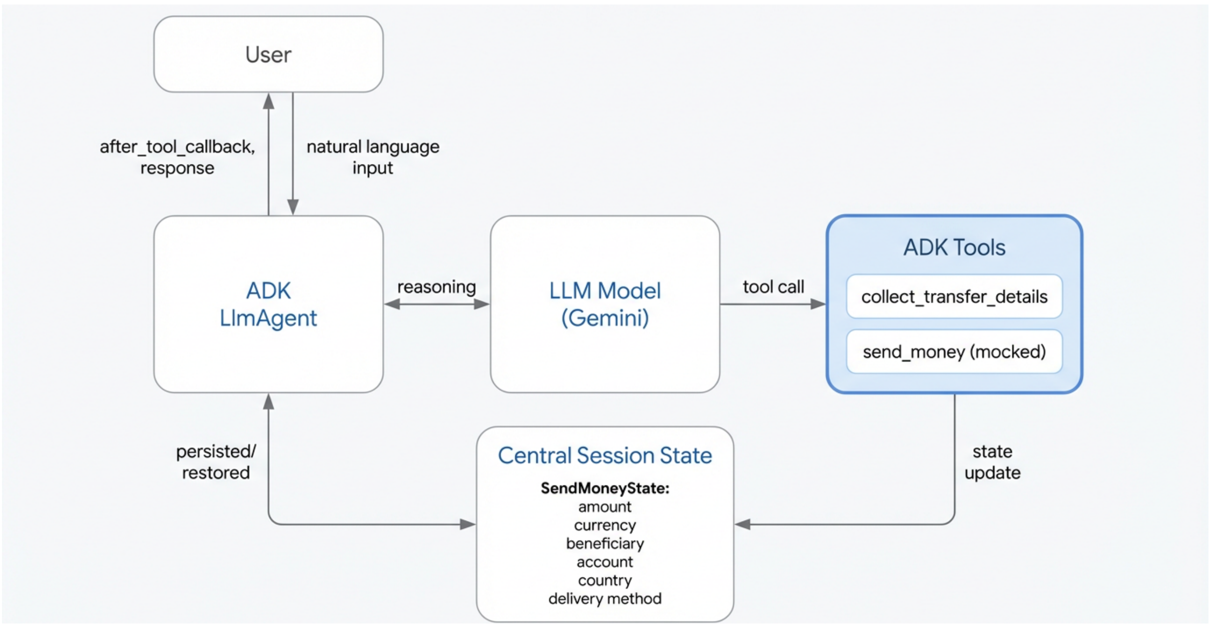
Félix AI Engineer Assessment
Send Money Agent Solution

Candidate: Daniela Varela Tabares
GitHub Repository: https://github.com/danielavarelat/SendMoneyAgent
Demo Video: attached



The **Send Money Agent** is built using the ADK LlmAgent, with a clean, predictable structure:

- A single flow centered around a persistent conversation state (**SendMoneyState**).
- A set of **tools** responsible for: Collecting and updating transfer details. Fetching a transfer summary Resetting the flow. Initiating the money-sending step (mocked).
- An **after_tool_callback** that ensures tool outputs are shown exactly as generated, preventing the LLM from truncating or rewriting structured responses.
- A **deterministic** "next question" policy, driven entirely by the current state, ensuring the agent asks only for missing fields.

A focus on clarity, predictability, maintainability, and explicit design trade-offs.

State model

The internal state of the flow is represented by a **SendMoneyState** object. It holds all key fields needed to complete a money-transfer request:

- amount – numeric amount to send.
- currency – currency code or name (e.g., “USD”, “MXN”).
- beneficiary_name – full name of the recipient.
- beneficiary_account – account number or identifier.
- country – destination country.
- delivery_method – e.g., Bank Transfer, Mobile Wallet, Cash Pickup, Card.
- corrections – a log of user corrections for traceability.

The state is loaded from ADK session context at the beginning of each tool call, updated within tools (e.g., **collect_transfer_details**), and written back into the ADK context at the end of each tool call. This makes the agent fully stateful, deterministic, and consistent across multiple conversation turns.

Trade-offs and design choices

Flat state model

Easier to reason about and test than a more deeply nested or dynamic state structure.

