

Earley Information Science + Aspect Software Knowledge Engineering for Chatbots, Voicebots, and AI-Enabled Enterprise Search

Artificial intelligence (AI) isn't a new concept. What is new about AI is its wide scale application to human-to-machine conversations. In these conversations, once the exclusive realm of humans, the computer provides relevant answers to specific questions from both employees and customers, for example through **Chatbots** or **Voicebots**.

The ability to deliver answers via chatbot, as well as the ability to retrieve vital corporate information in other contexts, relies on intelligent search and retrieval. AI-enabled search promises to transform the way people interact with information and digital assets. It can drive new efficiencies and create value from information that has been all but lost in the "digital junk drawers" that are our corporate information management systems. For AI to deliver on its promise, these junk drawers need preliminary organizing structures. These organizing structures, which result from a process called "**Knowledge Engineering**," make up the information architecture of the system. To deliver answers for users and realize the vision of conversational interactions, AI requires the right data and content in the right format and structure.

In other words: **There is no AI (Artificial Intelligence) without IA (Information Architecture)**

Aspect Software and Earley Information Science are integrating all the components required to deliver a future-ready Conversational AI architecture: knowledge engineering to lay the information foundation, and the industry-leading enterprise chatbot platform Aspect® CXP™ for the development, deployment, and management of employee – and customer-facing conversational experiences.

Knowledge Engineering as the Foundation for Routing Questions to the Right Answers

Knowledge engineering organizes the data and content that drive AI, enabling businesses to reap the benefits of AI for enterprise search, information access, and knowledge management. Knowledge engineering is at the foundation of an intelligent workplace and an AI-enhanced customer service organization. Chat is a natural extension of the traditional search and information retrieval interactions, but feels more natural with the advent of voice recognition and natural language inquiries. For example, we might ask our smartphones where the closest gas station or sushi restaurant is located. This natural language interaction is transformed into a search query allowing the smartphone to retrieve the needed information. But natural language can be ambiguous and humans vary in how they ask for the same information.

Attempts to develop systems that use natural language queries have long grappled with the challenge of ambiguity. Words have multiple meanings (i.e., “what is the stock price...” can result in finding the price of “a unit of financial value,” “the handle of a gun,” “a base ingredient of soup,” etc.). The marketing for the Amazon Echo smart assistant promises users can search for a large range of topics via the voice interface, Alexa. However, this broad approach does not align with workplace needs, where language and terminology are specialized. Generalized needs cannot be easily met because of the many variations in users’ requests and the diversity of possible answers. Therefore, use cases need to be carefully constructed which then inform the design of the underlying information architecture.

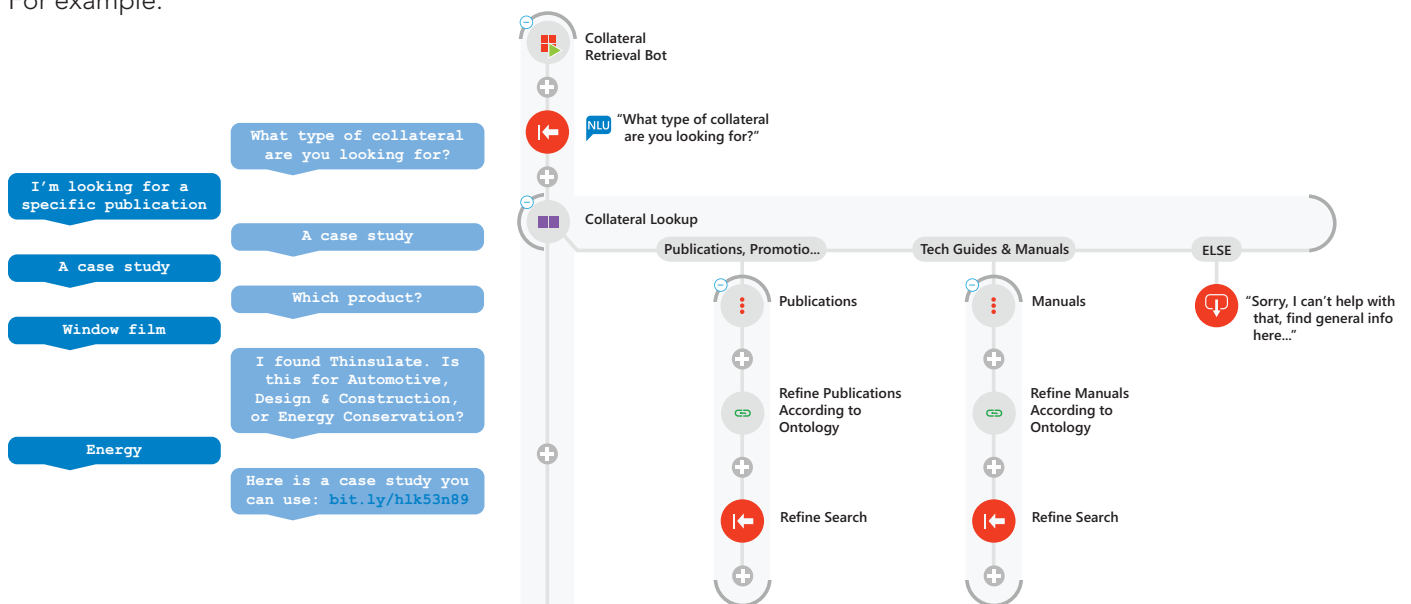
“There is no AI (Artificial Intelligence) without IA (Information Architecture).”
- Seth Earley, CEO Earley Information Science on the importance of laying a solid knowledge foundation BEFORE adding new UIs such as chatbots or voicebots to the customer engagement mix

