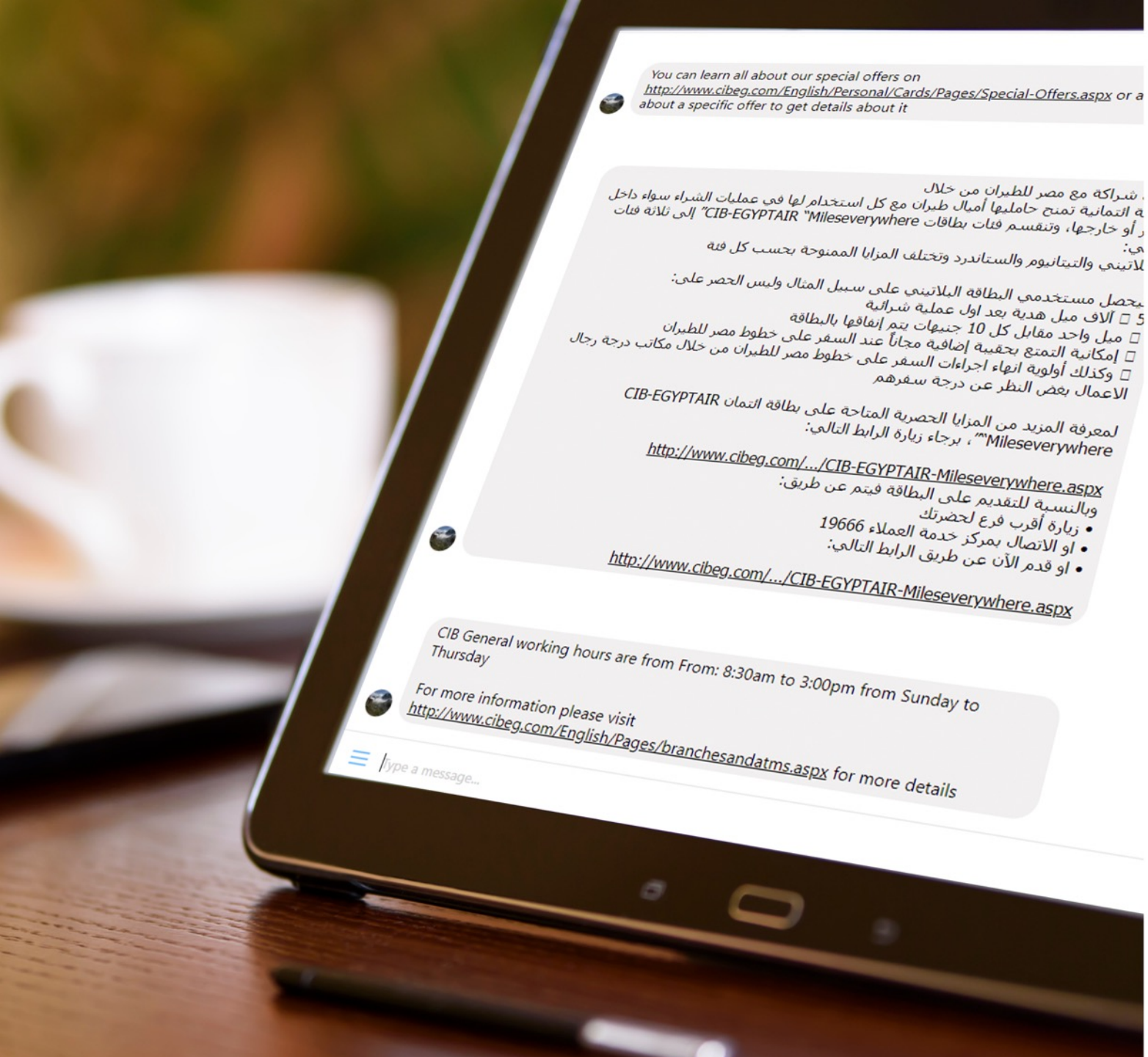
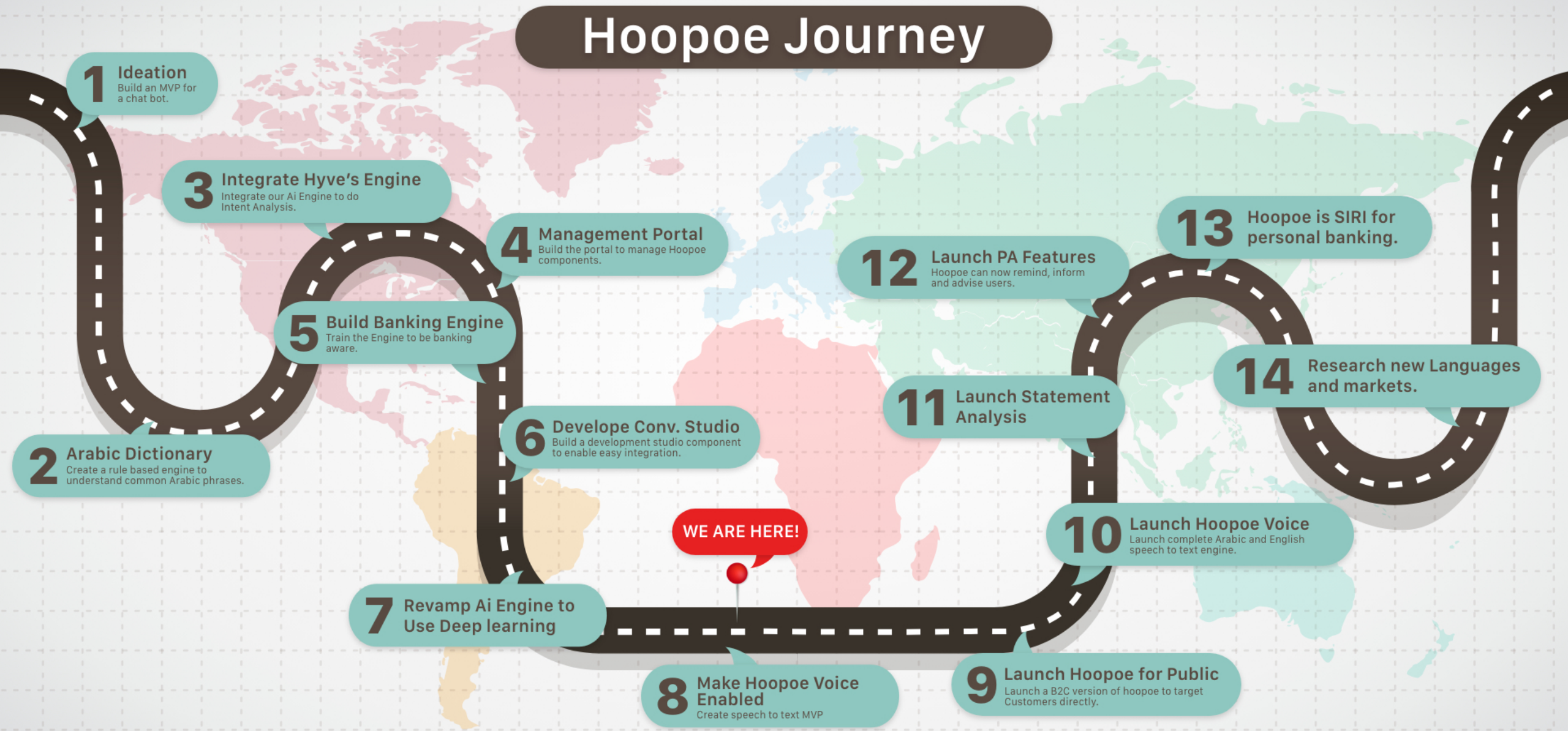
HOOPOE

