- Conversation steps and tool usage are logged
- Structured calculation details are stored to support review and auditability

This allows results to be:

- Validated
- Explained
- Reproduced consistently

Overtime Calendar Logic (Simulated)

The prototype uses a simulated December payroll calendar.

- Cutoff date: December 12
- Overtime approved on or before Dec 12 → processed on Dec 15
- Overtime approved after Dec 12 → processed on Dec 31

Key rule demonstrated:

Overtime payment depends on approval date, not on when the work was performed.

How to Run a Typical Demo (Realistic Flow)

Step A — Ask to simulate a scenario

Use a direct request, such as:

"Quiero simular overtime para un colaborador."

"Hagamos un escenario de overtime."

EMMA may briefly explain:

- Cutoff logic (before vs. after cutoff)
- Overtime multipliers (weekday vs. weekend)
- That all data is simulated

Step B — Provide the required inputs

EMMA will ask, in sequence:

- Employee name
- Number of overtime entries to simulate
- Hourly rate (or accept default)

Step C — Confirm the scenario

EMMA shows the simulated entries and asks for confirmation before calculating.

Step D — Calculate and explain

You can say:

"Calculá el pago estimado con este escenario."

"Explicame en cuál quincena debió procesarse cada entrada y por qué."

EMMA will:

- Validate the numbers
- Explain the payment split using simulation-safe language (e.g., "debió procesarse", not "se pagó")



Example Interactions (Prototype)

Interaction 1 — Full simulation and calculation

User: "Quiero simular overtime para un colaborador."

User: "Nombre: Juan Pérez."

User: "Simulá 6 entradas."

User: "Tarifa: 25 dólares por hora."

User: "Sí, ese escenario está bien. Calculá el pago y explicame por qué se divide en quincenas."

Why this works: triggers scenario generation, calculation, and explanation.

Interaction 2 — Cutoff explanation

User: "En este escenario, ¿por qué las horas del 15 no debieron salir en esta quincena?"

Why this works: forces explanation of approval date vs. cutoff logic.



Email Report Output (Prototype)

What the report includes

A structured summary of the overtime payment estimation, including:

- Executive summary
- Assumptions (hourly rate and multipliers)
- Cutoff calendar logic
- Calculation breakdown per entry
- Payment schedule totals
- Total estimated overtime for the scenario

How to request it

After a calculation, say:

"Enviame un reporte por correo."

Then provide email address(es), for example:

"nombre@empresa.com"

or "nombre@empresa.com, otro@empresa.com"

Important clarification

Email reports are intended for internal payroll review, validation, and discussion.

They are not employee-facing documents and are not official payroll communications.

What to Expect from EMMA's Answers

- Results are clearly labeled as SIMULATED / DEMO
- EMMA uses conditional phrasing ("debió...")
- Explanations prioritize why each amount falls into a given payroll period

Limitations (Prototype)

- No authentication
- No real data
- No live system integrations

The prototype exists to demonstrate that an AI agent, backed by deterministic Python logic, can produce fast, consistent, validated, and traceable overtime payment estimates.