Revolutionize the Enterprise Space with Conversational AI and Chatbots

Michaela Cato, Senior Innovation Expert, SAP Innovation Center, Silicon Valley, EMEA, Berlin
Present

**Messaging apps** have surpassed social networks

Users are reaching “app fatigue”

**Reduction in development costs**

~$230 million in chatbot funding in 2016
The future

3,000,000,000,000 smartphone users

- 85% Bot-based human-to-business communications
- 30% No-screen communications
- More conversations with bots than the spouse

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Conversational artificial intelligence (AI) at SAP

How about allowing *users to interact* with software without requiring any training?

What if *intelligent application interactions* helped us make business systems consumable?
The journey toward enterprise AI

AI assistants

- Trained using machine learning and data, not code
- Robust voice and text understanding of more than they were taught
- Contextual, personalized actions, user memory
- Aggregate bots cohesively, expose them through any channel
  - Messaging platforms (such as Slack)
  - Smart speakers (such as Echo)
  - Phones (such as Siri)

Basic chatbots

- Built by developers using predefined rules
- Terminal-like commands
- Basic task fulfillment, such as:
  - Get status
  - Approve workflow
  - Yes/no flows
- Isolated applications, usually single channel

Enterprise AI

- Systems learn how users work; users don’t have to learn how systems work
- Comprehensive understanding of unstructured/structured data
- Autonomous discovery and optimization of processes
- Act autonomously and proactively; users focus on high-value work

We’re here today.
SAP’s unique edge to conversational AI

General purpose natural language processing (NLP) frameworks

Depth of domain understanding

Enterprise scenarios

Number of supported domains

Basic API enablement

Personal scenarios (for example, weather, movies, restaurants)

Conversational AI platform from SAP

Wave 1 domains

Wave 2 domains

Wave n domains

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SAP’s unique edge to conversational AI

Crowdsourced input phrases
From SAP domain experts (internal and external), business analysts, user feedback, and more

Curated questions and answers
Frequently asked questions, Smalltalk

SAP’s domain corpora
Training and help, policy and process documents, knowledge bases, support tickets, topic modeling, and more

SAP metadata
API documentation, field attributes, smart templates for SAP Fiori apps, and more

User context
History, location, time, role, sequence, and more
Conversational AI at SAP

**Deep natural language understanding and insights**
- AI enables computers to learn how users work.
- Users no longer have to learn how business solutions work.
- AI is built on 45 years of business process expertise and content.

**Using voice and chat to get the job done**
- Faster task execution, less frustration
- Ability to build custom conversational apps
- SAP CoPilot digital assistant across SAP
- Anywhere, anytime, any channel
- Messengers, smart speakers, and more

**Engaging conversational applications**
- Conversational analytics
- Conversational commerce
- Conversational HR
- Conversational customer service
- Conversational travel
- And many more …
Conversational AI landscape from SAP

Integrated in SAP solutions
- SAP
- SAP Ariba
- SAP SuccessFactors
- SAP Hybris
- SAP Concur

External channels
- Bot builder
- Conversational AI services
- Domain knowledge
- Memory
- Understanding

SAP CoPilot
Digital assistant and bot integration hub (capabilities registry)

Conversational AI foundation based on the SAP Leonardo system
Bot builder, conversational AI services, domain knowledge, memory, and understanding

SAP business solutions and infrastructure
- SAP SuccessFactors solutions
- SAP Ariba solutions
- SAP Hybris solutions
- Concur solutions
- SAP S/4HANA
- SAP Cloud Platform
- SAP Leonardo Machine Learning capabilities, and more
Chatbots for the enterprise

- Accuracy
- Context awareness
- Memory retention
- Domain understanding
Transforming data into conversational apps

Request information
(written or spoken)

Input interpretation
Determine intent
Identify entities
“Understand” input

Dialog execution
Response
Information
Function execution
Dialog flow

Conversation model and management
Response generation
FAQ handling
Smalltalk management
Personality
Content management

Enriched response
(written or spoken)

Employee self-services
Customer support
Technical support
E-commerce interactions

Enterprise systems and data
Example: procurement bot

Procurement process:
Simplify the steps in the procurement process by using machine learning and conversational application

Motivation
- Reduce the complexity of procurement by simplifying the way to interact
- Reduce time for procurement from hours to minutes

Features
- Guide users in the procurement process; automatically create PO and handle workflows
- Answer common questions regarding procurement and policies
- Utilize role-based information
Conversational AI foundation based on SAP Leonardo – the engine for the next computing paradigm

- **State-of-the art**, machine learning–based natural language understanding
- Utilizing SAP’s **proprietary business logic and data, metadata, and context**
- Allowing SAP solution groups (priority 1), system integrators, and customers (priority 2) to **create conversational apps** (such as chatbots), seamlessly integrated with SAP software
- **Enterprise-grade compliance** (audit trails, FINRA, SOX, security, authorization, and more)
- **The beginning of enterprise AI**: learning from user behavior across applications and systems
How you can co-innovate on, roll out, and scale conversational applications by SAP?

- Join our **beta program for the SAP CoPilot digital assistant**
  - Across various functional areas throughout SAP’s solution portfolio
  - Beta release upcoming, onboarding co-innovation customers right now

- **Co-innovate** with us on your conversational applications all the way to production
  - Use cases in SAP Ariba, SAP SuccessFactors, Concur, and SAP Hybris solutions, SAP S/4HANA, and more
  - Custom scenarios or join existing efforts

- **Build on SAP’s industry-leading enterprise software platforms and services**
  - Conversational applications hosted on premise or in the cloud in SAP’s data centers
  - Utilizing rock-solid text analysis and natural language processing capabilities in SAP HANA
  - Proven enterprise support models and infrastructure
  - Cohesive efforts around conversational applications across SAP (such as product support, localization, translation, field services, and more)
Co-innovation process

Customer idea

Does the case meet the criteria?

Ideate and scope

Design thinking workshop to validate the case

Test

4–8 weeks to develop PoC based on customer data

Evaluate

1–3 months to validate and possibly to amplify

Validate

SAP market-driven innovation is looking to find **next-generation solutions** based on real customer challenges.

Understand the business scenario challenges and **explore viable ideas**.

**Agile developing of a proof of concept (PoC)** in small multi-disciplinary team with close contact weekly with customer.

Customer: evaluate PoC outcome internally

SAP: market evaluation

Validate possible next steps for:
- Potential SAP scalability
- Customer specific

Legal coverage: FBA Collaboration agreement/TEA
### Co-innovation

#### Engagement framework

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<th>Prototype and validate</th>
<th>Develop</th>
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<td>• Solving a real business problem with innovative technology</td>
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#### SAP Custom Development organization

- Standard development
- Early adopter
- Standard release

- Customer dev. project
- Customer project

- NO follow-up

- Stop

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**FBA**

**COLLABORATION AGREEMENT / TEA**

**FBA**

**SEAP / EULA / CD-CONTRACT**
Thank you.

Contact information:

**Michaela Cato**
Senior Innovation Expert, SAP Innovation Center Network
[Michaela.cato@sap.com](mailto:Michaela.cato@sap.com)