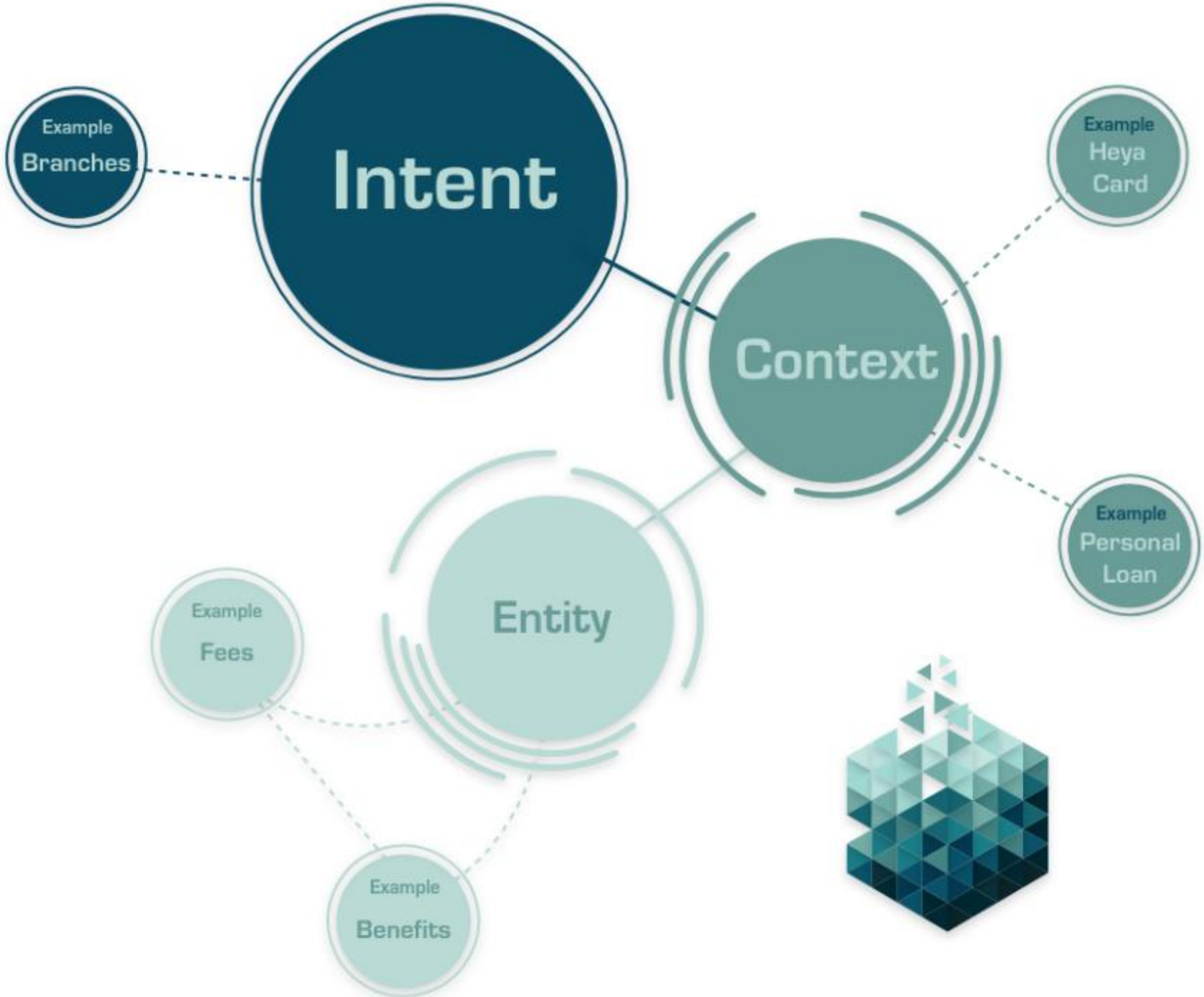


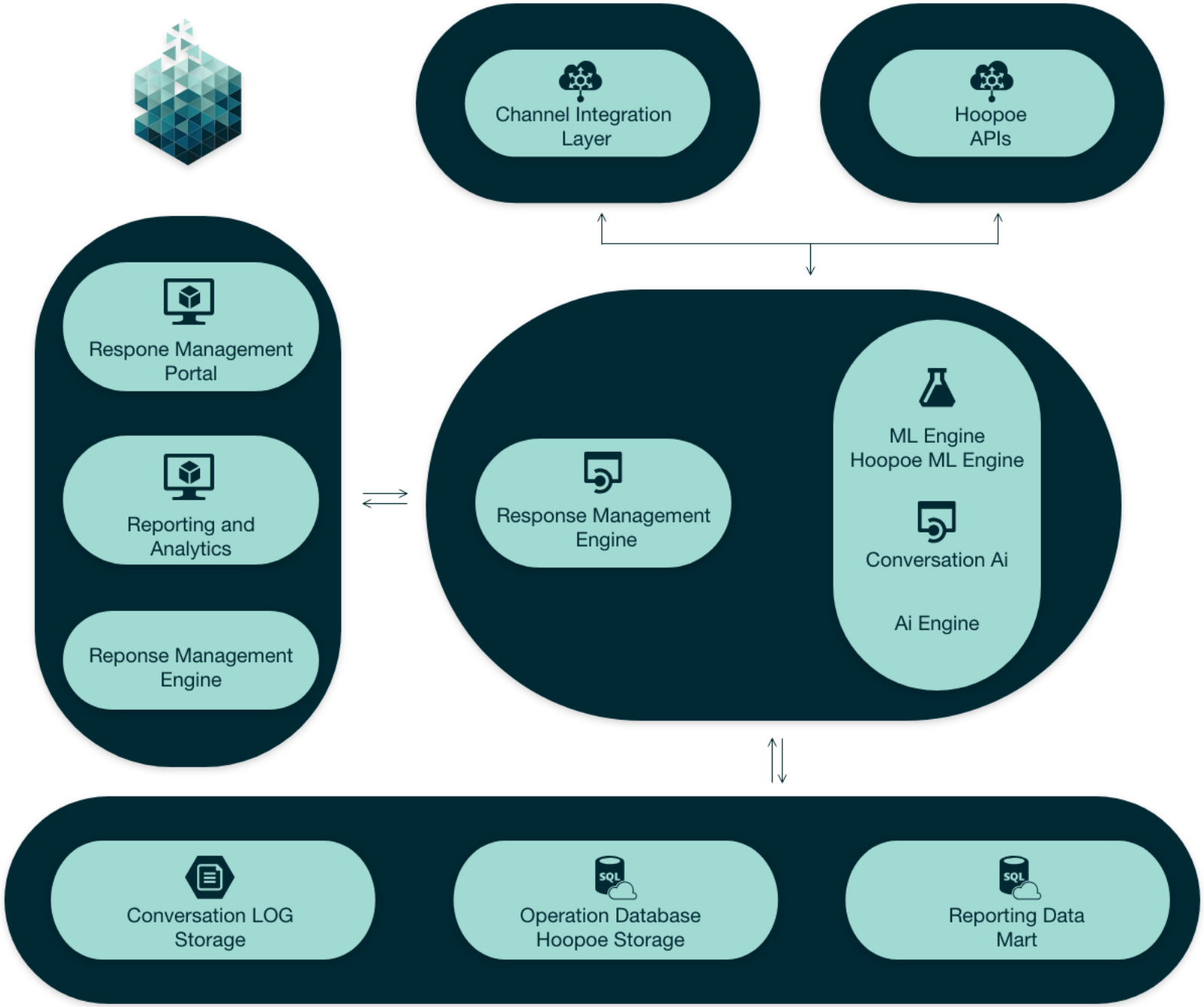
GOALS

- REDUCE COSTS.
- ENHANCE EXPERIENCE.
- GAIN INSIGHT.

Hoopoe Journey




Example
Branches
Intent
Example
Heya
Card
Context
Example
Personal
Loan
Entity
Example
Fees
Example
Benefits


Channel Integration Layer
Hoopoe APIs
Respone Management Portal
Reporting and Analytics
Reponse Management Engine
Response Management Engine
ML Engine
Hoopoe ML Engine
Conversation Ai
Ai Engine
Conversation LOG Storage
Operation Database Hoopoe Storage
Reporting Data Mart

COGNITIVE/ARTIFICIAL INTELLIGENCE MODULE

Hoopoe's AI Module adds a new layer of data enrichment using propriety components developed by Hyve on top of Azure AI. The AI module uses advanced machine learning techniques to enrich the data and add new layers of information that enables the bot to understand the conversations related to personal banking In English, Arabic, Egyptian Dialect, and Franco Arab.

1 SENTIMENT ANALYSIS

The first layer of data enrichment is AI based sentiment analysis. Through several training cycles and continuously improving algorithms Hoopoe provides sentiment information for customer messages. Hoopoe supports several languages such as Arabic, English and Franco Arab. The bot can automatically flag offensive messages and even execute a predefined action based on it, like warn the user, end the conversation, or transfer the chat to a live chat system.

2 ENTITY EXTRACTION

Hoopoe AI provides an entity recognition engine that allows the system to detect and tag all posts containing important entities. As an added layer of enrichment. Entities are important to understand the conversation. The admin doesn't need to define the exact entities in the system, just to add some examples and the AI engine will predict most the other forms of the entity which will dramatically increase the bot vocabulary and accuracy in detecting entities.

3 INTENT ANALYSIS

The Intent Analysis is based on a deep learning model to insure 85% accuracy level of Intent classification. The intent analysis component supports Arabic, English, Arabic Dialects and Franco Arab. The AI Engine already trained on personal banking intents using hundreds of thousands of banking questions.

