

HR/Employee Assistant Chatbot

- **A Dialogue System for HR Processes.**
- The HR/Employee Assistant Chatbot streamlines HR processes with dynamic data integration.
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Interaction Scenarios

- 1 General Conversation**
Initiates friendly dialogue, acknowledges names, handles politeness.
- 2 Company Policies**
Provides predefined responses for inquiries about the Code of Conduct, Remote Work, Data Privacy, etc.
- 3 Fetch Employee Details**
Retrieves employee information via Horilla HRMS API.
- 4 Update Employee Details**
Processes update requests (e.g., change phone or address) via API.
- 5 List Job Positions**
Dynamically fetches and displays current job positions.
- 6 Show Leave Types**
Presents leave types (e.g., Maternity, Sick, Casual) using mocked data.
- 7 HR Contact**
Supplies HR contact details using a static, predefined response.



Real-World Data Integration

Horilla HRMS API

Integrates with the Horilla HRMS API using JWT token authentication.

PostgreSQL

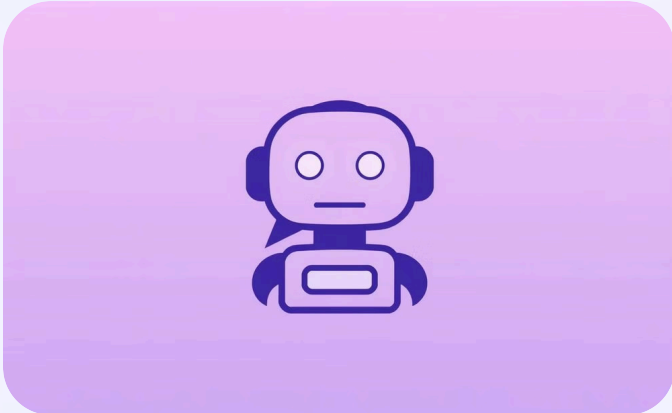
Uses local PostgreSQL (via Horilla HRMS) for data persistence.

Demonstration - Fetching Employee Details



User Input

Asks for account details.



Bot Response

Requests employee ID.



Data Retrieval

Fetches employee details.

Example 1: Fetching Employee Details

User: "hello there"

Bot: "Hi, I'm Rasa's HR Assistant. What's your name?"

User: "I'm Odoo"

Bot: "Nice to meet you, Odoo! What can I do for you?"

User: "Please provide my account details."

Bot: "Please provide the ID of your personal account."

User: "The ID of my account is 2."

