

WHITEPAPER

A BEGINNERS GUIDE TO CONVERSATIONAL AI

Choosing the right Conversational AI platform is not as easy as it looks. Questions need to be asked and answered: Why are you deploying a Conversational AI solution? What issues are you hoping to resolve and what benefits do you expect? In such a competitive landscape, time is scarce, and projects must be ready to meet business and IT demands swiftly and efficiently.

As companies no longer question the viability of using Conversational AI, they need to ask further questions to ensure that they deploy solutions that will keep them ahead of the curve.

This white paper guides the reader to intent, context, conversational AI data, integration and much more.



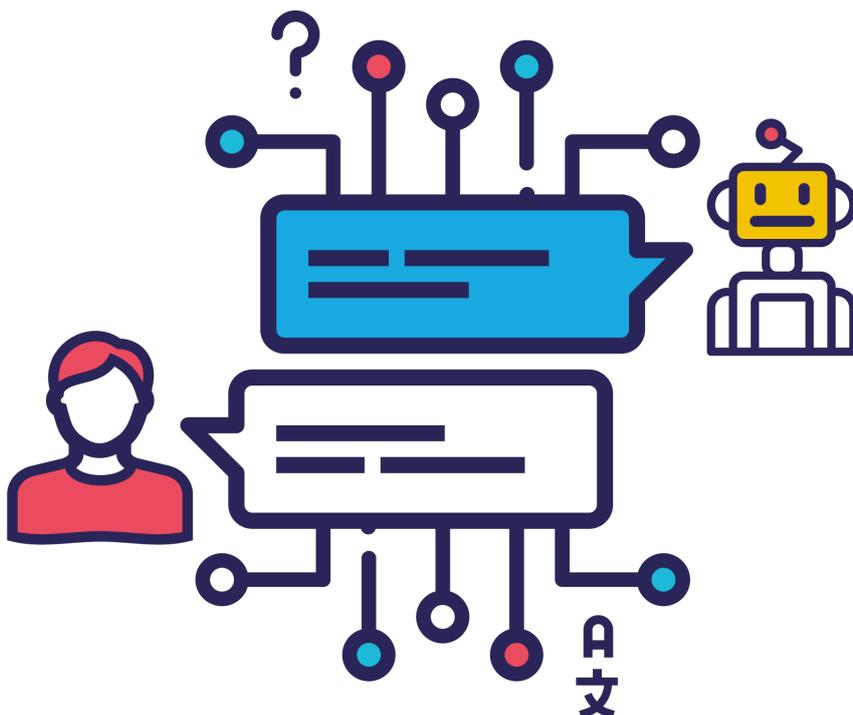
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INTRODUCTION

A strong Conversational AI platform is top of most enterprise technology priority lists, and rightly so. But choosing the right platform is not as easy as it looks, with many hidden pitfalls to consider. Questions need to be asked and answered: Why are you deploying a Conversational AI solution? What issues are you hoping to resolve and what benefits do you expect? In such a competitive landscape, time is scarce, and projects must be ready to meet business and IT demands swiftly and efficiently.

As companies no longer question the viability of using Conversational AI, they need to ask further questions to ensure that they deploy solutions that will keep them ahead of the curve.

This white paper will guide the beginner to commonly used phrases in Conversational AI.





#1. INTENT RECOGNITION

A virtual assistant should be able to recognize all the intents without being constrained by budget. Most tools in the market support strong intent recognition as it's considered more of a commodity functionality today.

CLOSE INTENTS

Answers often need precise understanding to deliver an exact response. For example, "I cancelled my flight - can I get a refund?" and "You cancelled my flight - can I get a refund?" are both about flights being cancelled, but they call for very different responses. And follow up questions such as "what about my seat fee?" should be understood within the same conversation, without the user being sent down new one-way flows.

NEGATIVE INTENTS

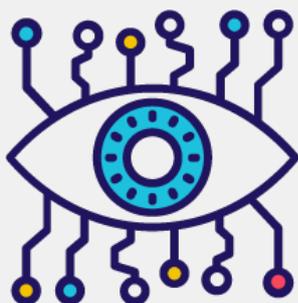
These should be accounted for to allow for exceptions to general rules and this is one area where out of the box classifiers struggle. Particularly with modern phrasing, you need a way to identify these, e.g. a user saying, "I'm really happy with the service – not!"

