TALK SENSE

Just say it and you're done!

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White Paper: TALKSENSE for IOT and Connected Devices in Times of Covid_19.

Background:

Demand for interactive kiosks is rising across the globe. Different end-user focused industries are using interactive kiosks for diverse usage, ranging from food self-service, beverage self-service, hospitality check-in, ticketing, general information, customer interaction, parking, human resource industry, ATM, photo printing, to electronic product and electric vehicle charging, and clothing retail.

The global interactive kiosk market size is expected to reach USD 41.88 billion by 2025 ([source](#)).

At the same time, due to Covid19 outbreak in early 2020, there has been an increasing demand for touch free interfaces in public areas, due to the personal hygiene awareness in public areas. People in public areas (transportation, governmental services, entertainment etc.) are significantly more self-aware to their own personal hygiene, and would restrain from touching surfaces, and any type of physical contact with the service device.

In this paper, we'll present several challenges, which we believe can be mitigated with TALKSENSE technology.

"Taking the digital leap is one of the major trend to adapt to the change by Corona virus." ([McKinsey](#), 2020)

Challenging Use Cases:

- **Customer experience**: The consumer journey within the retail \ restaurant \ transportation and more is essential for the brand, to make the services offered remembered positively. Whether it is a ticket purchase, a product sold or an information provided – the brand wishes the consumer to visit and use this service again. Possible usage of such interfaces:
    - **Product Search**: asking for a specific product.
    - **Information**: requesting for guidance (in door navigation) or information about a product sold.
    - **Self Service Support**: handling a certain failure in the process or submitting a complaint.
- **Anonymized user**: The users of this interfaces will most likely be anonymized to the system, meaning there will be no knowledge of the user. Therefore, the kiosk and IOT connected devices present these challenges:

- o **No Personalization**: the service cannot be personalized for each user, thus needs to be designed in such way which will make it usable and valuable for all and any of the users.
- o **Missing Data:** the service provided cannot use the user's personal information in order to provide an accurate analysis of the specific needs.
- **Background Noise:** Users of kiosk, vending machines and other publically available connected devices will usually interact with the service in a crowded and noisy environment. This would require the service to be clearly designed for intuitive communication by the passing by user.

Covid19 and Kiosk and Vending Machines in 2020 Onwards

While Kiosk and vending machines, as well as other interfaces (digital signage etc.) where focusing in the past years in providing a fully intuitive experience, leaning on touch experience - early 2020 came with the Covid19 outbreak and enforces this market to recalculate and redesign these assumptions.

Side by side with the improvements in voice technologies, and with the various solutions available in the market, it has become clear that voice will have to take the leading part of the interface – on board the edge device.

Thus, while the world is coming to realize the new normal of the near future (#thenewnormal), which will involve wearing masks, keeping social distancing and hand sanitation – the industry is finding ways to incorporate the voice platforms into the provided services.

Based on successful implementation of voice technologies, it is expected that organizations will shift budgets towards remote and voice technologies (source: Forrester, "*Forecasting In A Time Of Rapid Change: Tips For CIOs And Tech Vendor CEOs In Charting The COVID-19 Outlook*" March 20').

During the time of Covid_19, many people, employees and consumers, have been indoctrinated for actions and activities which should keep them safer. These are some of the major behavior patterns and experiences, which would make an effect when the vast majority of the population will return to its previous work and life habits: - #WFH (Work From Home), Personal Hygiene in public spaces and remote service from different service providers.

"*The use of smart building technology can enable more efficient facilities management and help support a safe and healthy environment*". (From [Deloitte 2020 on Facility Management under Covid19)](#)

Using disruptive technology, as well as innovative approach to data capture and user experience, TALKSENSE solution will help handling the gaps mentioned, and generate new methods for customer engagement, self-service, touch free interface and more.

Introducing TALKSENSE, the Enterprise - Turning every interface to voice enabled.