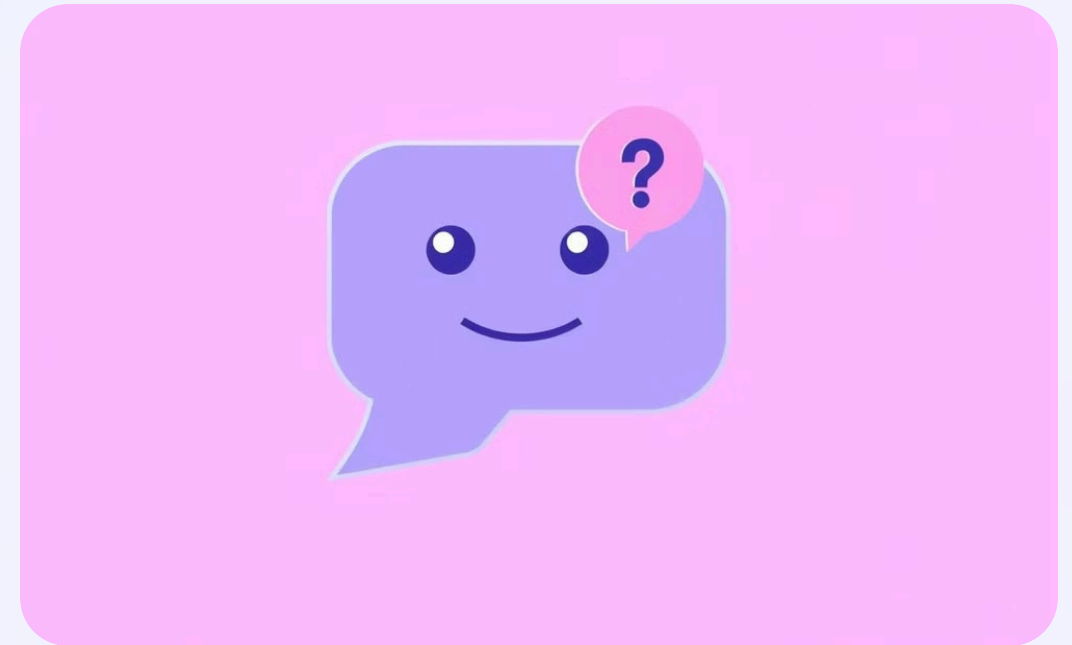
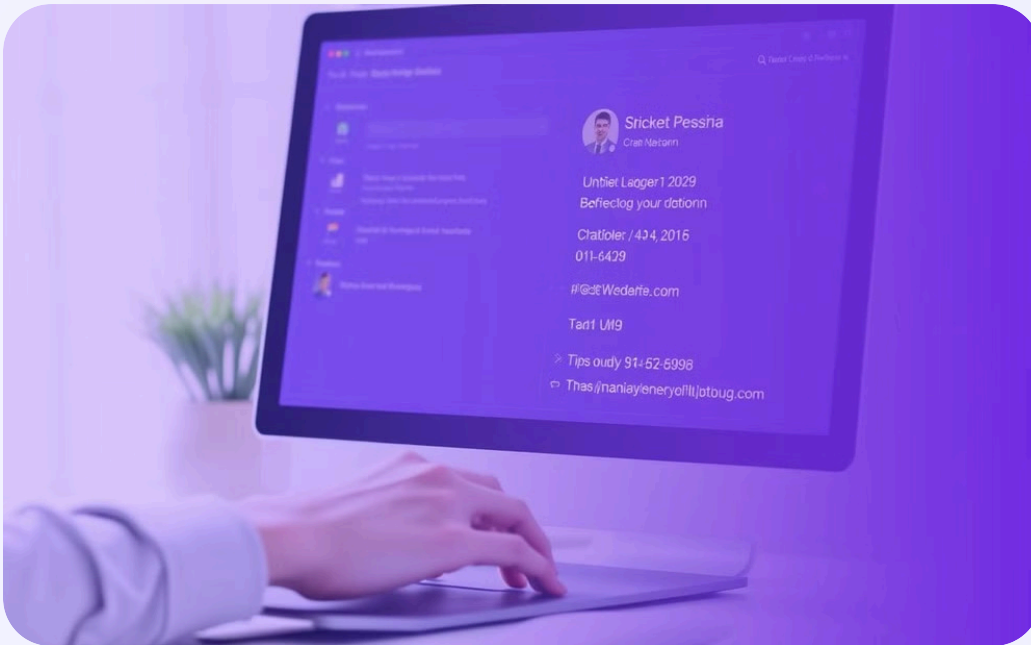
Bot:

Here are the employee's details:

- Id: 2
- Job_position_name: Odoo Dev
- Job_position_id: 1
- Employee_work_info_id: 1
- Employee_bank_details_id: None
- Badge_id: PEP01
- Employee_first_name: Michael
- Employee_last_name: Brown

- Employee_profile: /media/employee/profile/allgo-an-app-for-plus-size-people-Akaz9xK_f2M-unsplash.jpg
- Email: michael.brown@horilla.com
- Phone: 9876540001
- Address: None
- Country: None
- State: None
- City: None
- Zip: None
- Dob: None
- Gender: male
- Qualification: None
- Experience: None
- Marital_status: single
- Children: None
- Emergency_contact: None
- Emergency_contact_name: None
- Emergency_contact_relation: None
- Is_active: True
- Additional_info: None
- Is_from_onboarding: False
- Is_directly_converted: False
- Employee_user_id: 3

Demonstration - Updating Employee Details



User Input

Requests to update contact details.

