

Market Pull for Intelligent Speech

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Overview

§ Has Been Some Effective Technology Transfer

- Certain niches are succeeding commercially
- Conflict between two philosophies drives product design
- Application development is interdisciplinary

§ Speech Is Generally a Multi-Tiered Market

- Multiple layers of distribution
- Complex web of buyers, users, and VARs

§ Adam Smith's "Invisible Hand" Is Often Tied

- Sellers often don't know what they're selling
- Buyers usually don't know what they're buying
- "Demand" is abstract, disappointment consistently high
- "Selling the future" is the most successful strategy to date

Key Issues

- § Anthropomorphic versus mechanomorphic design philosophy
 - Product designers prefer the first
 - End users tend to prefer the second
 - Mismatch between value propositions is fatal
- § Cultural conflict between top and bottom of the pyramid
 - Enabling versus enhancing value proposition is confusing
 - Elasticity of demand is limited
- § Design tools are ill-designed or non-existent
- § “The Conversation” is beginning

Are We Building a ...

1. Real, conscious, sentient entity?

- The user BELIEVES because it's really TRUE
- As the user explores, the interaction becomes deeper
- There is more there than the user can ever discover

2. Convincing simulation?

- The user BELIEVES because the ILLUSION is compelling
- As the user explores, the interaction becomes more shallow
- As the user explores, terrain becomes familiar (the magic disappears)

3. User interface into a useful product?

- The user SUSPENDS DISBELIEF because it's convenient & useful
- User focus is on utility and task, not the interface itself
- As the user explores, user power increases

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3. User interface into a useful product?

- The user SUSPENDS DISBELIEF because it's cool & useful
- User focus is on utility and task, not the interface itself
- As the user explores, user power increases

Anthropomorphism

Mechanomorphy

“Natural” Language

- § We use many different kinds of natural language
 - Conversation with your boss, spouse or store clerk
 - Talking to and with children
 - Interacting with pets
 - Talking to a foreign-language-speaking person
 - Pidgin language in work settings
- § Set and Setting changes our behaviours
- § Theory of Mind is critically important
- § What is human-machine pidgin?