MULTI-CHANNEL SUPPORT

1 PORTAL

2 FB MESSENGER

3 SKYPE

4 MOBILE APPLICATION

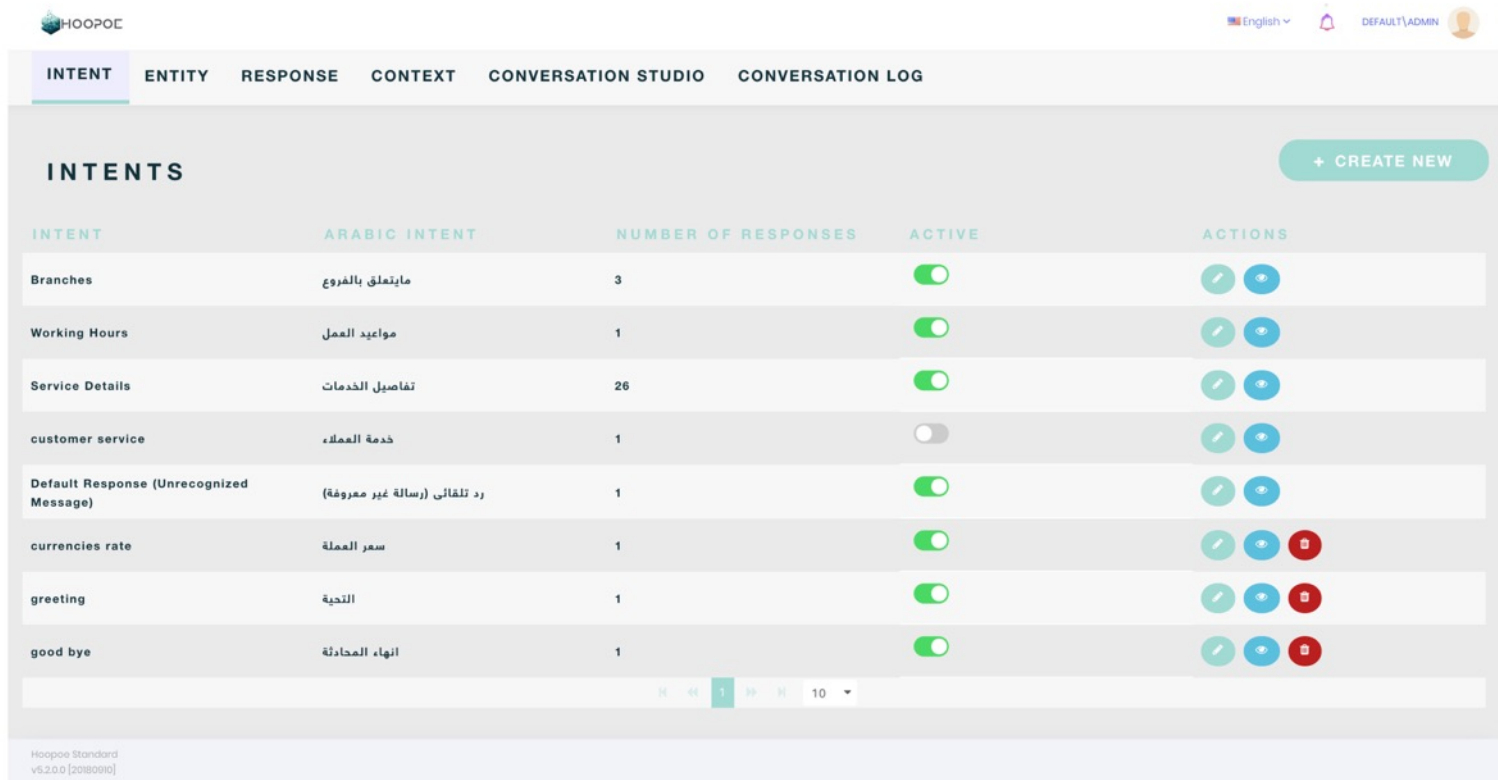
PORTAL FEATURES

- INTENTS MANAGEMENT
- CONTEXT MANAGEMENT
- ENTITIES MANAGEMENT
- RESPONSE MANAGEMENT
- CONVERSATION STUDIO
- CONVERSATION LOGS

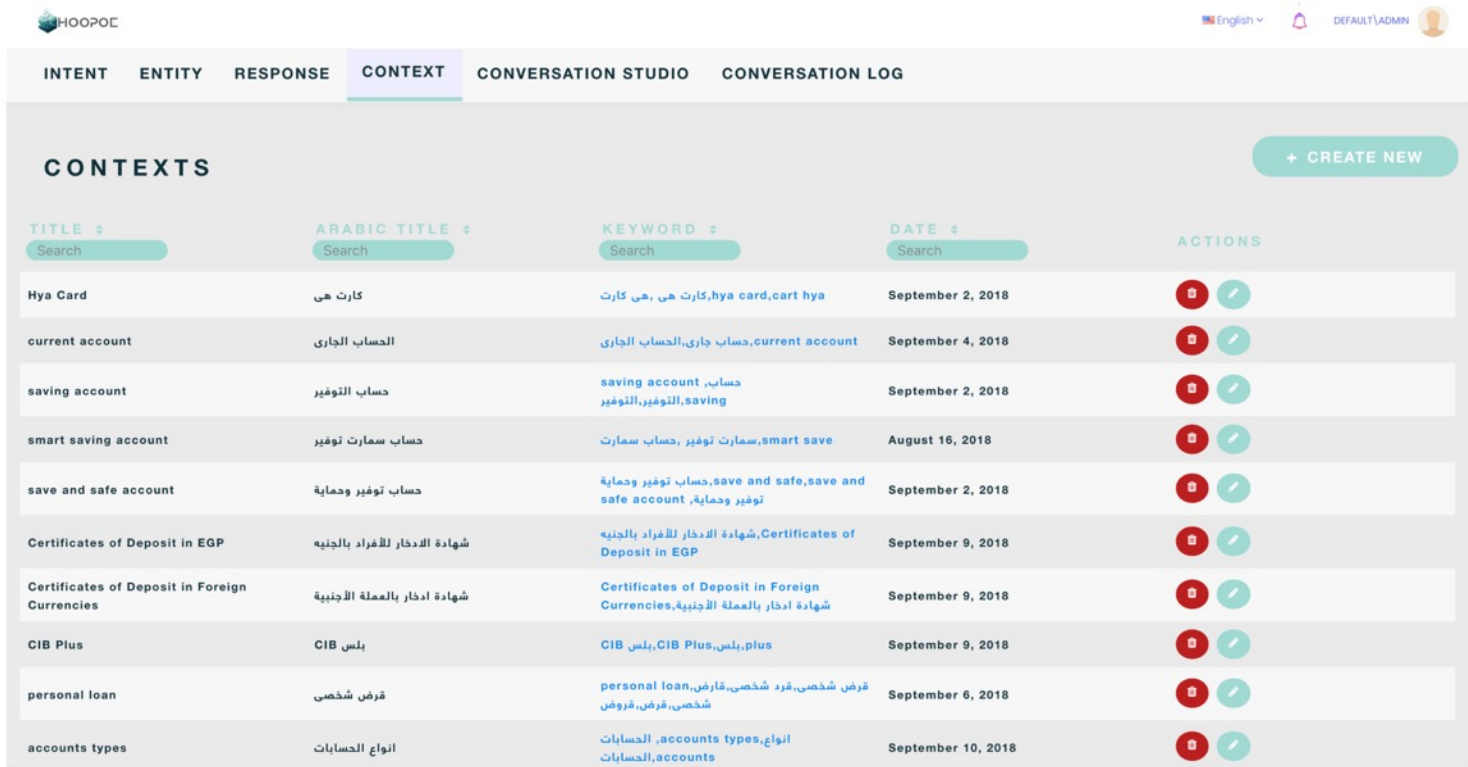
INTENTS MANAGEMENT

The main goal for this product, in order to provide a human-like experience, is to understand the intent of the customer and reply with the suitable response. In other words, the chat bot needs to comprehend the main motive that drove the user to initiate the conversation with the chat bot. for example (Intent to buy, intent to activate, intent to complain, intent to cancel). The system uses Deep Learning to understand the customer intents.