Organizing Corporate Information

Corporate information is more nuanced and complex than gas stations and restaurant locations. Regulated industries such as healthcare or finance need careful management of terminology. Even unregulated industries such as retail have complex information requirements, since they are dealing with tens of thousands of product names, policies, documents, and resources of all kinds. All of these considerations require definition of taxonomies, content structure, and data architecture to enable development of a useful chat or voice interface to corporate information.

Traditional search is limited in its ability to support chatbots because it does not rapidly filter the query to its true essence. People use search terms that fail to deliver the richer meaning that a conversation can elicit. But when people talk, they disambiguate during their conversation. They have a dialog which gets to the heart of the query faster. This process occurs through a series of refinements that come as a result of the give and take that questions and answers provide.

For example:

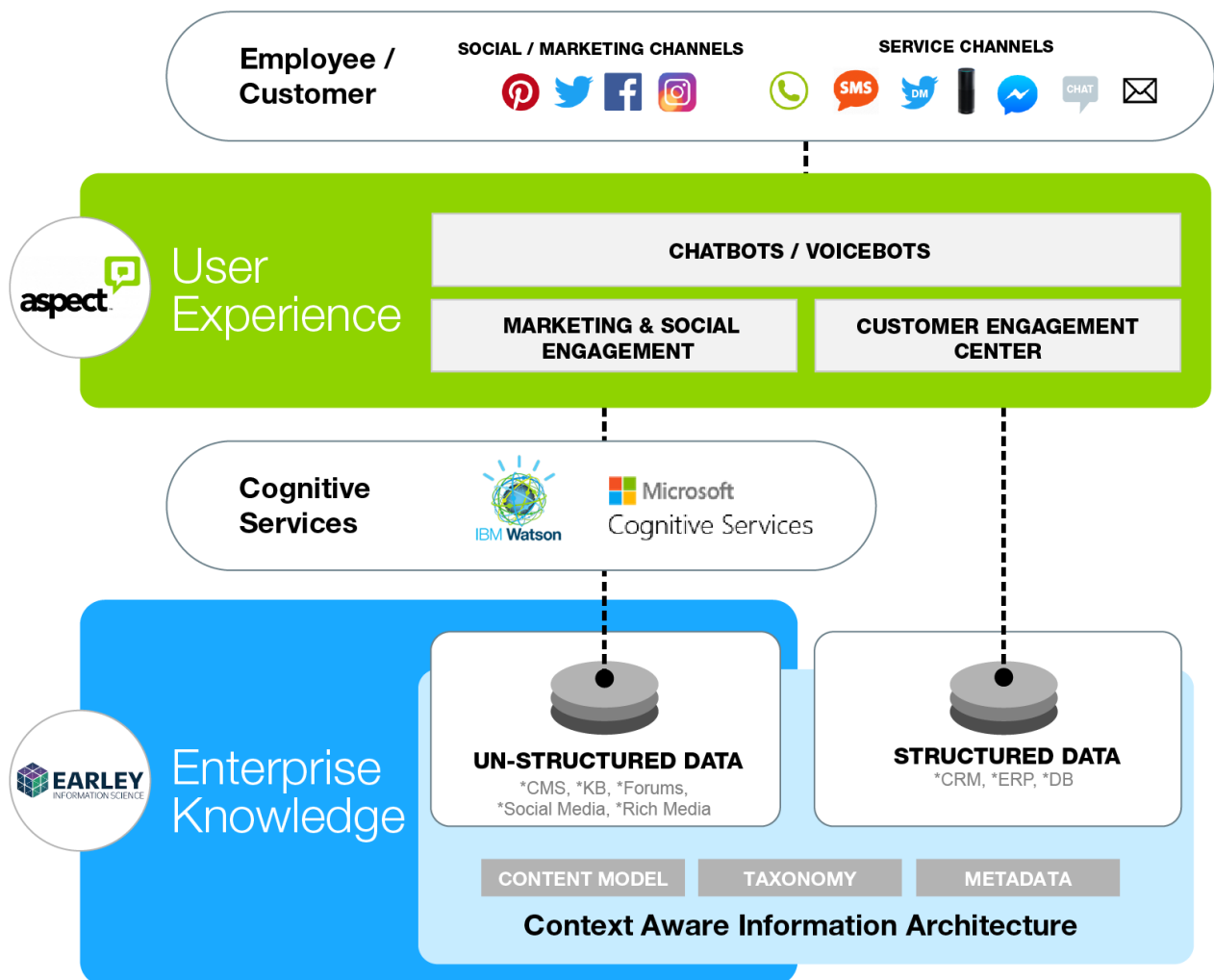


AI promises to deliver enterprises higher efficiency, increased accuracy, and greater utilization of corporate information assets. These benefits can be achieved both in customer-facing organizations such as contact centers, as well as internal organizations such as the IT help desk or the HR department. But these goals can only be met if the AI is built on a solid information architecture that supports the complexity and subtlety that enterprise information requires.

Earley + Aspect = The Right Combination of Software and Services for Your Knowledge Projects

Aspect has been leading the customer service chatbot space for over 15 years, both in voicebots such as Interactive Voice Response (IVR) and, more recently, messaging-based chatbots. Most voicebots relied on structured data and a limited set of possible inquiries, due to the limitations of automated speech recognition over the telephone line. Newer chatbots, however, do not have these limitations and can thus allow a much broader range of answers to questions, even on new channels such as Amazon Echo or Google Home.

Aspect understands the importance of establishing a solid foundation of knowledge before diving deeper into the world of chatbots or voicebots. Therefore, it works closely with Earley Information Science, a recognized industry leader in information management services, to provide customers the best of both worlds: consulting services around information architecture and knowledge engineering, and the industry-leading platform Aspect® CXP™ for omni-channel conversational AI experiences.



