Lyra - your Personal Assistant
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Hey Lyra

Lyra is the sophisticated, conversational mobile Personal Assistant built by Artificial Solutions. Lyra is available on multiple platforms, and has the unique ability to seamlessly continue conversations with the user across these platforms - maintaining the memory of previous conversations, the context of the current interaction and handling the transitions from one channel to another as effortlessly as a human would.

Natural Language built with Teneo

Lyra exposes the power of Teneo’s Natural Language capability to enterprise organizations, using the fully featured Teneo development and analytics platform. Teneo is a full lifecycle enterprise strength platform, incorporating tools to:

- Help explore available data to scope and build with advanced text mining through Teneo Discovery;
- Build solutions with Teneo Studio, then deploy them with Teneo Interaction Engine;
- Monitor and improve with Teneo Inquire, our Big Data conversational analytics package.

All these tools are made available to enterprise customers to enable them to build their own applications, specific and tailored to their company and precise industry use case.

So how do I get Lyra?

You can join the other million plus users in downloading Lyra – just search for Lyra in the Apple App Store or Android Google Play Store App stores, register a profile and start chatting! The more you use Lyra, the more personal your experience becomes, and your profile will enable implicit and explicit personalization to take place, improving Lyra for you every time.
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Getting Started...

Lyra covers many domains, including:

- Fun things - jokes, horoscopes, facts, riddles and chit-chat
- Useful information - general knowledge, weather, video and image searches, calculations and sums, translations, currency conversions and latest news.
- Personal administration - calendar management, reminders, notes, alarms, e-mails and SMS.
- Out and about - get directions and find what you need, from plumbers to places to eat and drink.
- Social Media - get the latest from Twitter and Facebook

If at any time you need inspiration simply ask Lyra, “What can you do?”
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Customizing Lyra

- Grant access to your calendar so Lyra can make, amend and remove appointments at your command;
- Authorize your Twitter account for send and read tweets, plus create a VIP List of Twitter users to streamline your Twitter notifications to your most important.
- Login to your Facebook account to allow Lyra to post to Facebook on your behalf.
- You can even change the Speech Recognition to a variety of English accents, and change Lyra’s spoken response to either UK or US English.

“Hello Dave” - a personalized welcome and useful information, every time.

Each time you start the app, Lyra will give helpful suggestions. At the beginning of each session, you will be given the weather - in your current location, plus your next meeting. Lyra knows where you normally live, so if you are away from home, in a different country, she will additionally give you the time back home. If it’s a country where English is not the default language you will be given some useful phrases in that language, the time back home and if the currency is different from your usual currency, the current exchange rate.

Have fun!

Most users start with some fun inputs. This could be asking Lyra to “Tell me a joke”, “Give me my horoscope”, “I want a riddle” or exploring Lyra’s personality - “Will you marry me?” “Where do you live”, “I hate you” etc. Lyra is chatty, and has a distinct personality.
Intelligent handling of multiple pieces of mandatory information.

Get an up to the minute overview of your schedule by asking Lyra what your day looks like. Check further ahead by asking “what about tomorrow?” too. Lyra’s conversational intelligence understands the context and knows you are still reviewing your diary appointments - no need to remind her of the subject again!

Once you have given Lyra access to your calendar, you can add new appointments, either as a complete instruction:
Or Lyra can walk you through the process, with intelligent, multi-stage slot filling:
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Changes? No problem. Lyra can change things like the title, date or appointment time for you in a flash:

![Calendar with an event being moved](image)

**Move it to 8 AM**

Meeting to discuss new website

20 Oct - 08:00

[Cancel] [Save]
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Memory and Contextual understanding

Lyra has various forms of Memory: long term, limited to an individual dialogue; and short term. The Teneo Platform allows the developer to control this memory flexibly, appropriate to the use case.

During a conversation, humans naturally perform pronoun resolution (Anaphora Resolution) where the context of an utterance relates to a previous sentence - this is also demonstrated in Lyra:
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Memory has been built to persist for the duration of a single dialogue - for example if you ask Lyra “Will you marry me” and then much later in the dialogue say, “I hate you” the response will be changed as a reference to a marriage proposal has been remembered.

Longer term memory, around usage and preferences is persisted forever, across many sessions, as highlighted in the Personalization section.

Personalization

Lyra takes contextual information into account when retrieving information, such as your location. Unless you specify another location, Lyra will assume you are looking for results near you. Lyra also tracks your likes – for instance, if you have asked to find a particular food type (say, Italian) many times, then when you ask an open question like “I’m hungry”, without specifying a restaurant type, she will suggest the nearest pasta and pizza place. You can of course explicitly state your preference, and this will be prioritized over any implicit knowledge.

Translations

Lyra is currently available in English; however she can translate inputs into many languages. This can either be done explicitly by instructing Lyra to “Translate Can you give me directions to the airport into Russian”; or more naturally, “How do I order a beer in German”. Lyra will also change the Text to Speech to vocalize the output into the desired language if the language is supported by the device.