The intent management module is responsible for anything that is related to the intent. Using this module, you will be able to enable and disable predefined intents, add new custom intents or delete custom intents.



CONTEXT MANAGEMENT



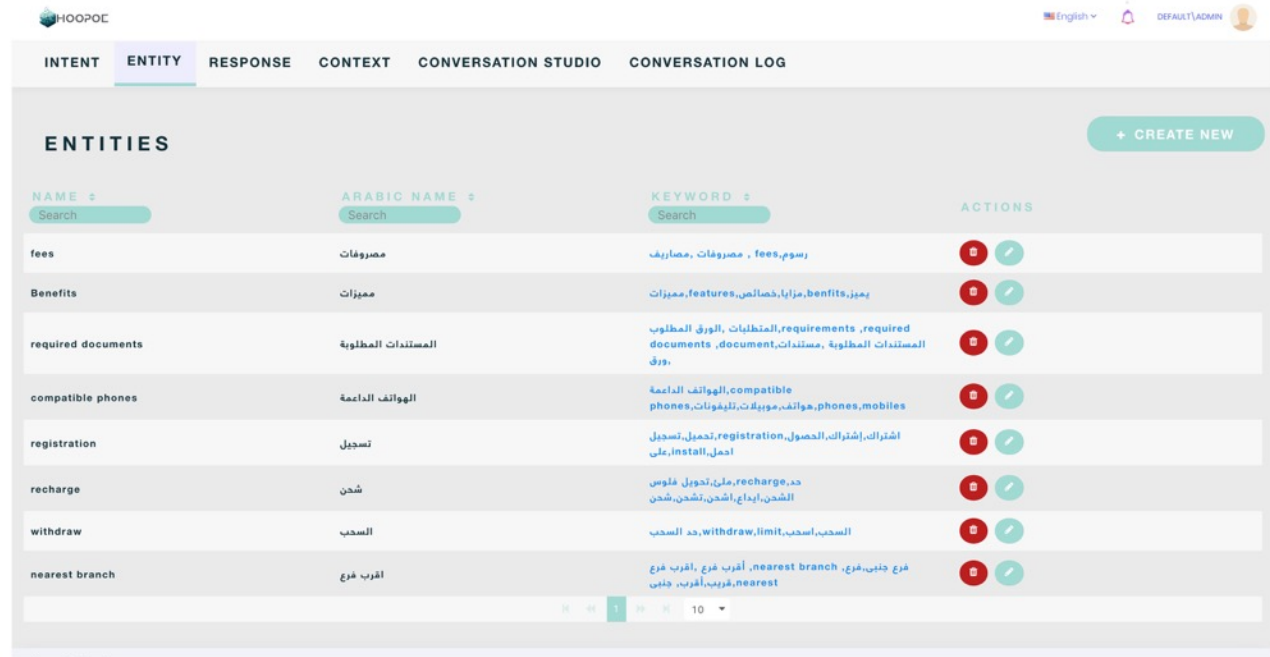
The context is the second step in understanding the customer input and the main step that the bot needs to engage in a meaningful conversation with the customer. Without determining the correct conversation context, the bot will not be able to link the intent and entity to the right response. The bot depends on deep learning to recognize the conversation context.

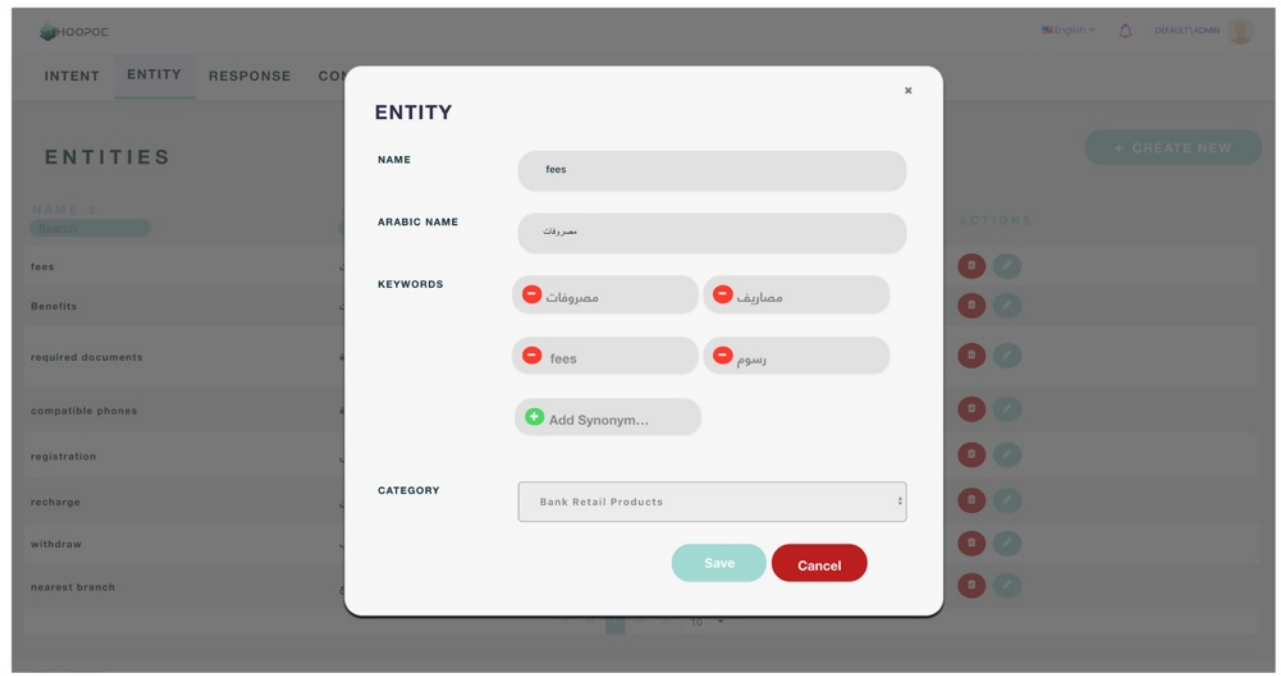
In Context management module, you will be able to add, delete, or update context.