THE MARKETS

Enabling versus Enhancing



Enabling Application

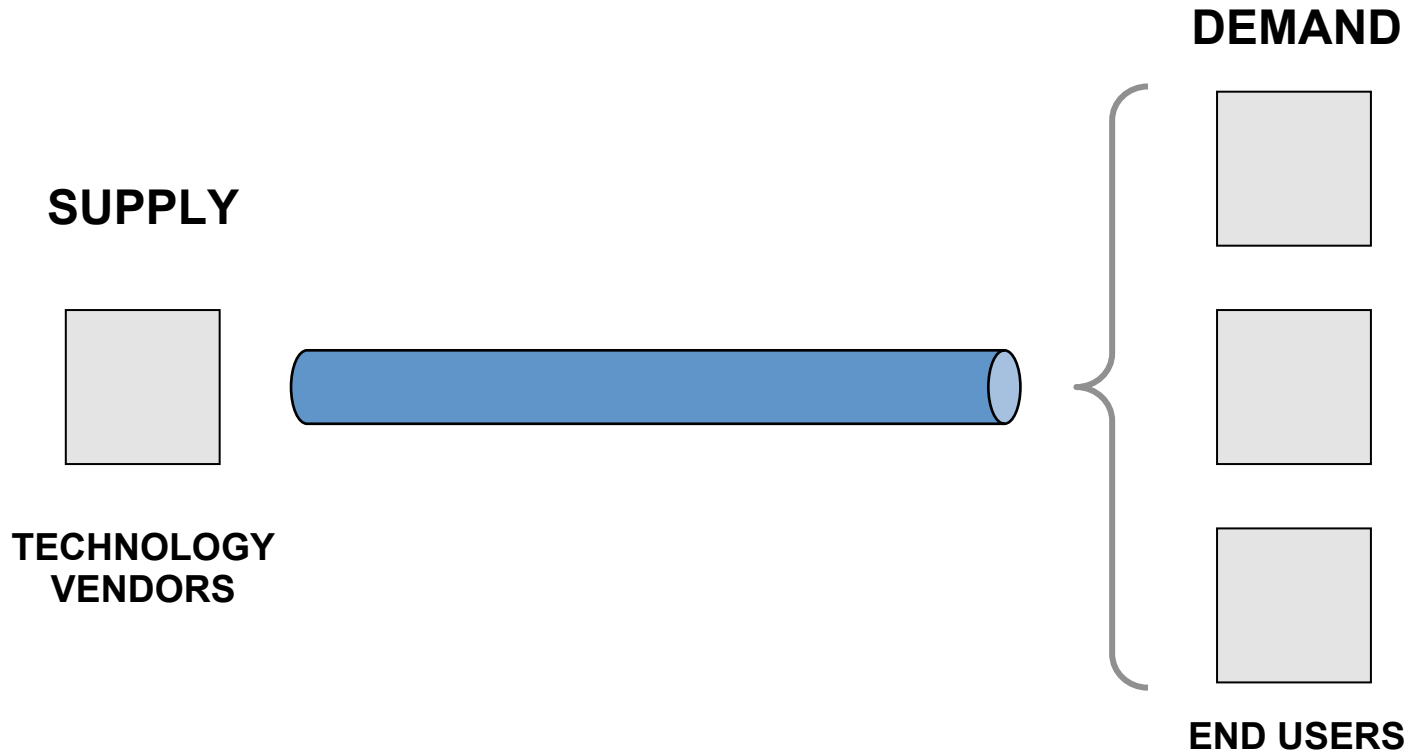
- User is currently blocked from some functions.
- Technology opens up completely new tasks heretofore impossible.
