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Business Automation System Using Amazon Echo

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ABSTRACT: Amazon Alexa, known simply as Alexa, is a virtual assistant developed by Amazon, first used in the Amazon Echo and the Amazon Echo Dot smart speakers developed by Amazon Lab126. It is capable of voice interaction, music playback, making to-do lists, setting alarms, streaming podcasts, playing audiobooks, and providing weather, traffic, sports, and other real-time information, such as news. Alexa can also control several smart devices using itself as a home automation system. Users can extend the Alexa capabilities by installing "skills" (additional functionality developed by third-party vendors, in other settings more commonly called apps such as weather programs and audio features).

Most devices with Alexa allow users to activate the device using a wake-word other device (such as the Amazon mobile app on iOS or Android and Amazon Dash Wand) require the user to push a button to activate Alexa's listening mode.

Currently, interaction and communication with Alexa are available only in English, German, French, Italian, Spanish, Portuguese, Japanese, and Hindi. In Canada, Alexa is available in English and in French.

In recent years, the field of Internet of Things (IoT) has seen significant investments made by the research community and the industry. Specifically, the Smart Home space has been a prime focus with the introduction of devices such as Amazon Echo, Google Home, Samsung Smart Things, among others.

In this paper, we focus on making non-smart Business application   and how to build a robust, cost-effective smart system that can be widely used. We power our system using Amazon Echo, Amazon's cloud services, its speech services

KEYWORDS: Business Automation, ERP, Smart Speakers, Language, Forecasting, Predictive Analysis, Reports.

I. INTRODUCTION

Work on the Amazon Echo began in 2011, known as "Project D". It was named this because the Kindle was Project A and the Fire Phone was Project B. The Amazon Echo was an offshoot of Project C. Project C is unknown, even though work on it has stopped. The Amazon Echo was originally supposed to be called the Amazon Flash. The wake word, the word that makes the device responsive, for the Echo used to be "Amazon"[1]. Both attributes were disliked by Lab126, the division of Amazon that conducts research and development and creates computer hardware. Lab126 believed that "Amazon" is too much of a commonly used word, and the device would react when it was not intended to. Jeff Bezos, the CEO of Amazon, ended up being influenced by Lab126 to change the name of the device to the Amazon Echo and the wake word to "Alexa". The Amazon Echo was originally pitched as only a smart speaker, it was not originally intended to be a smart home hub, like it is now, until after it hit the market. As Alexa, the artificial intelligence (A.I.) that powers the Amazon Echo, improved, the device became more of a controlling center for smart home appliances.

The Amazon Echo (1st Generation) was initially released in March 2014 for Amazon Prime and invited members, and was marketed alongside the voice of the product, Alexa. Alexa is a voice associated with the Amazon Echo that will respond to questions and requests through artificial intelligence. Amazon has claimed that the voice of Alexa was inspired by electronic communications systems featured in the television series Star Trek: The Original Series and Star Trek: The Next Generation. Amazon developers decided on the name Alexa because the X in the end of the name makes the word appear symmetric and appealing, and the hard-consonant sound makes the product name more easily remembered with more accuracy and precision. Shortly after the Amazon Echo release [2], Amazon announced Alexa Fund in June 2015, in which they invested in companies that made voice control devices. This fund ended up investing over $100 million in several companies that made products like the Amazon Echo.

Since the release of the Amazon Echo in early 2014 the company, Amazon, has developed many similar devices that they have released into the artificial intelligence and technological markets. In November 2016 the second generation of the Echo Dot was released for a lower price with improved voice recognition and new colors. The second generation of the Amazon Echo was released in October 2017. This update offered better voice recognition and a fabric covering exterior. Since this many other variants of the Amazon Echo have been released.

II. RELATED WORK

The first contribution this paper aims at is setting up a framework based on the literature and a resulting trust model. Furthermore, the trusting bases and subdimensions of trust in voice assistants are investigated and operationalized to quantify them. Moreover, using existing trust scales derived from the literature, a questionnaire is created. Finally, the paper aims at providing consumer insights on the impact of the sub dimensions (trusting bases) of trust on the willingness to pay (WTP) for voice assistants (with a focus on smart home voice assistants). Moreover, correlations of these trusting bases with demographic variables such as age or gender are investigated, as well as how to mitigate the most influencing dimensions to exploit voice assistants as a marketing tool. It is important to note that this paper will focus on the variable trust in voice assistants and its relation to WTP, as well as correlating demographic variables and implications.

Therefore, the WTP itself, further affection on intention to use and optimized marketing are not part of the research scope and will thus not be investigated in this paper. In the end, this paper will provide valuable insights for companies to address trust issues that hinder them from executing marketing opportunities facilitated by voice assistants. These trust issues can be tackled effectively to increase the WTP and to exploit the potential AI-based Voice Assistants have for business intelligence. Hence, consumers can be addressed using data-driven, personalized marketing that is optimized through their use of voice assistants as Smart Home devices ERP system, where can be able to see the Business analytics data in the computer screen only. Where it is more time-consuming process. Here, needs to login they to surf on the proper work center to get real time business Data of the Business module. Disadvantage of an existing system would be that the customer must visit the ERP portal to check the analytical data of their business. Which must do lot of work in analysis of data and make result in the business.

III. PROPOSED ALGORITHM

Integrating the Alexa voice technology to the SAP Business by design system. As result any type of business data can easily track and get from the cloud application in swiftly way to make important business decision. The following documentation will provide the functional as well as the technical design, how the Alexa device is integrated with cloud application.