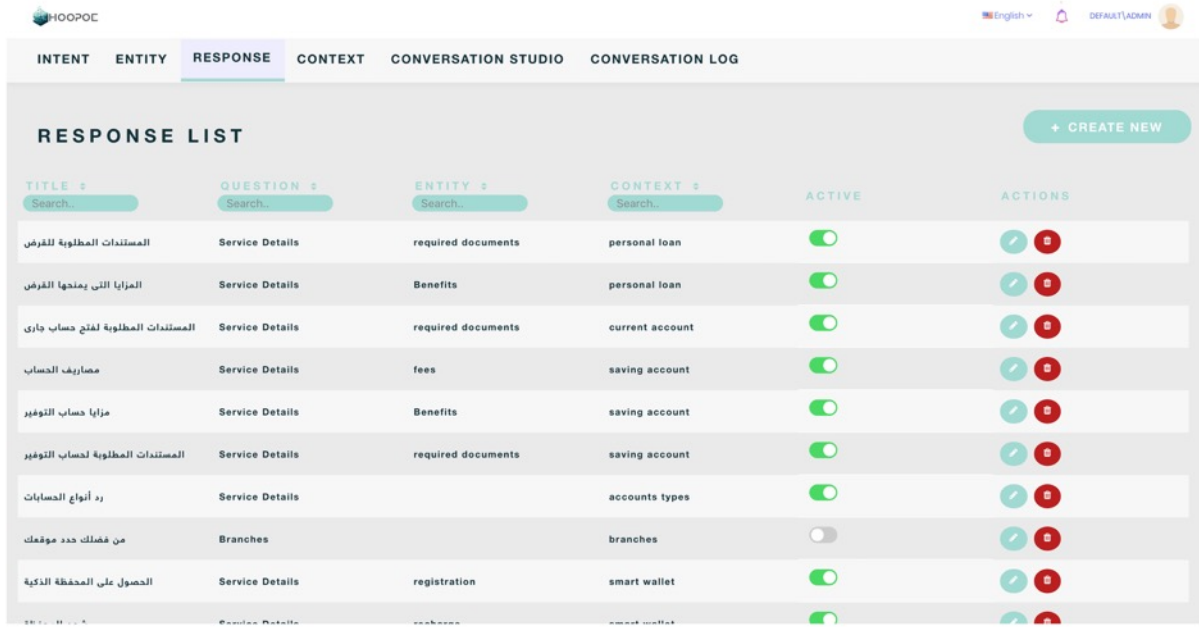
ENTITIES MANAGEMENT

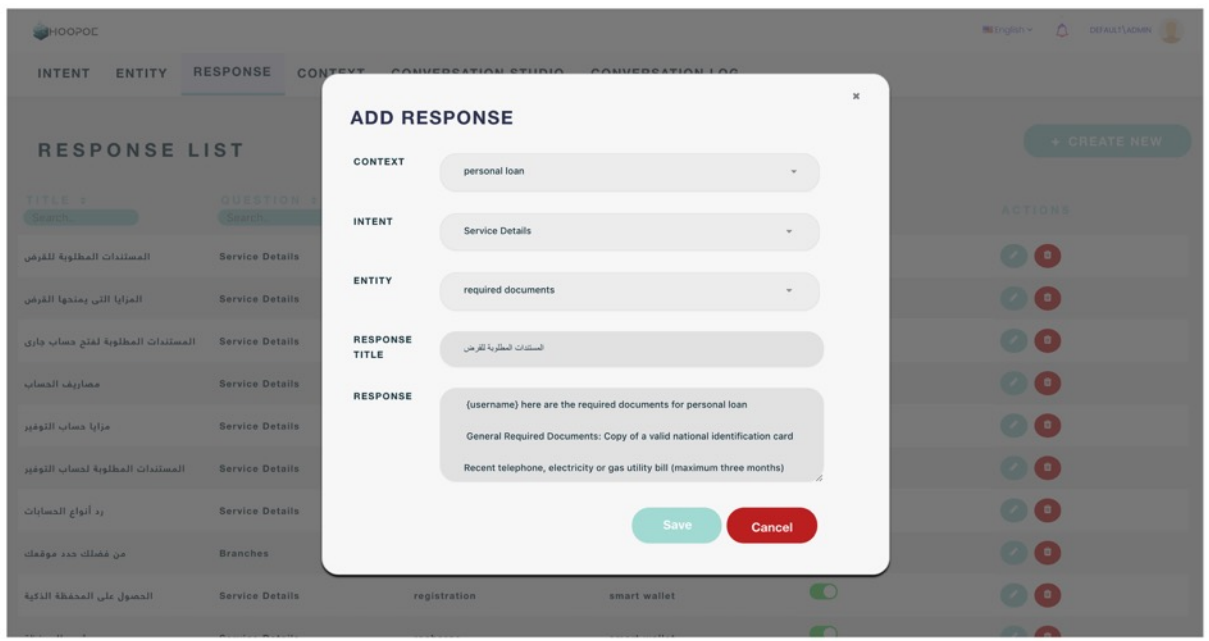
The entities detection is the third step the bot needs to be able to understand the conversation. As mentioned in the previous section the chatbot can understand the customer intent using intent analysis and the conversation context using context awareness and the entities detection component is responsible for defining the attributes attached to the detected intent under a specific context.

The Entities Management Module is responsible for Adding, deleting, and updating predefined entities.







