

Search→Answer→Action

搜索→回答→助手

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搜索: 关键词 → 文档



北京马拉松 2016



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北京马拉松官方网站-北京马拉松赛事官方网站

www.beijing-marathon.com/ ▾ [Translate this page](#) Beijing Marathon ▾

北京马拉松官方独家报名APP. △北京现代. △阿迪达斯. 赛事新闻比赛 ... 结果将于8月上旬公布. 了解更多

>> · 2016年北京马报名66576人, 中签结果将于8月上旬公布.

[登录](#) · [报名指南](#) · [赛事信息](#) · [注册](#)

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2016北京现代·北京马拉松报名须知-北京马拉松赛事官方网站

www.beijing-marathon.com/html/infozhinan.html ▾ [Translate this page](#) Beijing Marathon ▾

2016北京现代·北京马拉松报名须知. 一、赛事基本信息. 1、比赛日期: 2016年9月17日. 2、比赛项目: 马拉松 (42.195公里) . 3、参赛规模: 30000人 (含500个公益名额, ...



annual rainfall in shenzhen



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Shenzhen Monthly Climate Average, China - World Weather

www.worldweatheronline.com › [Country List](#) ▾

Shenzhen, China - Monthly weather averages including **average** high and low Temperature, **Precipitation**, Pressure, Wind Charts to assist you in planning your ...

Shenzhen Weather: Climate with Weather Forecast, Best ...

<https://www.travelchinaguide.com/climate/shenzhen.htm> ▾

Shenzhen has a mild climate with plentiful sunshine and **rainfall**. The best time to visit **Shenzhen** is really August to September when a series of celebrations are held.

China Shenzhen Climate, Weather, Rainfall, Best Season ...

www.szpost.com/2009/03/china-shenzhen-climate-weather-rainfall ▾

Mar 10, 2009 · **Shenzhen** Climate – Best Time to Visit. Shaped by the subtropical marine climate, **Shenzhen** has a mild climate as well as plentiful sunshine and **rainfall** ...

问答：问题→答案



annual rainfall in shenzhen



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About 59,000 results (0.54 seconds)

Shenzhen has plentiful sunshine and rainfall all year round. The yearly average temperature is 22 °C (72 °F), and the yearly precipitation is **1933 millimeters (76 inches)**.



[Shenzhen Weather, Shenzhen Weather Forecast, Shenzhen Climate ...](#)

www.chinahighlights.com/shenzhen/weather.htm



what chemical kills bed bugs



Pyrethrins are botanical insecticides derived from chrysanthemum flowers. **Pyrethroids** are synthetic chemical insecticides that act like **pyrethrins**. Both compounds are lethal to bed bugs and can flush bed bugs out of their hiding places and kill them. Apr 6, 2016

[Pesticides to Control Bed Bugs | Bed Bugs: Get Them Out and Keep ...](https://www.epa.gov/bedbugs/pesticides-...)

<https://www.epa.gov/bedbugs/pesticides-...> United States Environmental Protection Agency ▾

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fastest bird



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About 15,200,000 results (0.62 seconds)

PEREGRINE FALCON

The **WHITE-THROATED NEEDLETAIL** has a Maximum Recorded Airspeed of 169 km/h (105 mph) (And is the fastest bird in continuous level flight.) The **PEREGRINE FALCON** has a Maximum Recorded Airspeed of 389 k/h (242 mph) (Which of course makes it the fastest bird on Earth.) Jan 14, 2014

[5 FASTEST BIRDS on the planet! - YouTube](#)

<https://www.youtube.com/watch?v=MMsLVxcKh24>



More about Peregrine falcon

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北京到上海的机票



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携程-北京出发国内机票1.5折 - Ctrip.com

Ad www.ctrip.com/北京出发国内机票 ▾

携程官网机票保证同行底价,支持值机 低价机票能预约提醒,省钱省力更省心!
新加坡到上海机票查询预订,特价往返机票【携程国际机票】

国航官网购票.行程更放心 - airchina.com.cn

Ad www.airchina.com.cn/ ▾

国航后续服务更顺畅,旅程更无忧 专业信赖,国际品质,中国风范!
生日惠·让世界发现你·优惠天天有,早订更省钱

北京到上海航班特惠 - 價格優惠HK\$376起。 - ctrip.com.hk

Ad www.ctrip.com.hk/北京飛上海 ▾

網上預訂,快速購買,無憂購票!