EXCEPTIONS

Using another flight example, a passenger may ask whether a particular animal is allowed on board. The general answer is no, but there are likely exceptions for small dogs, cats and service animals. How much effort is required to build a general recognition and then add exceptions?

MULTIPLE INTENTS

A good conversational AI solution will be able to handle multiple intents and respond in the best order, even when they are not presented as such. If a user wants to install the airline app on a new device, but has also forgotten their password, the solution must be able to understand, prioritize and respond to both requests like a human would.



#2. CONTEXT

A solution should easily incorporate explicit and implicit context.

IMPLICIT CONTEXT

Implicit context is knowledge you have about a user without their needing to mention it, such as a logged in user's account details or mailing address. Explicit context is something the user has mentioned (e.g., "I'm bringing my daughter along") as well as conversational context – "how much legroom do I get in economy", followed by "what about business?". The second question makes perfect sense in the context of the first, but on its own has no meaning.

INTERRUPTION HANDLING

Users will interrupt, divert or change topics mid-way through a query. If our travelling user is enquiring about redeeming their loyalty points balance, then suddenly breaks off to ask about luggage allowances, the solution must be able to answer the second query and then resume with the points redemption query without requiring high levels of potentially expensive professional services to undertake complex coding across multiple locations.

FUTURE PROOFING

Understand how the model is built, tuned and optimized. Is the solution a black box, solely reliant on feeding it more and more training data to improve? Who provides the training data? How is the model protected from degradation over time? Does the platform itself help? Consider, too, who has access to that data – remember that some conversational AI providers are already or might in future be competitors.

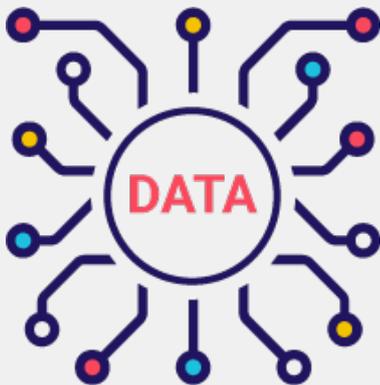
#3. INTEGRATION CAPABILITIES

How does your solution integrate with existing implementations and investments? Describe how these existing investments can be re-used.

PROTECT YOUR EXISTING INVESTMENTS

Can the solution integrate AI assets you've already created (or licensed), such as custom classifiers or named entity recognizers? Can the solution work alongside these assets and allow you to carry on using them, leveraging the investment for longer? Is there a path to migrate these tools into the chosen platform? How much effort is involved and who must do the work, i.e. are you reliant on vendor professional services?





INTEGRATE EXTERNAL SYSTEMS

How are your backend systems integrated into the solution, e.g. how might a ticketing system be accessed to provide automated support? Does the solution separate out technical coding from conversational design? Can integrations be done in-house with your own resources or will it require specialist vendor professional services time?

#4. CONVERSATIONAL DATA

What type of conversational data is available and how can it be accessed? Is access to all data included in the license fee or are additional costs involved?

AGGREGATED OR VOICE OF THE CUSTOMER

Does the solution provide only general statistical data (volume metrics, intents recognized and similar), with no actionable insights? Or can it access granular data right down to individual conversations, where actual queries, concerns, likes and sentiments are discussed? Keep in mind that while statistical data lets you know how many people are using your solution, it's the granular conversational data that lets you know how well it's performing, find areas for optimization and extension as well as identify potential business value.

INTERROGATION

Can the data be interrogated at an individual input level? Are you required to use vendor-provided tools, or can the data be surfaced and analyzed with your existing BI tools?

DATA ACCESS AND FLEXIBILITY

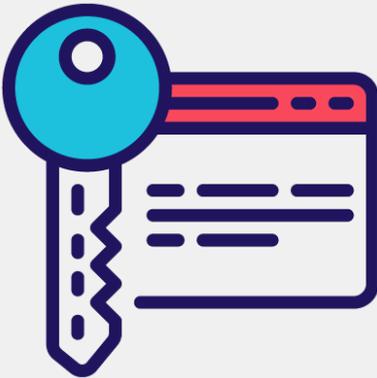
As you require new dashboards and reports, can your own data scientists and business analysts create them, or will you be reliant on vendor professional services? Does the platform provide a comprehensive query language for deep interrogation of data and can data be exported as well as linked into your data warehouse? What export formats are supported? Are there any additional costs for this functionality?