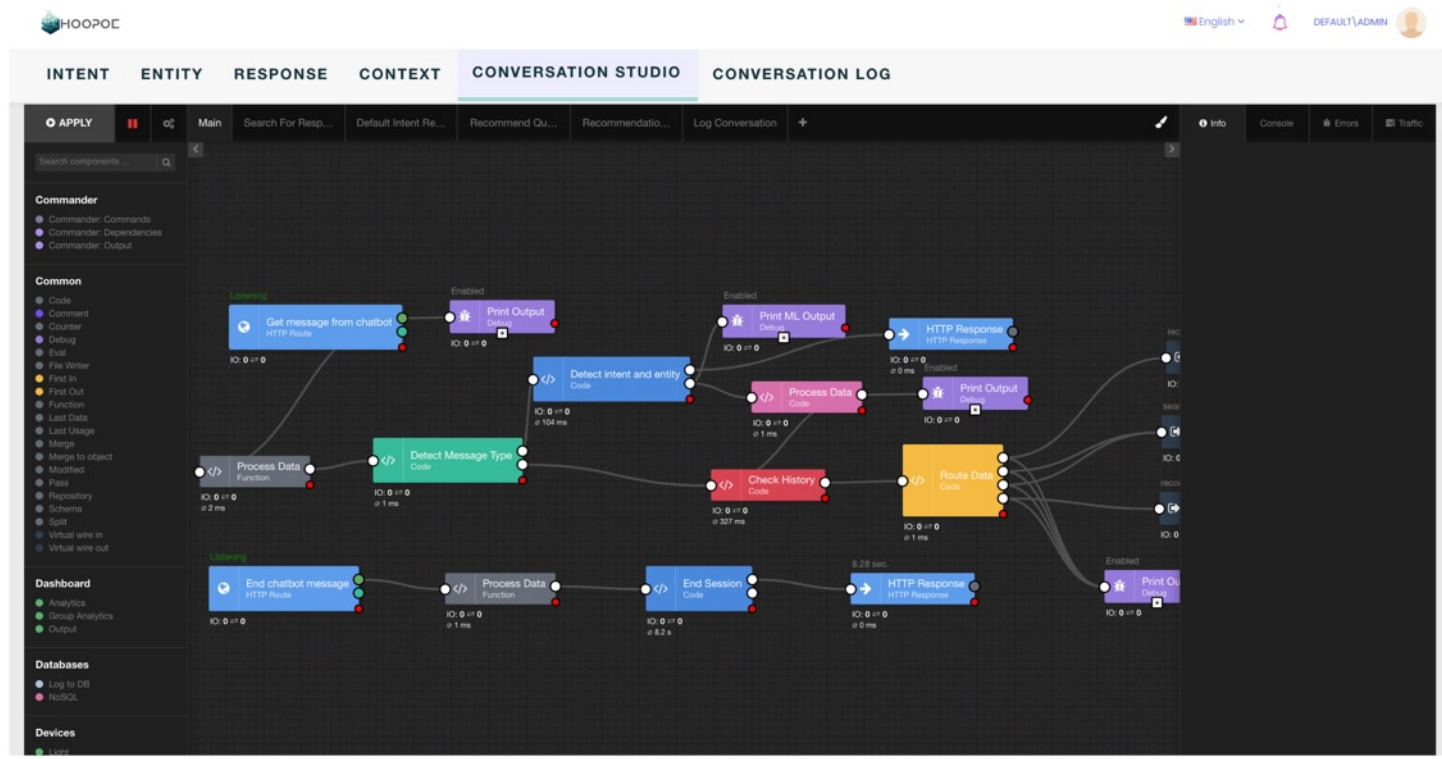


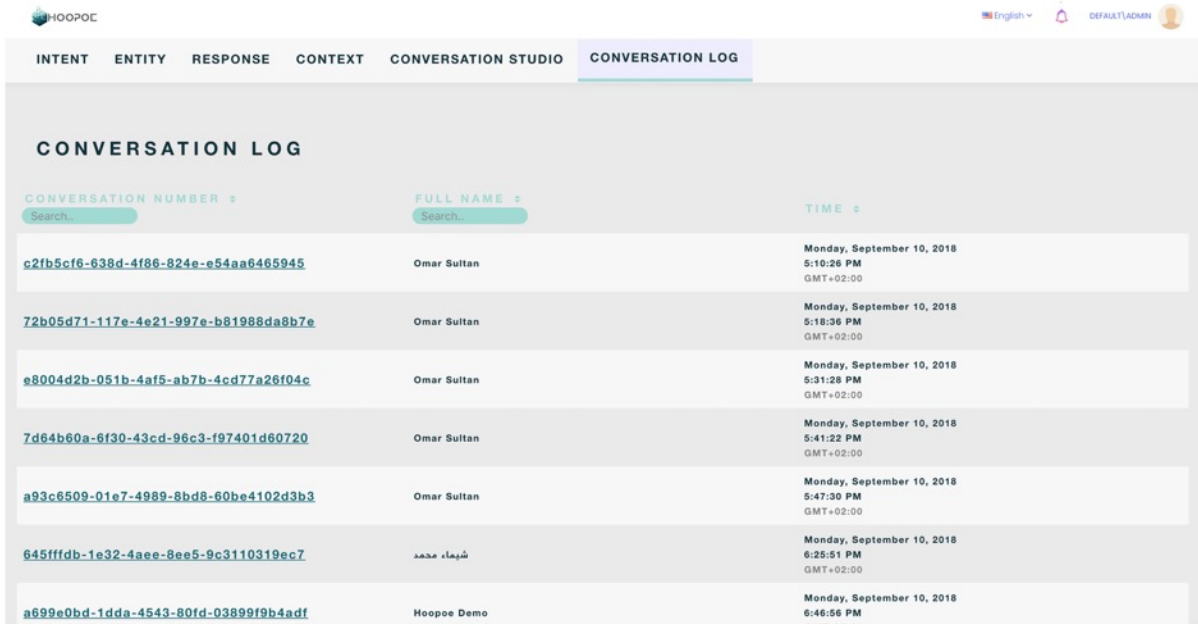
RESPONSE MANAGEMENT

After understanding the conversation, the bot retrieves the suitable reply from the responses' repository. The response management module is the single place to manage all bot responses, you can add, update, and delete responses. You can attach a response to an entity, intent, and context. You can also define default responses when the bot can't find an answer to the question, wants to ask for more information, or wants to confirm a certain response is correct.