Bot Response

Confirms successful updates with a checkmark.

Example: User updates phone and address. The bot confirms successful updates.

Updating Employee Details (Part A) - Example 2: Updating Employee Details

User: "Hi"

Bot: "Hi, I'm Rasa's HR Assistant. What's your name?"

User: "My name is Benjamin"

Bot: "Nice to meet you, Benjamin! What can I do for you?"

User: "I want to update my account details"

Bot: "Please provide the ID of the employee and the update you want to make."

User: "I want to change the phone for employee 11 to 6934987643"

Bot: "Successfully updated phone to 6934987643 for employee 11! Do you want to make any further update?"

User: "yes please"

Bot: "Please provide the ID of the employee and the update you want to make."

User: "I would like change the address for employee 11 to 12 Finley Street"

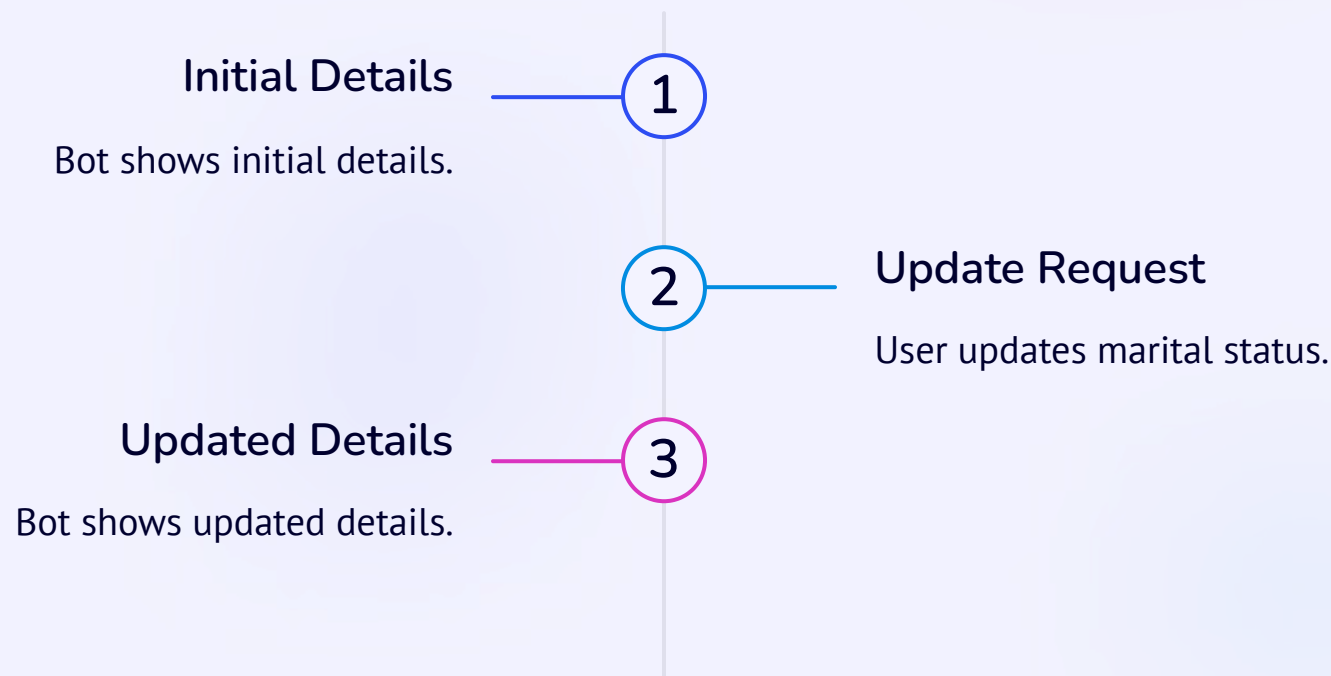
Bot: "Successfully updated address to 12 Finley Street for employee 11! Do you want to make any further update?"