- There simply is no other way to do it.

+ Enhancing Application

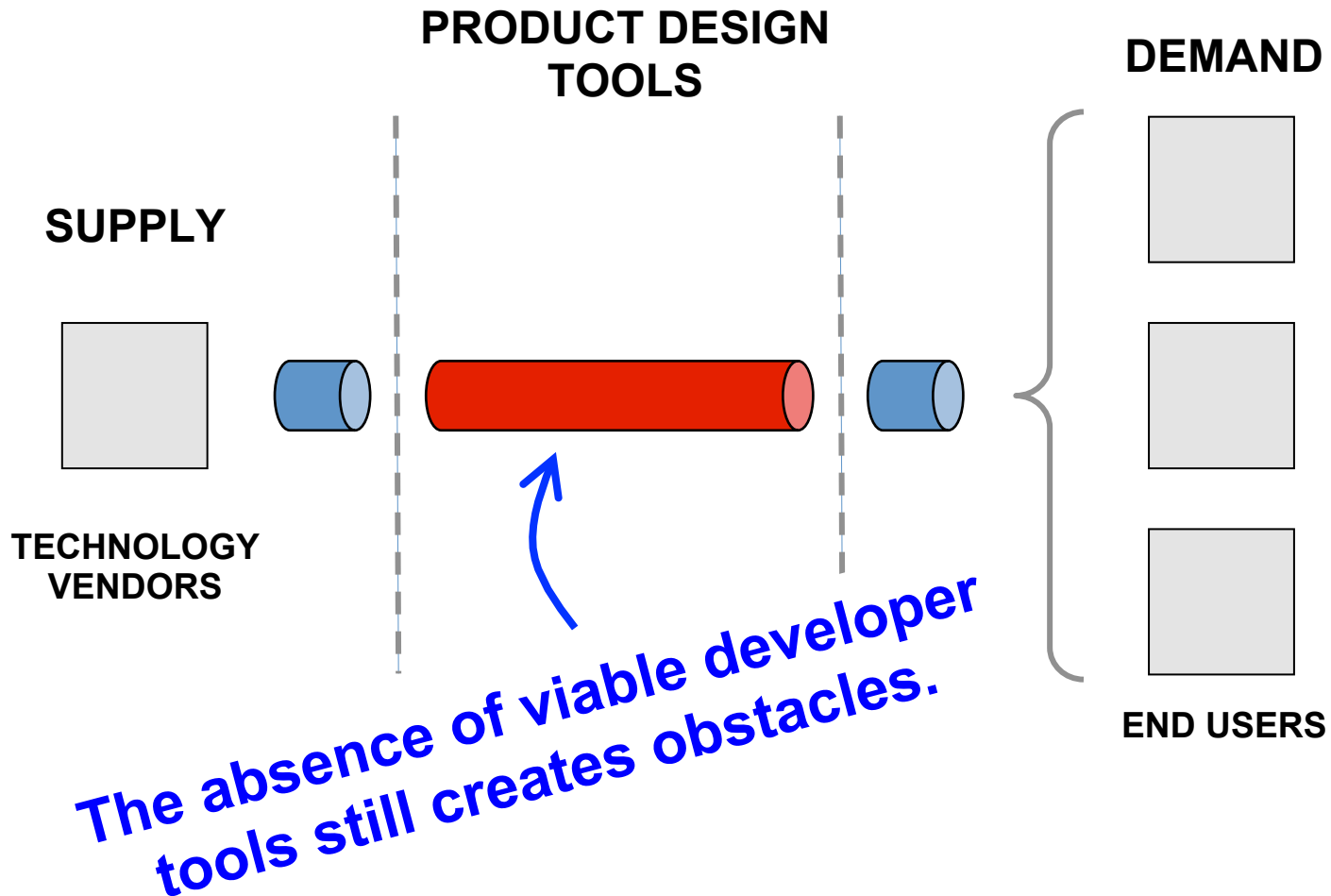
- User can do it now without new speech technology.
- But speech makes it better:
 - Faster
 - Easier
 - Safer