CONVERSATION STUDIO

The most critical part about a good conversation is the conversation flow. We designed the conversation flow using the best practices in Conversational UX. Yet due to the dynamic nature of the conversation flow, and because our main goal is the contentious improvement of the customer experience, we developed the conversation studio to be a state of the art platform that will enable the technical team to update the flow of the conversation, retrieve data from external sources to enrich the conversation (share price, currency, offers and promotions, seasonal greetings), or trigger events in external systems. All the previous and more you can do with just a couple of mouse clicks and few lines of JavaScript.





CONVERSATION LOGS

With conversation logs, you will be able to retrieve any conversation with a customer. You will be able to view the conversation details and flow. You can review how accurate was the bot in detecting intents and different entities, and you will be able to correct them if needed. The bot will automatically retrain itself based on your feedback to make sure that the AI model will do the classification right the next time.

DASHBOARDS

On dashboard you can have a bird eye view of the conversations that is happening in a certain period, the most common intents, the bot confidence, the traffic vs different periods of the day, and much much more. You can request specific dashboards or charts in the analysis phase to be added to the current OOB dashboards, and you can add design your own dashboards using single click and basic understanding of the data model leveraging the beautiful features of Microsoft Power BI.

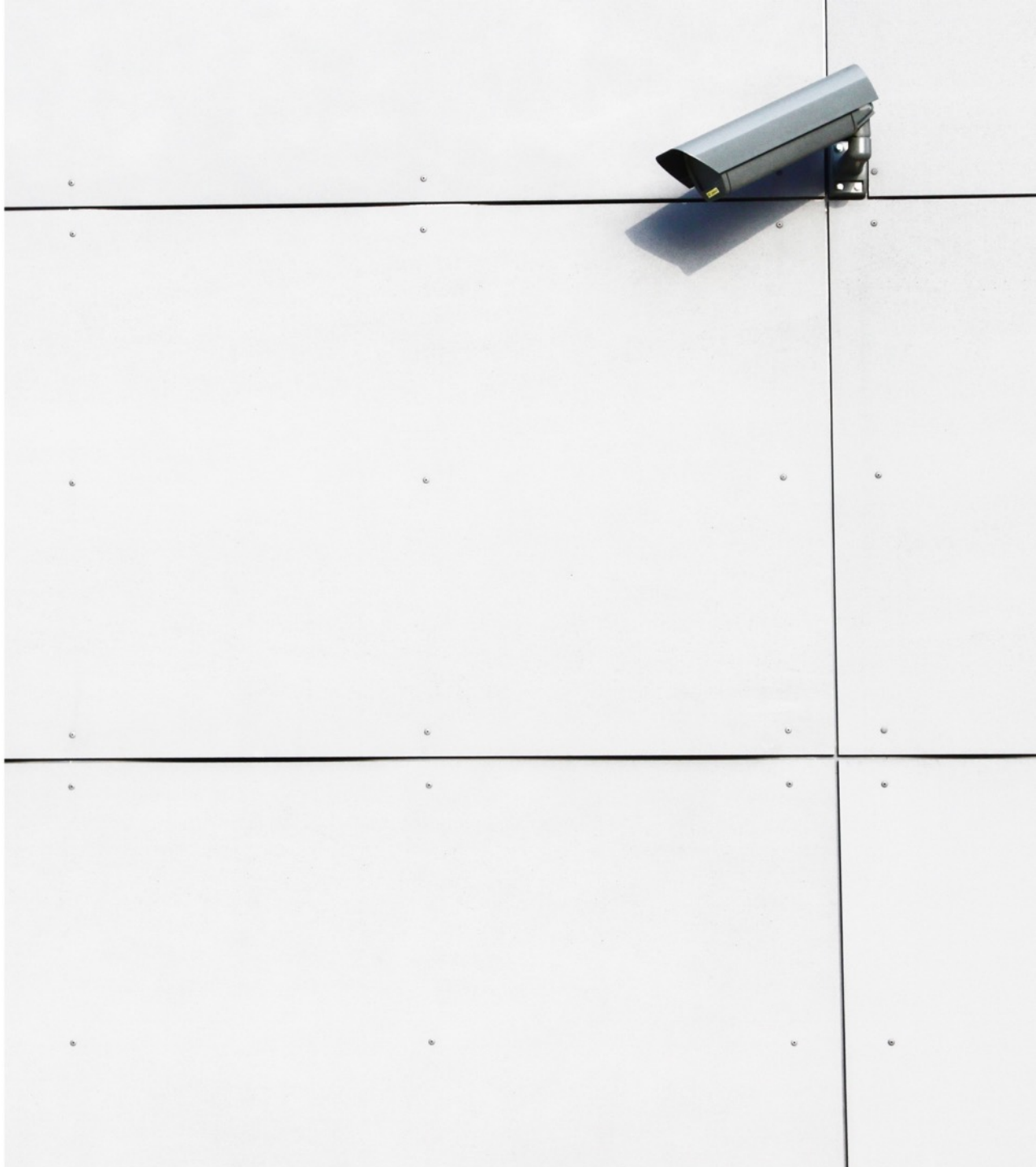
ENVIRONMENT SECURITY

- Cloud environment is completely isolated, no machines are exposed to the internet or have public IPs (Channel Communication is an exception)

- All inter communication between layers is done through HTTPs and through the use of API Keys

- Site to Site VPN can be provided for communication between Bank and Cloud Environments

- Two Factor Authentication is enabled for System Admins accessing the Response Management Portal



PORTAL SECURITY FEATURES

- Based on ASP.NET Identity Framework
- User & role management pages
- Hierarchical organization units system to group users and entities
- User login, register, password-reset and email validation pages
- User, role and permission based flexible authorization
- User and Tenant impersonation
- User account linking
- Two Factor Authentication (Email, SMS, Google Authenticator)
- User Lockout
- LDAP/Active Directory login support
- Active Directory Federation Service (ADFS) Authentication
- Social media logins (Facebook, Twitter, Google+ and Microsoft Account implemented)
- OpenId Connect Authentication
- Log and show all login attempts for users
- Password complexity settings
- Automatic Cross-Site Request Forgery (CSRF) protection

THANK
YOU