ARTIFICIAL INTELLIGENCE IN SMART PHYSICAL SYSTEMS: WILL ASIA LEAD THE WAY?

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Problem

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Solution
Solution

$30 retail price

Camera for Visual Recognition
Microphone for Voice Recognition
Speakerphone for Speaking

One degree of freedom (head)

AI processing to be done in cloud

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Solution

Up to 20 degrees of freedom

Camera, Microphone, Speakerphone

Expression on face

Strong CPU

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Initial Market:
Asia, U.S., or else?
ELL stands for English Language Learners
There are about 5 million ELL students in the U.S.
About 20% of students in California are ELL

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Which Market to Go First?

01 US Market
- 5 Million English Language Learners
- 10% of Public School Students are English Language Learners
- Only 1% of Public School Teachers are for English Language Learners
- Federal Grant Available
- The world will look up to the U.S. practice

02 Japan and Korea
- Families spend multiple $10K/year for English education
- Children already have input
- Virtually all college applicants will be required to take English speaking exam from 2020 (Japan)
- Public elementary schools just started teaching English (Japan)

03 China
- 400 million English Learners
- Even middle class families started taking remote English lessons from native English speakers via Skype

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Humanoid Market Size
(Top Down Estimate)

![Graph showing market size estimate from 2016 to 2029]

Market Size Estimate (Unit: USD Billion)

- Pepper (Softbank): $100M by 2016
- Robi (DeAgostini): $170M by 2016
- Nao (Softbank): $100M by 2016
- Robohon (Sharp): $120M (Est)

*Created by Robosion with input from below:
Marketsand market.com Report Code: SE 5690
Mordor Intelligence: Humanoids Market – Segmented by Motion (Wheel Drive, Biped), Application, and Region – Growth, Trends and Forecast (2018-2023)
Techrepublic: Humanoid robot market to double by 2023, industrial robotics to hit $72B

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Robots deployed to English classrooms

7:40 pm, October 19, 2018

The Yomiuri Shimbun

More and more elementary schools are starting to use robots and artificial intelligence in their English classes.

The Education, Culture, Sports, Science and Technology Ministry is planning to encourage elementary schools to introduce such devices ahead of the implementation of new curriculum guidelines, which will officially make English a subject to be taught in the upper grades.

Humanoid robot Nao greeted 19 third-grade students at Meiji Elementary School in Omuta, Fukuoka Prefecture, in mid-September, saying, “How are you?” The students responded in unison by saying, “Super!”

The robot, which is about 58 centimeters tall, is equipped with natural language processing, visual recognition and voice synthesis. The machine, known as “remote teaching assistant” in Japan, is expected to help students practice English in a more fun and effective way.
1999-2006
150,000 Units*
>$2,000/unit**
>$300M
*First batch sold out within 30 min
**depends on model and plan

2018-
20,000 Units and growing*
>~$2,000/unit**
>$40M and growing
*First and second batches sold out within 30 min
**depends on plan

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https://www.nikkei.com/article/DGXMZO34540210U8A820C1000000/
Product
Where to execute product strategy
Options

01  Fabricate in China

+ World center of manufacturing
+ Rising robot market/manufacturing
+ Many, many, many potential hardware partners
- Trade war between U.S. and China
- Remote management plus language barrier
- Hard to check if parts selected are authentic
- Intellectual Property Protection

02  Fabricate in Japan

+ Up to ~$30M grant in Fukushima, Japan
+ Rising robot market/manufacturing
+ Intellectual Property Protection
- More costly than in China
- Less number of potential hardware partners available

03  Licensing

- License our technologies to hardware companies, especially those with character rights, distribution channel and marketing budget
Robosion Common SDK: raise_arm

function raise_arm ( )
    switch (robot type)
        type Zero: ZeroArmUp ( )
        type Bobi: BobiArmRaise ( )

One App with Robosion Common SDK can move both robots

SDK
BobiArmRaise ()

SDK
ZeroArmUp ()

INNOVATION

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Team:
Asia, U.S., or else?
Where to Hire Initial Software Engineer?

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Mixture in Different Countries

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Investor:
Asia, U.S., or else?
Investor – U.S. or Asia

01

Asian Investor Pros and Cons

+) Corporate VC investment in Japan has increased by about 25 times over last five years
+) Understand customer pain
-) Many Silicon Valley VCs would view Robosion as foreign deal with too many Asian VCs

02

U.S. investor Pros and Cons

+) Most sophisticated investor
+) EdTech Investors do understand English education market
-) Many may not understand English education market