[Market Overview](#)

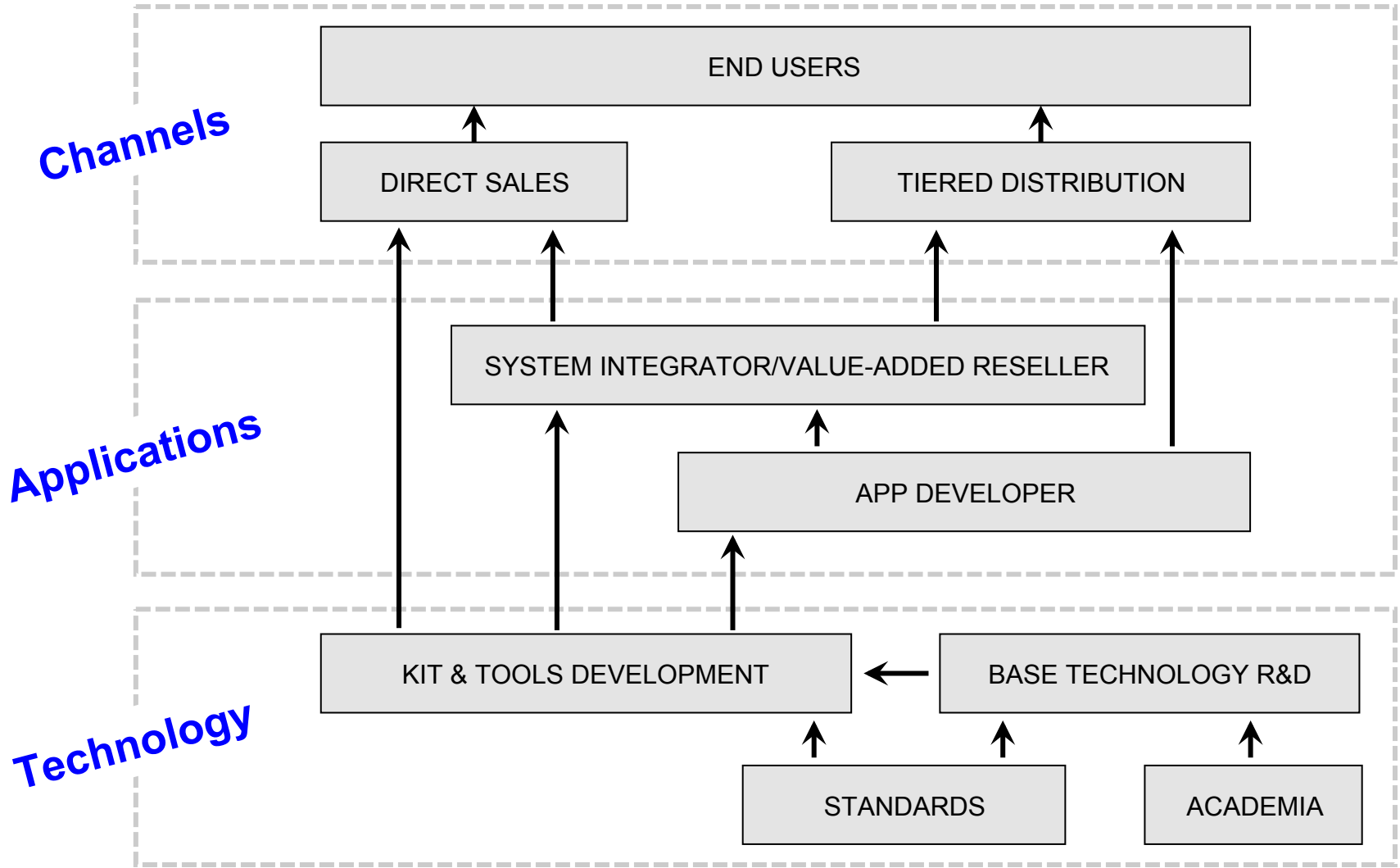
Missing Layers



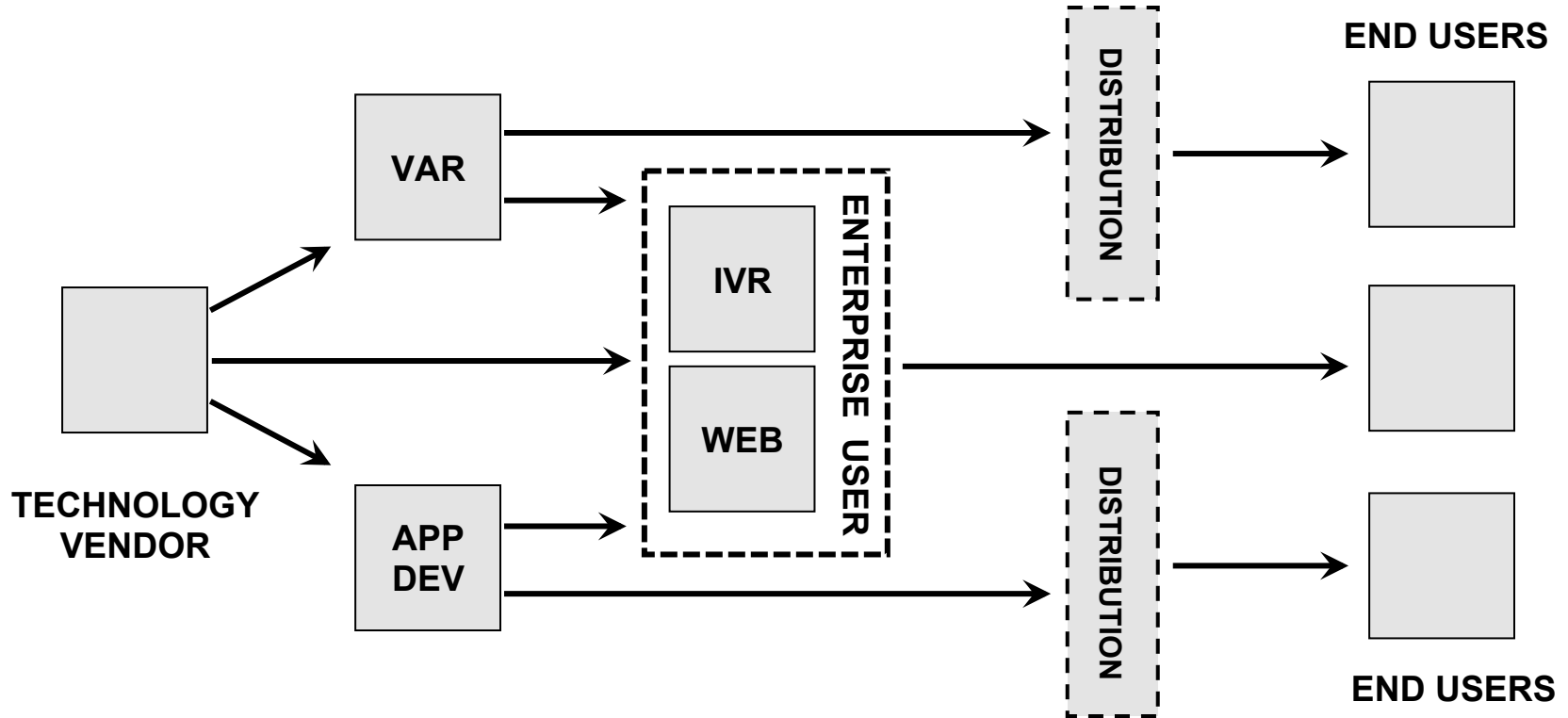
Missing Layers



Eco-Systems



The Value Chain Simplified



JIBO



“It loves you.”

JIBO is a Platform

§ 3rd-party apps will appear quickly

- Baby monitor
- Front door sentry
- Kitchen “talking cookbook”

§ Modeled after smartphone/tablet

§ The faster the penetration the faster the new apps

§ Variations will appear

- On the counter in your bank
- Waiting room at the clinic
- Server at the counter

“THE CONVERSATION”

Tribalism

- § Humans are tribal
- § The First Tribe is the human tribe
- § Machines must infiltrate cautiously and safely
- § Machines in danger of becoming “Them”
- § Issues are philosophical, ethical, moral, spiritual

Alien Intelligence

- § Does a conscious machine diminish human self-worth?
- § What is intelligence in the absence of consciousness?
- § Can humans learn to accept an alien intelligence?
- § What are the observable behaviours of conversation?

Are You Attempting to Build a ...

1. Real, conscious, sentient entity?
 2. Convincing simulation?
 3. User interface into a useful product?
-

§ Design philosophy #1 is currently impossible

- Either you are selling the future
- Or you are confusing philosophy #1 with #2

§ Design philosophy #2 is here today

- You are in the arts & entertainment business
- You must do art & entertainment well

§ Design philosophy #3 is here today

Over the Next 5 years

- § The new pidgin language is evolving
 - This industry needs to get out in front of it
 - Guide it
 - Focus it
 - Accelerate its power and acceptance
 - The default will be to sit back and watch it
 - It will still happen, only more slowly
 - It will take longer to accept because of bruises and bumps
 - Backlash will be greater
- § “The Conversation” will grow and deepen
 - Real issues of ethics, morality, style versus substance
 - Discussion will become more emotional
 - Read: political

We get this right

- § And we can ease intelligent machines into human society
 - Find their social place
 - Find their relationship to human needs and fears
 - Find their capabilities, functionalities
 - But also find their limits, restrictions, rules of engagement
- § Businesses will make money as we go along
- § Market will grow exponentially
- § Ecosystem will become bushy and verdant

We Get This Wrong

- § Pioneer businesses will overstep the invisible boundaries and die catastrophic deaths
- § Tribal backlash will undermine potential
- § JIBO and “his” peers will never grow up; or more likely will grow slowly through awkward teen years

Questions?