What TALKSENSE does?

TALKSENSE turns any application and/or device into voice enabled, in any language, accent, device, platform or use case. TALKSENSE allows its users to make an accurate & reliable voice interaction.

Our solution processes the voice input within a dynamically created context, to provide an accurate data & results. Using proprietary NLP and ML engine, TALKSENSE's solution is self -learning and self-improving with every use of the user.

TALKSENSE's unique advantages:

- **Precise due to in-context processing approach**: voice input is processed within the unique context of each customer.
- **Data Privacy:** Processed data is not share with a cloud vendor platform (e.g. Amazon, Google). Engine can reside on customer's dedicated cloud / on premise server.
- **Ease of implementation:** Integrating TALKSENSE Voice Layer requires couple of hours to few days, and has no prerequisites of NLP/Voice special skills in house.
- **Brand Strength** – TALKSENSE can be white-labeled to empower existing customer brand with voice interface.
- **GDPR\CCPA Compliant** - None of the information processed by TALKSENSE engine contains PII data.

While exploring the Voice Technologies landscape, most of the available solutions use an existing platform vendor as a foundation of the solution, thus processing all relevant information through it (e.g. Amazon Eco, Google Home, etc). The available solution approach places the data ownership and management within the hands of the designated platform.

The suggested solution involve implementing Voice interfaces across various end points within kiosk, vending and IOT connected devices' use cases:

- Voice enabled information kiosk station – to make inquiries, product search, pickup scheduling, direction instruction and other services – voice enabled;
- In-Store \ In-Office Connected Devices – digital signage and edge devices present another touch point for the customer at the store and office. Applying voice makes it more valuable and improves the service level of the entire brand;
- Improving Customers' self-service and service efficiency – from faster check in, shorter que for ticket purchase – all are benefiting the customer's perception of the quality of service provided.

Approach:

As a best practice, TALKSENSE team suggest phases' approach, which will gradually enhance the suggested service implementation, while monitoring progress and KPIs.

Suggested phases:

- Introduction, challenges discovery – identifying potential use cases to be handled with Voice User Interface.
- Brainstorm, workshop – mutually designing basic solution architecture, to set the foundation of a possible collaboration – mainly for POC at first.
- POC – executing Voice Layer implementation in a designated use case, including agreed upon KPIs, POC duration, and audience.
- Production Design – discussing POC results and suggesting next steps towards a complete deployment.
- Production Deployment – full scale solution deployment.

Solution High Level Architecture
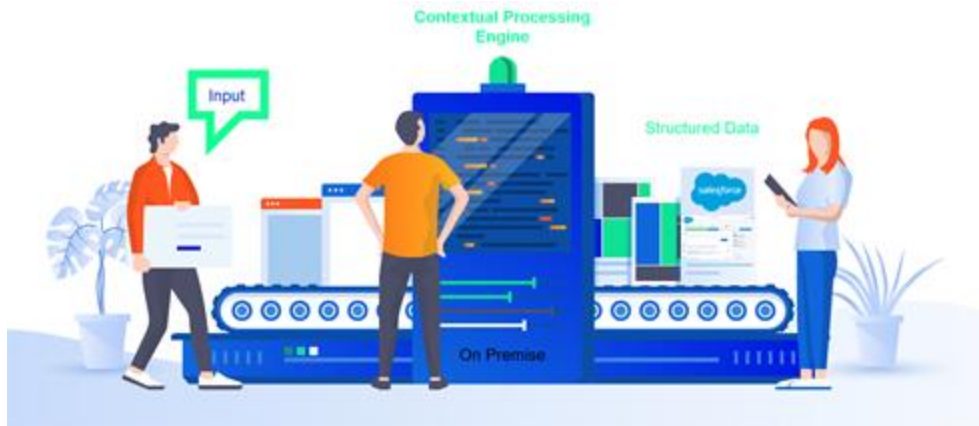
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