“Unified Voice Interface Platform”

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CONNECTED Devices

- Possibility to connect
- Built-in HMIs
- On Prem Interface

Millions of Connected Devices
USER EXPERIENCE TRANSITION

Screen Based  Screen Less
Going from Screen based Thinking to Screen Less Thinking

40 Smart Speakers variants in the market already

VoiceLabs analysis combined with research from CIRP, KPCB and InfoScout
SMART Speakers – The New Experience

Year-on-year growth of smart voice speakers is greater than 50% in all 19 countries surveyed:

- 39% -- India
- 37% -- United States
- 34% -- Brazil
- 33% -- China
- 26% -- Germany
- 24% -- United Kingdom

Source: Gartner, Edison Research, 2017, Voicebot.AI, mediapost.com
Working of SMART Speakers

On Prem | Cloud | Device Cloud | Smart Devices | On Prem
--- | --- | --- | --- | ---
Smart Speaker System
- Identify keywords and parameters
- Identify device cloud and API
- Create request
- Process response and send back response to user

Cloud
- Voice API
- Cloud

Device Cloud
- API request
- API response

Smart Devices
- Dev request
- Dev response

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Working of Smart Speakers - Scalability

Add new smart speaker

Add new device cloud
Voice Cloud Service

Smart Speaker System
- On Prem
- Identify keywords and parameters
- Identify device cloud and API
- Create request
- Process response and send back response to user

Voice Cloud Service
- Cloud
- API request
- API response

Device Cloud
- Cloud
- API
- API
- API

Smart Devices
- On Prem
- Dev request
- API request
- API response
- Dev response
Voice Cloud Service - Architecture

Smart Speaker System

On Prem

Cloud

- Identify keywords and parameters
- Identify device cloud and API
- Create request
- Process response and send back response to user

Voice Cloud Service

- Smart Speaker Transformation
- VCS API
- Intent mapping

Device Cloud

Cloud

- API request
- API response

Smart Devices

On Prem

Dev request

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Voice Cloud Service - Architecture

Voice Cloud Service

Transformation Plugin

Intent Mapping Plugin

Interaction models

VCS API

Smart Speaker System
- SmSp1
- SmSp2
- SmSp3
- SmSp4
- SmSp5

Device Cloud
- DC1
- DC2
- DC3
- DC4
- DC5

Smart Devices
- DC1
- DC2
- DC3
- DC4
- DC5

Interaction models

VCS API

Transformation Plugin

Intent Mapping Plugin

Voice Cloud Service

Smart Speaker System
- SmSp1
- SmSp2
- SmSp3
- SmSp4
- SmSp5

Device Cloud
- DC1
- DC2
- DC3
- DC4
- DC5

Smart Devices
- DC1
- DC2
- DC3
- DC4
- DC5

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1. Request from voice cloud to VCS API
2. VCS API transformation plugin
3. Transformation plugin will give request packet in VCS format
4. Send VCS request format to intent mapping cloud to search for correct device cloud make a call and receive response
5. Send response in VCS format
6. Send VCS format response to transformation plugin
7. Get smart speaker specific response message.
8. Send the response
Transformation & Intent - Plugin

**Transformation Plugin**

- **Request Process**
  - Accepts message in smart speaker cloud format
  - Creates request packet in VCS format

- **Response Process**
  - Accepts message in VCS format
  - Create response in smart speaker format

**Intent Mapping Plugin**

- **Request Process**
  - Accepts request in VCS format
  - Create request packet in device cloud format
  - Sends the request to device cloud

- **Response Process**
  - Receive response from device cloud
  - Convert response to VCS format
1. Standard format to communicate between plugins and VCS
2. No direct connection between transformation plugin and intent plugin
3. One transformation plugin can be used for multiple device cloud and vice versa.
1. Uniform approach to keep the utterances
2. Automatic update of utterances (depends on smart speaker infrastructure)
3. Required for custom features
Implementation Consideration

As a binary plugin
- Performance will be better
- Plugins and VCS core will work as a single process, failure of plugin may create problem to VCS

As a service plugin
- Multiple tech stack is possible
- Better decoupling
- Performance need to be evaluated.
Plugin Registration

1. Maintain catalogs for the services
2. Plugins can be registered or removed at runtime with admin level APIs
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