Key Value Propositions

- ✓ **Future-ready AI Strategy and Platform**
By starting a chatbot or voicebot project with a knowledge engineering exercise, and leveraging Aspect® CXP™, the industry-leading platform for automated conversational AI, we will ensure your data is on a solid foundation for years to come.
- ✓ **Common Information Architecture**
With our experience in preparing knowledge and information for consumption on a variety of channels from IVR to Web to mobile to chatbots, we can be your one-stop shop for all knowledge-related projects, whether they serve employees in the front or back office, or customers.
- ✓ **Reduced Cost through Omni-Channel Approach**
Rather than looking at each channel in isolation and duplicating efforts for providing the content needed for each channel, we combine Aspect's omni-channel platform approach with Earley's cross-channel knowledge management expertise.
- ✓ **Improved Customer Experience**
Chatbots and voicebots provide service wherever and whenever your customers need it. They offer convenient and fast service and support, scaling conversational experiences that previously had to rely on human effort alone.

For more information on using Aspect CXP for enterprise chatbots, please visit www.aspect.com/solutions/self-service/digital-self-service/customer-service-chatbots.

For more information on Knowledge Engineering by Earley Information Science, please visit www.earley.com/k-engineering.

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About Aspect

Aspect helps enterprises break down the walls between people, processes, systems and data sources, empowering organizations to unite around the customer journey. Our customer engagement center offers native [interaction management](#), [workforce optimization](#) and [self-service](#) capabilities that drive dynamic, conversational interactions and create a truly frictionless omni-channel customer experience. Leveraging all the benefits of the cloud and over 40 years of industry ingenuity, Aspect conveniently and easily connects questions to answers while helping enterprises keep service levels high and operational costs contained. For more information, visit www.aspect.com.

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