Consumer Lending
Pre-screening & Onboarding Agent

Consumer Lending
Pre-screening & Onboarding Agent

Agent-1 : Collects the customer details
Like Name and Mobile number

Agent-2 : Collects the interested products
Like Home Loan/Personal Loan/Education Loan/Gold loan

Agent-3 : Loan Documents Agent
provide the information on loan processing checklist Aadhaar Card / PAN Card

Agent-4 : Customer Proxy Agent
This is not a LLM agent. It just takes the input from the user

Initial Setup

```python
from autogen import ConversableAgent, LLMConfig

# Define the LLM configuration (can be OpenAI or another provider)
llm_config_openai = LLMConfig(api_type="openai", model="gpt-4o-mini")
```

Agent-1 : Collects the customer details

```python
profile_info_collection_agent = ConversableAgent(
    name="profile_info_collection_agent",
    system_message='''You are a helpful customer onboarding agent,
    you are here to help new customers get started with our product/service.
    Your job is to gather customer's name and mobile number.
    Do not ask for other information. Return 'TERMINATE'
    when you have gathered all the information.''',
    llm_config=llm_config_openai,
    human_input_mode="NEVER",
)
```

```python
profile_info_collection_agent.generate_reply([{"content": "Who are you?",
                                               "role": "user"}] )
```

```
'I'm here to help you get started with our product/service. May I have your name, please?'
```

Agent-2 : Collects the interested products

```python
preference_scan_agent = ConversableAgent(
    name="preference_scan_agent",
    system_message='''You are a helpful customer preference finding agent,
    you are here to help new customers get started with our product.
    Your job is to gather customer's preferences on
    -Looking for a Home Loan
    -Looking for a Personal Loan
    -Looking for a Education Loan
    -Looking for a Gold Loan
    ''',
    llm_config=llm_config_openai,
    human_input_mode="NEVER",
)
```

```python
preference_scan_agent.generate_reply([{"content": "Who are you?",
                                       "role": "user"}] )
```

I am a customer preference finding agent here to help you identify your needs regarding different types of loan
s. Whether you're interested in a home loan, personal loan, education loan, or gold loan, I'm here to assist you
in finding the best option that suits your preferences. How can I help you today?'

Agent-3: Loan Documents Agent

```python
loan_documents_agent = ConversableAgent(
    name="loan_documents_agent",
    system_message='''You are a helpful customer service agent.
    You will provide the information on loan processing checklist based on the

    Check List for a Home Loan
    Proof of Identity – Aadhaar Card / PAN Card / Passport
    Proof of Income – Salary slips / IT returns / Bank statements
    Property Documents – Sale deed / Agreement to Sell / Title papers

    Check List for a Personal Loan
    KYC Documents – PAN + Aadhaar / Voter ID
    Income Proof – Last 3 months salary slips / IT returns
    Bank Statement – Last 6 months

    Check List for an Education Loan
    Admission Letter – From recognized college/university
    Fee Structure – Official document from the institution
    Income Proof of Co-applicant – Salary slips / ITR of parent/guardian

    Check List a Gold Loan
```

Agent4: Customer Proxy Agent

```python
#This is not a llm agent. It just takes the input from the user
customer_proxy_agent = ConversableAgent(
    name="customer_proxy_agent",
    llm_config=False,
    human_input_mode="ALWAYS",
    is_termination_msg=lambda msg: "terminate" in msg.get("content").lower(),
)
```

```python
customer_proxy_agent.generate_reply([{"content": "Who are you?",
                                      "role": "user"}] )
```

```
Replying as customer_proxy_agent. Provide feedback to the sender. Press enter to skip

>>>>>>>> NO HUMAN INPUT RECEIVED.

>>>>>>>> USING AUTO REPLY...
```

Creating Tasks

Agent-1 : Collects the customer details

Gets the name and Mobile number →

Agent-4 : Customer Proxy Agent

Agent-2 : Collects the interested products

Gets the information on type of loan →

Agent-4 : Customer Proxy Agent

Agent-4 : Customer Proxy Agent

Provides the information on documents →

Agent-3 : Loan Documents Agent

Creating Tasks

```python
chats = [
    {
        "sender": profile_info_collection_agent,
        "recipient": customer_proxy_agent,
        "message":
            "Hello, I'm here to help you get started with loan approval process."
            "Could you tell me your name and mobile number",
        "summary_method": "reflection_with_llm",
        "summary_args": {
            "summary_prompt" : "Return the customer information "
                                "into as JSON object only: "
                                "{'name': '', 'Mobile Number': ''}",
        },
        "max_turns": 2,
        "clear_history" : True
    },
```

Creating Tasks

```json
{
    "sender": preference_scan_agent,
    "recipient": customer_proxy_agent,
    "message":
            "Great! Could you tell me kind of loan you are interested in?"
            "Is it Home Loan or Personal Loan or Education Loan or Gold loan or Any other type of l
    "summary_method": "reflection_with_llm",
    "max_turns": 1,
    "clear_history" : False
},
```

Creating Tasks

```json
{
    "sender": customer_proxy_agent,
    "recipient": loan_documents_agent,
    "message": "Give me the checklist for the loan mentioned",
    "max_turns": 1,
    "summary_method": "reflection_with_llm",
},
```

Initiate chats

```python
from autogen import initiate_chats

chat_results = initiate_chats(chats)
```

Chat Results

```
********************************************************************
Starting a new chat....

********************************************************************
profile_info_collection_agent (to customer_proxy_agent):

Hello, I'm here to help you get started with loan approval process.Could you tell me your name and mobile

--------------------------------------------------------------------
Replying as customer_proxy_agent. Provide feedback to profile_info_collection_agent. Press enter to skip a
customer_proxy_agent (to profile_info_collection_agent):




--------------------------------------------------------------------
profile_info_collection_agent (to customer_proxy_agent):

Thank you,              I have noted your mobile number as well.

TERMINATE

--------------------------------------------------------------------
Replying as customer_proxy_agent. Provide feedback to profile_info_collection_agent. Press enter to skip a

>>>>>>>> NO HUMAN INPUT RECEIVED.

>>>>>>>> TERMINATING RUN (d8ec0364-2753-4579-8034-c67793c2a73c): Termination message condition on agent 'c
```

Chat Results

```
********************************************************************
Starting a new chat....

********************************************************************
preference_scan_agent (to customer_proxy_agent):

Great! Could you tell me kind of loan you are interested in?Is it Home Loan or Personal Loan or Ec
Context:
```json
{'name': '             ', 'Mobile Number': '          '}
```

Replying as customer_proxy_agent. Provide feedback to preference_scan_agent. Press enter to skip a
customer_proxy_agent (to preference_scan_agent):

Personal Loan
```

Chat Results

```
********************************************************************
Starting a new chat....

********************************************************************
customer_proxy_agent (to loan_documents_agent):

Give me the checklist for the loan mentioned
Context:
```json
{'name': '            ', 'Mobile Number': '9         '}
```
          is interested in a Personal Loan.

----
loan_documents_agent (to customer_proxy_agent):

Here is the checklist for a Personal Loan:

1. KYC Documents - PAN + Aadhaar / Voter ID
2. Income Proof - Last 3 months salary slips / IT returns
3. Bank Statement - Last 6 months

If you have any other questions or need further assistance, feel free to ask!

TERMINATE
```