You can also combine this with other functionality, to perform more complex interactions such as “Translate thanks for the great meeting today to Swedish and text it to Mark Jones”. This will both translate the input and construct the appropriate output to an SMS.
Multi-device conversational persistence.

Lyra can run on many devices at the same time, and provides a seamless dialogue experience across them. As an example of this, start Lyra and ask “Find me an Indian restaurant” and click on one of the restaurants in the list. This way, Lyra knows where you want to go.

Then login to Lyra on a different device or browser and ask “Give me directions there”. Lyra remembers you were looking at a specific restaurant, and provide directions to that location on the second device.

Task Interpretability and Resumption.

A humanlike trait during a dialogue is to stray off-topic, and then to return to complete a task. The Teneo Platform supports this out of the box and this has been implemented in various places in Lyra.

For example, we will add a calendar event, but before confirming, we will ask a related question. Lyra will come back with the answer, then look to complete creating the event.
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## Lyra Domains and example inputs

<table>
<thead>
<tr>
<th>Domain</th>
<th>Example Inputs</th>
</tr>
</thead>
</table>
| **Fun**                 | “Tell me a joke”  
                          | “I want a factoid”  
                          | “Are you married”    |
| **Contacts / Phone**    | “Get Mark’s Contact details”  
                          | “Phone Lawrence Flynn on his mobile” |
| **Calendar**            | “What does my day look like today”  
                          | “Schedule a meeting tomorrow at 7PM called Website Meeting” |
| **General Knowledge**   | “Convert £500 to dollars”  
                          | “Who is the President of the United States?”  
                          | “Where was he born?” |
| **Food, Drink, More**   | “Find me a Tapas restaurant in Barcelona”  
                          | “I need a plumber”  
                          | “I’m hungry” |
| **Search Google, Bing, Wikipedia** | “Find me photos of John Lennon”  
                          | “What does Wikipedia know about Rolls Royce?” |
| **Twitter**             | “Read my tweets”  
                          | “Tweet Just had a great meeting in London, on the train home now” |
| **Facebook**            | “What is happening on Facebook” |
| **Translate**           | “How do I order a beer in German”  
<pre><code>                      | “Translate Thanks for the great meeting to Swedish and text it to Andreas” |
</code></pre>
<p>| <strong>On-device Music Player Control</strong> | “I want to listen to some Madonna” |
| <strong>Reminders</strong>           | “Remind me to phone mother tonight at 7PM” |</p>
<table>
<thead>
<tr>
<th>Feature</th>
<th>Command Example</th>
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</thead>
<tbody>
<tr>
<td>News</td>
<td>&quot;Get me the news from the BBC&quot;</td>
</tr>
<tr>
<td>Notes</td>
<td>&quot;Take a Note I spent $10 on lunch&quot;</td>
</tr>
<tr>
<td>Weather</td>
<td>&quot;Will I need my Umbrella in New York&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;How about tomorrow&quot;</td>
</tr>
<tr>
<td>Maps / Directions</td>
<td>&quot;Give me directions to Paris&quot;</td>
</tr>
<tr>
<td>SMS</td>
<td>&quot;Send a Text to Mark saying Where is my coffee&quot;</td>
</tr>
<tr>
<td>Email</td>
<td>&quot;Send an Email to Lawrence subject I will have an update for you on the Website tomorrow.&quot;</td>
</tr>
<tr>
<td>Youtube</td>
<td>&quot;I want to see a video of funny cats&quot;</td>
</tr>
<tr>
<td>Alarms</td>
<td>&quot;Wake me up at 7AM&quot;</td>
</tr>
<tr>
<td></td>
<td>&quot;Set a timer for 30 minutes&quot;</td>
</tr>
<tr>
<td>Device Control</td>
<td>&quot;Turn on Bluetooth&quot;*</td>
</tr>
<tr>
<td></td>
<td>&quot;Launch Skype&quot;*</td>
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*Note – Android only
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**About Artificial Solutions**

Artificial Solutions® is the leading specialist in Natural Language Interaction (NLI), a form of Artificial Intelligence that allows people to converse with applications and electronic devices in free-format, natural language, using speech, text, touch or gesture. Delivered through Teneo® - an ultra-rapid NLI development and analytics platform – it allows business users and developers to collaborate on creating sophisticated, humanlike natural language applications in record time without the need for specialist linguistic skills.

From interacting with third-party applications, delivering actionable user data insight and enabling implicit personalization to answering queries, cross-selling and updating back-end systems, Artificial Solutions’ NLI technology makes realizing the benefits of natural language in everyday applications easy.

Artificial Solutions’ technology is deployed by hundreds of public and private sector organizations and used by millions of people. For more information, visit [www.artificial-solutions.com](http://www.artificial-solutions.com)