DATA OWNERSHIP

Who owns the data and who has access to it? Bear in mind that some vendors on your RFP may already be competitors or become competitors in future.

AUGMENTATION

Can the data be augmented with additional information after the fact, accommodating changes over time? For instance, you might forget to include sentiment analysis in an initial deployment – once it's added, can you also go back and add that information to previous conversations.

**#5. DATA SECURITY AND PRIVACY****Describe how your solution addresses requirements around data security and privacy.**

Data protection regulations (GDPR, CCPA, APPI, etc): Are both the vendor and their technology compliant with regulations applicable to you? How easy is compliance – does the vendor provide tools allowing you to act yourself, e.g., generating a report on user data for a GDPR or CCPA request? Or will you be required to go back to the vendor whenever you need to take action? Are there additional costs involved for compliance?

VENDOR COMPLIANCE

Is the vendor data regulation-compliant in all relevant territories? Consider, too, your end users – you may not be based in the EU/California, but if your users are, you must comply with the law in that area.

HOSTING

How flexible is the hosting model – can the vendor both provide cloud hosting and support on-premise deployment? If the latter, are any connections still required back to the vendor's servers? Can they support mixed hosting? If cloud hosting is used, what data security options are available and what impact do they have on you and the vendor? Can you easily switch from one model to another and what costs are associated with that?

DATA PRIVACY

What legal and practical provisions does the solution have for personally identifiable information (PII). How have the requirements for data deletion, masking, pseudonymization and anonymization been fulfilled? Are there tools available for this or is it a manual process? What data goes into logs and can it be selectively disabled? Who has access to the data?



#6. LANGUAGE CAPABILITIES

How do you implement a new language?

NEW LANGUAGES

What is the process, cost and timeline for adding support for a new language? How open is the vendor to adding support for a language you need, when you need it?

EXISTING LANGUAGES

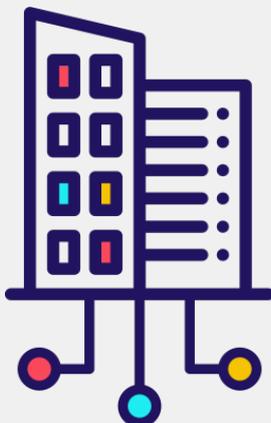
How are existing languages enhanced and updated? What standards are met for maintenance? Are languages versioned? Can you extend the model with your own vocabulary and if so, can you do this yourself or are you reliant on the vendor?

LANGUAGE QUALITY

How is new vocabulary added? How is the depth and breadth of languages checked? What is the frequency of language updates? Are variants supported, e.g. Portuguese Brazilian, Swiss German or the various Latin American Spanish variants?

ROLLOUT

How can a solution be rolled out in new languages? Do you need to rebuild the entire solution in the new language or is there a method to inherit solution structure and just perform necessary language localization (this also applies to solutions in the same language but in different regions, where legal, compliance and other factors can have an impact)? Does the platform help manage the same solution in multiple languages or is it a manual process? Consider the case of 10 bots in 10 languages – managing it manually would require a full-time team.



#7. ENTERPRISE SUITABILITY

TRAINING DATA

What data do you have for training a solution? Is it real or simulated data? If you supply domain data, will other customers, i.e. your competitors, be able to use it for their solutions? Can you get started without training data? Can the platform itself generate training data from a deployed solution?

COLLABORATION

How open to suggestions or inputs for product features or development from customers is the vendor? Is the vendor willing to change development direction if you urgently need a new functionality?

ENTERPRISE FEATURES

Does your solution include features such as: version control, role-based permissions, commenting, channel support, rollback etc. Are these included in the licensing costs or is there hidden cost associated with them?

USER AUTHENTICATION

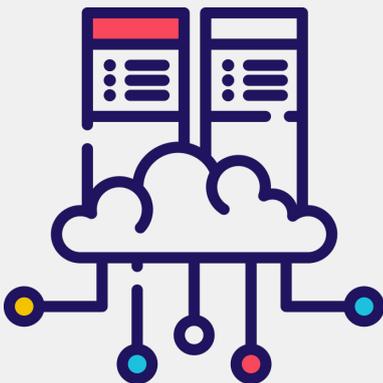
Can the platform be integrated into existing authentication tools or is it separate? What authentication/ authorization is included out of the box and what is available for an extra cost?