User: "I am good, thanks"

Bot: "If you need anything else, let me know."

Combined Update & Fetch

User updates marital status and then requests to view updated details.



Updating & Fetching Combined (Part B) - Example 2 Continued

User: "Hi"

Bot: "Hi, I'm Rasa's HR Assistant. What's your name?"

User: "My name is Scarlett"

Bot: "Nice to meet you, Scarlett! What can I do for you?"

User: "Show details for employee 34"

Bot:

Here are the employee's details:

- Id: 34
- Job_position_name: Social Media Coordinator
- Job_position_id: 10
- Employee_work_info_id: 33
- Employee_bank_details_id: None
- Badge_id: PEP37
- Employee_first_name: Scarlett
- Employee_last_name: Martinez
- Employee_profile: None
- Email: scarlett.martinez@horilla.com
- Phone: 9876540037
- Address: None

- Marital_status: single
- Children: None
- Emergency_contact: None
- Emergency_contact_name: None
- Emergency_contact_relation: None
- Is_active: True
- Additional_info: None
- Is_from_onboarding: False
- Is_directly_converted: False
- Employee_user_id: 35

User: "I want to update the marital_status for employee 34 to married"

Bot: "Successfully updated marital_status to married for employee 34! Do you want to make any further update?"

User: "No I don't want to make any other update"

Bot: "If you need anything else, let me know."

User: "Show details for employee 34"

Bot:

Here are the updated employee's details (with marital_status now set to married):

- ... (details as above, with Marital_status: married)

User: "Thanks you"

Bot: "If you need anything else, let me know."

Demonstration - Listing Job Positions

Example: User requests to see company's job positions. The bot lists available positions.



User: "Hi!"

Bot: "Hi, I'm Rasa's HR Assistant. What's your name?"

User: "My name is Spyros"

Bot: "Nice to meet you, Spyros! What can I do for you?"

User: "I'd like to see the company's job positions"

Bot:

Here are the job positions:

- ID: 1, Position: Odoo Dev, Department ID: 1
- ID: 2, Position: Django Dev, Department ID: 1
- ID: 3, Position: Sales Man, Department ID: 2
- ID: 4, Position: Training and Development Coordinator, Department ID: 3
- ID: 5, Position: Compensation and Benefits Specialist, Department ID: 3
- ID: 6, Position: Recruiter, Department ID: 3
- ID: 7, Position: Marketing Specialist, Department ID: 4
- ID: 8, Position: Digital Marketing Specialist, Department ID: 4
- ID: 9, Position: Content Creator, Department ID: 4
- ID: 10, Position: Social Media Coordinator, Department ID: 4
- ID: 11, Position: Chief Financial Officer (CFO), Department ID: 5
- ID: 12, Position: Financial Analyst, Department ID: 5
- ID: 13, Position: Accounts Payable Clerk, Department ID: 5
- ID: 14, Position: Tax Accountant, Department ID: 5
- ID: 15, Position: System Admin, Department ID: 1
- ID: 16, Position: React Dev, Department ID: 1
- ID: 17, Position: Flutter Dev, Department ID: 1
- ID: 18, Position: Sales Representative, Department ID: 2
- ID: 19, Position: Sales Manage, Department ID: 2

User: "Thanks!"

Bot: "If you need anything else, let me know."

User: "Bye"

Bot: "Goodbye! Take care."



• Leave



• Refant

Demonstration - Showing Leave Types

Example: User asks for available leave types. The bot lists maternity, sick, and casual leave.



Maternity Leave

90 days, fully paid.



Sick Leave

10 days, paid.