ADVANTAGES OF PROPOSED SYSTEM:
* Can take data from the SAP by design immediately for the decision making. Less time consumes
* More robust.
* Access easily anywhere in the world

Business Requirements introduction Given the increasing importance of voice recognition technologies and devices are acquiring, integrating ByD with a voice assistant is an interesting choice for future applications. Given the above, the objective of this integration project is to build integration scenarios that can be applicable to all-day business scenarios and can be used by ByD users. Within this paragraph, for all three of the project phases requirements will be described. Since Alexa device allows the user to have a human-like interaction and obtain the requested information, the conversational style should be as close as possible to human conversational style. Conversation phrases (Alexa Skillset) and the data to be retrieved, created, updated, and deleted on ByD are tightly linked and will therefore be specified in this document for each project phase.

Findings on integration possibilities between Alexa and ByD
Integration possibilities depends on o-data and webservices that can be configured. During the POC realization phase, it was proved that integration is possible when the custom odata for that specific action (read, write, edit, delete) related to a specific BO is configurable. Therefore, integration possibilities extend themselves on all possible o-data that can be configured on Business ByDesign system.
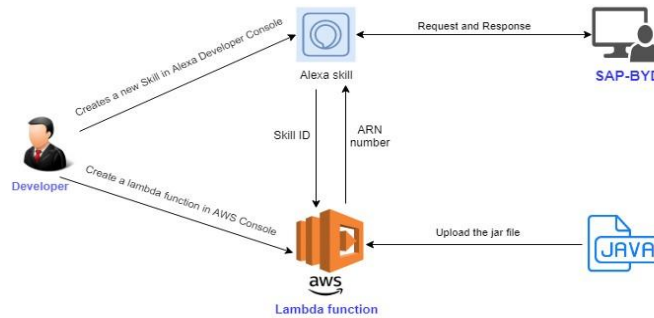
Fig.1. ERP data

IV. PSEUDO CODE

Step 1: Connect ERP System via Alexa Echo.
Step 2: Ask Questions related to business configured during development.
Step 3: Get Voice Output form echo device.
Step 4: End.

V. SIMULATION RESULTS

The simulation results show that echo device contact the ERP system based the queries asked to echo device and brings the voice output as a result. Based on Business data in ERP
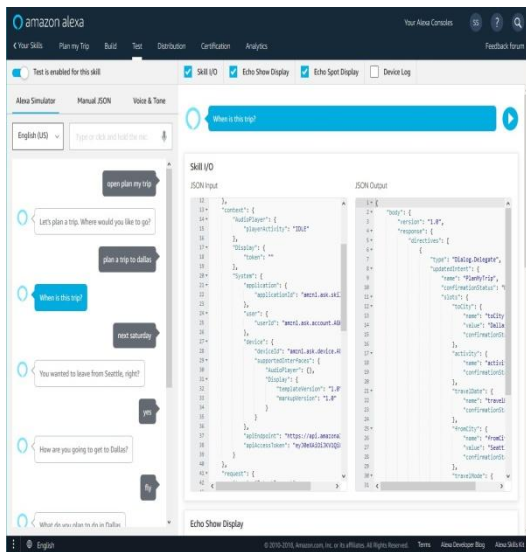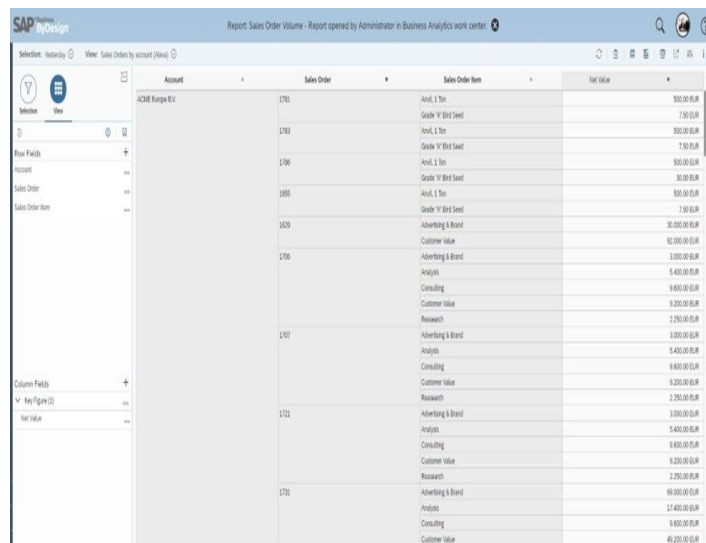

Fig.2.Alexa echo simulator

Fig.3. ERP data

VI. CONCLUSION AND FUTURE WORK

In info several varieties of users approaching server to perform their continuous queries which has the data desires and acquire notified at any time supported the question that has been printed. We tend to establish totally different reorganization choices for the indexes and demonstrate the importance of question insertion order within the construction of the assortment structure. We tend to conjointly show that constructing tries with rare words at the upper level of the filtering performance because of early pruning at filtering time. We tend to through experiment measure totally different reorganization methods and showcase their result in filtering potency exploitation 2 different real-world datasets and each artificial and real question sets. We tend to extend the bestowed rule implementation by parallelizing the filtering method to suit fashionable multi core processors. During this paper, we tend to establish 2 totally different parallelization choices and through an experiment measure their economical filtering performance.

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