SCALABILITY

How does your solution scale, both technically and from a business perspective? In addition to handling increased usage, you will also want to scale to new languages and regions. This can mean an exponential increase in management overhead to keep solutions in sync – how is this handled?

MULTI-USER FUNCTIONALITY

Is the platform truly multiuser, allowing multiple developers to work on the same solution or is it a case of “she who saves last wins”. Are changes logged with user, date/ time and comments? Describe how users can work concurrently on content.

**#8. HOSTING AND CONNECTIVITY****What hosting models are available for your solution?****HOSTING FLEXIBILITY**

Are flexible hosting options available – cloud, on-premise, mixed, on-chip? Is transition from one hosting method to another possible now and in the future, and if so how and what costs are involved?

ON-PREMISE HOSTING

Does on-premise hosting truly stand alone from your servers or is there still a connection back to the vendor's server? Can it be entirely managed in-house or is there still vendor reliance?

HOSTING CHANGES

What is the pathway and what are the cost implications of changes to hosting arrangements? Can this be done in-house, or does it require vendor professional services support? If cloud-hosted, what provisions are there for business continuity and disaster recovery?



#9. CLOUD

APIs – does your solution connect to existing APIs to integrate other systems or does it require custom API builds? Can you use in-house resources or are you reliant on vendor professional services? Are there any costs associated with using APIs? ?

EXISTING DEPLOYMENTS

Can the solution be connected to existing deployments out of the box? If not, describe what extra costs and time it will take to connect these existing deployments.

#10. TOTAL COST OF IMPLEMENTATION

Outline a typical/estimated total cost of implementation and typical ratio of license: implementation costs?

IMPLEMENTATION RESOURCES

Can you take full control or is implementation reliant on vendor's professional services resource? Can you work with your preferred system integrator?

MAINTENANCE RESOURCES

What types of resources are needed for implementation and maintenance? How much can be done in-house and how much must be done by the vendor?

PROFESSIONAL SERVICES

Outline standard professional services costs and describe typical ratio of professional services days: software costs. Are there hidden costs in additional or advanced capabilities?



SUMMARY

The Conversational AI platform market is diverse. With such a large variety of solutions available, commissioning an experience and proficient Conversational AI platform allows business to focus on their strong points and not waste time on resources and infrastructure that may not work out well.

By tending to the features mentioned in the white paper, businesses can find SaaS based solutions that can deliver easy integrations and rapid deployments that are tailored at the same time to each company's objectives and KPIs. Importantly, they can deliver optimal conversational experiences that are scalable and can grow in sync with the company's targets and market.

Hybrid approaches such as LUIS^Teneo offer the best of cloud services with quality conversational AI deliveries that tick all the boxes and provide transparent services that can be personalized to each project.

To learn more about how LUIS^Teneo can help you stay ahead of the curve and easily build an exceptional conversational AI platform visit www.artificial-solutions.com/luis-teneo.

Or if you prefer to get hands-on, go to developers.artificial-solutions.com for a free 90 day trial of our award-winning platform.

Artificial Solutions has customers and offices around the world. Please visit www.artificial-solutions.com to find your nearest office. Alternatively, you can find us on social media:



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ABOUT ARTIFICIAL SOLUTIONS

Artificial Solutions® (SSME:ASAI) is the leading specialist in Conversational AI. We enable communication with applications, websites and devices in everyday, humanlike natural language via voice, text, touch or gesture input.

Artificial Solutions' advanced conversational AI Teneo®, allows business users and developers to create sophisticated, highly intelligent applications that run across 86 languages and dialects, multiple platforms and channels in record time. The ability to analyse and make use of the enormous quantities of conversational data is fully integrated within Teneo, delivering unprecedented levels of data insight that reveal what customers are truly thinking.

Artificial Solutions' conversational AI technology makes it easy to implement a wide range of natural language applications such as virtual assistants, conversational bots, speech-based conversational UIs for smart devices and more. It is already used daily by millions of people across hundreds of private and public sector deployments worldwide.

For more information, please visit www.artificial-solutions.com.