Casual Leave

6 days, unpaid.

Example 3: Show Leave Types

User: "hi"

Bot: "Hi, I'm Rasa's HR Assistant. What's your name?"

User: "my name is Spyros"

Bot: "Nice to meet you, Spyros! What can I do for you?"

User: "What leave types can I request?"

Bot:

Here are the available Leave Types:

- **Maternity Leave**

- Duration: 90 days
- Pay Status: Fully paid
- Notes: Available for employees who have completed at least 6 months of service

- **Sick Leave**

- Duration: 10 days
- Pay Status: Paid
- Notes: Requires a medical note after 3 consecutive days.

- **Casual Leave**

- Duration: 6 days
- Pay Status: Unpaid
- Notes: Can be used for personal emergencies or short vacations.

Demonstration - Company Policies & HR Contact

User: "Hi"

Bot: "Hi, I'm Rasa's HR Assistant. What's your name?"

User: "I'm Oddo"

Bot: "Nice to meet you, Odoo! What can I do for you?"

User: "How do I get IT support?"

Bot: "The IT Support Policy provides guidelines for receiving technical support. Employees must submit a support ticket through the IT service desk for technical issues. High-impact issues are prioritized, and hardware issues should be reported to IT."

User: "Tell me about the non-disclosure agreement."

Bot: "The Non-Disclosure Agreement (NDA) Policy protects confidential company information. Employees must not share proprietary, confidential, or trade secret information with external parties. Violating the NDA may lead to legal consequences and termination."

User: "Is there a number I can call to speak with Human Resources?"

Bot: "You can contact HR at hr@company.com or call +1-234-567-890."

User: "thanks!"

Bot: "If you need anything else, let me know."

User: "bye"

Bot: "Bye"

Company Policies (Predefined Responses)

Policies Covered:

- Code of Conduct
- Information Security
- Remote Work
- Data Privacy
- Device Usage
- IT Support
- NDA Policy
- Software Use
- Internet Usage

Contact with HR (without API)

Response Provided:

- "You can contact HR at hr@company.com or call +1-234-567-890."

Insights & Limitations

Insights

- Real-time integration with Horilla HRMS ensures up-to-date employee data.
- Robust error handling and guided dialogues enhance user experience.

Limitations

- API token management is currently hardcoded; security improvements are needed.
- Some functionalities (like leave types) use mocked data rather than live integration.

Future Improvements

- **Enhanced Security:**

- Implement secure storage and dynamic retrieval of API tokens (e.g., via environment variables or a secrets manager) to further protect sensitive data.

- **Expanded Functionalities:**

- Integrate additional HR tasks such as payroll inquiries, performance reviews, and onboarding processes.
- Implement real-time updates for leave types by integrating with live data sources rather than relying on mocked data.

- **Improved Dialog Policies:**

- Experiment with further fine-tuning of TEDPolicy and RulePolicy parameters.
- Explore additional fallback strategies and context retention techniques to further enhance user interactions.

- **User Feedback Integration:**

- Develop mechanisms for gathering and analyzing user feedback to continually refine the chatbot's performance.
- Implement iterative improvements based on observed user behavior and satisfaction levels.

- **Multilingual Support:** Extend the chatbot's capabilities to support multiple languages, catering to a global workforce.



Conclusion & Q/A

The HR/Employee Assistant Chatbot streamlines HR processes by integrating live data from Horilla HRMS with a user-friendly interface. Its robust error handling and guided dialogues efficiently support employee inquiries and updates, providing a solid foundation for future enhancements in security, functionality, and multilingual support.

Questions and feedback are welcome.



thank you

Thank You for your Attention!

Github repositories & Emails:

- <https://github.com/eirkyr/HR-Employee-Assistant-Chatbot> - <https://github.com/spymavro/HR-Employee-Assistant-Chatbot>
- irinikiriakou8@gmail.com - spyros.mauromatis@gmail.com