Deterministic Flow vs. Free-Form LLM Reasoning

I chose a deterministic slot-filling approach for core business-critical logic. The LLM is used for natural language understanding, but never for state decisions. Trade-off: slightly less “creative,” but significantly more predictable.

Minimal NLU

Extraction is done through regex- and rule-based helpers. Less flexible for free-form language, but much more predictable and safe.

after_tool_callback instead of return direct

Provides more control and inspection of tool outputs. Keeps the door open for hybrid patterns (show tool output + allow the model to add commentary if desired).

Simplicity over over-engineering

Some potential features (e.g., complex context-aware ambiguity handling) are deliberately not implemented, in line with the instructions to keep the solution self-contained and focused.

Risk management and guardrails

No Hallucinated State

The LLM never sets fields directly. Only tools update the state → prevents incorrect or imagined values.

Ambiguity Management

The agent prompts for clarification when beneficiary details are under-specified. Prevents sending funds to the wrong recipient.

Correction Handling

Explicit correction detection and overwrite allow safe updates.

Explicit confirmation step:

Before “proceeding,” the agent always shows a final summary and asks for explicit confirmation.

Deterministic State-Driven Prompts

The next question always depends strictly on the missing fields. Prevents skipping necessary steps or asking irrelevant questions.

Validation is simulated/mocked:

Supported currencies, countries, and delivery methods are checked against simple lists, as allowed by the instructions.

Evaluation strategy

To ensure the Send Money Agent meets all requirements from the Félix technical assessment, I evaluated the solution across the following scenarios.

Open-ended request → agent identifies missing information ✅

Tested with: “I want to send money”.

Ask only for what’s needed (slot-filling) ✅

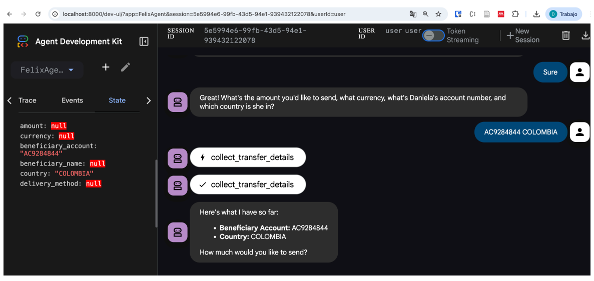
Tested by providing fields one by one. Agent never repeats known info and always asks for the next missing field.

Maintain internal state across turns ✅

Entered information step-by-step: name → amount → currency → country → method.

Handle corrections ✅

Tested “change X to Y”. Agent updates state and acknowledges the correction every time.



localhost:8000/dev-ui/?app=FelixAgent&session=5e5994e6-99fb-43d5-94e1-939432122078&userId=user

SESSION ID 5e5994e6-99fb-43d5-94e1-939432122078 USER ID user user

```
amount: null
currency: null
beneficiary_account:
"AC9284844"
beneficiary_name: null
country: "COLOMBIA"
delivery_method: null
```

Sure

Great! What's the amount you'd like to send, what currency, what's Daniela's account number, and which country is she in?

AC9284844 COLOMBIA

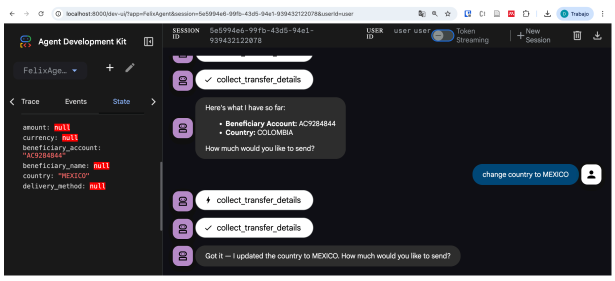
collect_transfer_details

collect_transfer_details

Here's what I have so far:

- **Beneficiary Account:** AC9284844
- **Country:** COLOMBIA

How much would you like to send?



localhost:8000/dev-ui/?app=FelixAgent&session=5e5994e6-99fb-43d5-94e1-939432122078&userId=user

SESSION ID 5e5994e6-99fb-43d5-94e1-939432122078 USER ID user user

```
amount: null
currency: null
beneficiary_account:
"AC9284844"
beneficiary_name: null
country: "MEXICO"
delivery_method: null
```

collect_transfer_details

Here's what I have so far:

- **Beneficiary Account:** AC9284844
- **Country:** COLOMBIA

How much would you like to send?

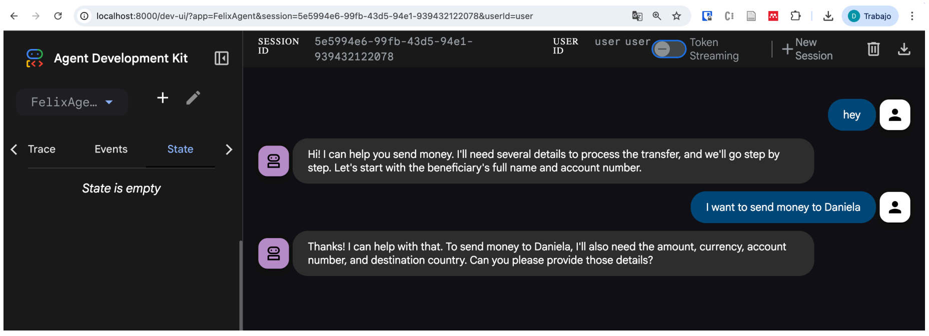
change country to MEXICO

collect_transfer_details

collect_transfer_details

Got it — I updated the country to MEXICO. How much would you like to send?

OPTIONAL: Underspecified details → ask clarifying questions ✅



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SESSION ID 5e5994e6-99fb-43d5-94e1-939432122078 USER ID user user

State is empty

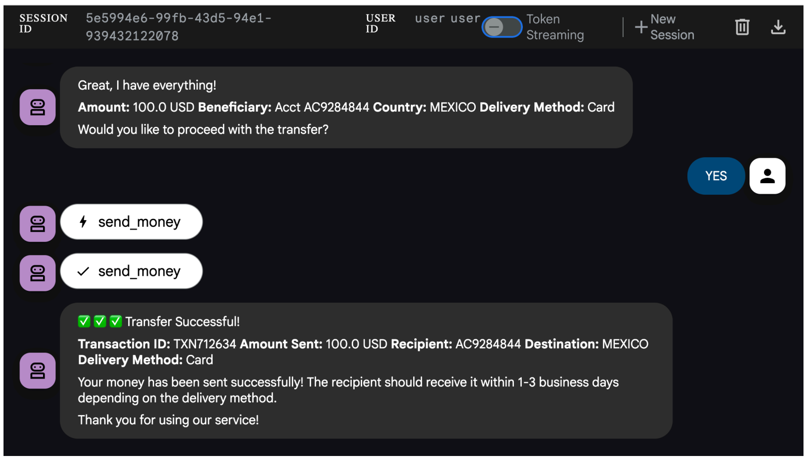
hey

Hi! I can help you send money. I'll need several details to process the transfer, and we'll go step by step. Let's start with the beneficiary's full name and account number.

I want to send money to Daniela

Thanks! I can help with that. To send money to Daniela, I'll also need the amount, currency, account number, and destination country. Can you please provide those details?

Final confirmation summary ✅



Great, I have everything!
Amount: 100.0 USD **Beneficiary:** Acct AC9284844 **Country:** MEXICO **Delivery Method:** Card
Would you like to proceed with the transfer?

YES

send_money

✓ send_money

✅ ✅ ✅ Transfer Successful!
Transaction ID: TXN712634 **Amount Sent:** 100.0 USD **Recipient:** AC9284844 **Destination:** MEXICO **Delivery Method:** Card
Your money has been sent successfully! The recipient should receive it within 1-3 business days depending on the delivery method.
Thank you for using our service!

After all fields collected, agent returns a complete transfer summary, including.

Agent asks user for confirmation as required.

Error handling and unsupported values ✅ (VIDEO)

Tested invalid currencies, invalid countries, and malformed account numbers. Agent responds with corrective guidance and asks for valid input.

End-to-end flow ✅ (VIDEO)

ADK compliance ✅

- Verified all tools run through ADK's LlmAgent.
- No custom routers.
- after_tool_callback used to surface tool outputs consistently.
- State stored and restored using ToolContext.