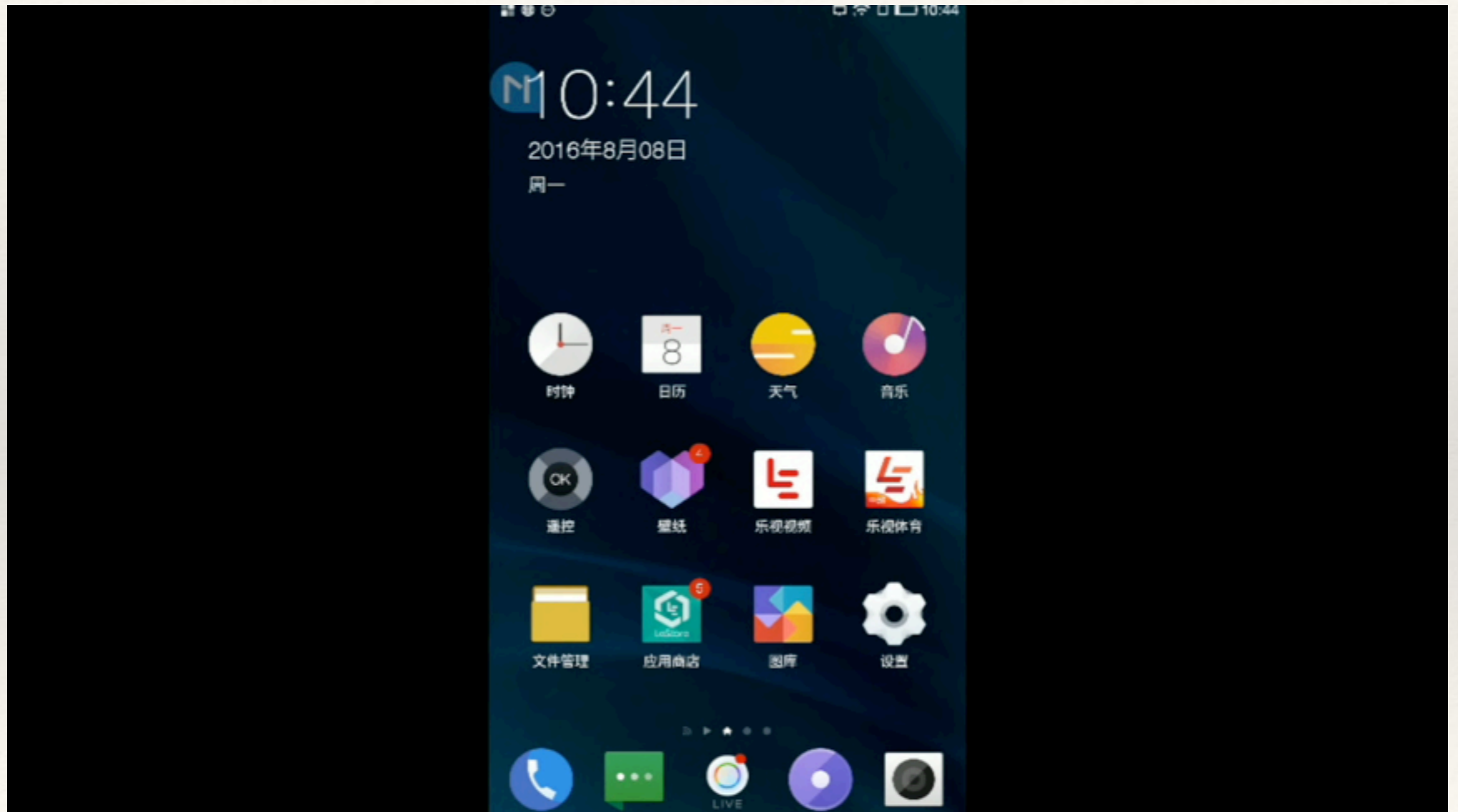
500,000+間合作酒店·亞洲網上旅遊服務專家·中國最大網上旅遊服務公司·90,000+條航線
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flights.ctrip.com/domestic/booking/BJS-SHA-day-1.html ▾ [Translate this page](#) Ctrip ▾

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助手：请求→行动



Search → **Answer** → Action

搜索 → **回答** → 助手

Search Engine vs Answer Engine

- ❖ Search Engine: Know where to look
- ❖ Answer Engine: Know what to look for



annual rainfall in shenzhen



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Shenzhen has plentiful sunshine and rainfall all year round. The yearly average temperature is 22 °C (72 °F), and the yearly precipitation is **1933 millimeters (76 inches)**.



Shenzhen Weather, Shenzhen Weather Forecast, Shenzhen Climate ...
www.chinahighlights.com/shenzhen/weather.htm

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Shenzhen Weather: Climate with Weather Forecast, Best Visit Time

<https://www.travelchinaguide.com/climate/shenzhen.htm> ▾

Shenzhen has a mild climate with plentiful sunshine and **rainfall**. ... With an **average** temperature of 22 C (72 F) on average, Shenzhen has a long mild summer ...



how many sheep are there in new zealand



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About 1,760,000 results (0.66 seconds)

The country has the highest density of sheep per unit area in the world. For 130 years, sheep farming was the country's most important agricultural industry, but it was overtaken by dairy farming in 1987. Sheep numbers peaked in New Zealand in 1982 to **70 million** and then dropped to about **30 million**.



[Sheep farming in New Zealand - Wikipedia, the free encyclopedia](https://en.wikipedia.org/wiki/Sheep_farming_in_New_Zealand)

https://en.wikipedia.org/wiki/Sheep_farming_in_New_Zealand Wikipedia ▾

[About this result](#) • [Feedback](#)

[New Zealand sheep numbers fall to their lowest for 75 years | World ...](#)

www.theguardian.com › [World](#) › [New Zealand](#) ▾ The Guardian ▾

Jan 7, 2015 - **New Zealand** has long been the butt of **sheep** jokes but latest figures show the nation's woolly flock has slumped to its lowest number since ...



insert special characters in keynote



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About 32,500 results (0.60 seconds)

Enter special characters and symbols

1. Click in the text where you want the character or symbol to appear.
2. Choose Edit > Special Characters to open the Characters Viewer.
3. Click an icon at the bottom of the Characters window to choose a category of characters (click the left or right arrows to see more categories).

More items...

[Keynote for Mac 6.0: Add text - Apple Support](https://support.apple.com/kb/PH16982)

<https://support.apple.com/kb/PH16982> Apple ▾

About this result • Feedback



insert special characters in keynote



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2,660,000 RESULTS

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Click where you want to insert the special character. On the Insert tab, in the Symbols group, click Symbol, and then click More Symbols. Click the Special Characters tab. Click the character that you want to insert, and then click Insert.

[Insert a symbol or special character - Office Support](#)

support.office.com/en-us/article/Insert-a-symb...

Edit · Is this answer helpful?



A Walk-Through Example



what enzyme breaks down starch

什么酶可以分解淀粉



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About 206,000 results (0.56 seconds)

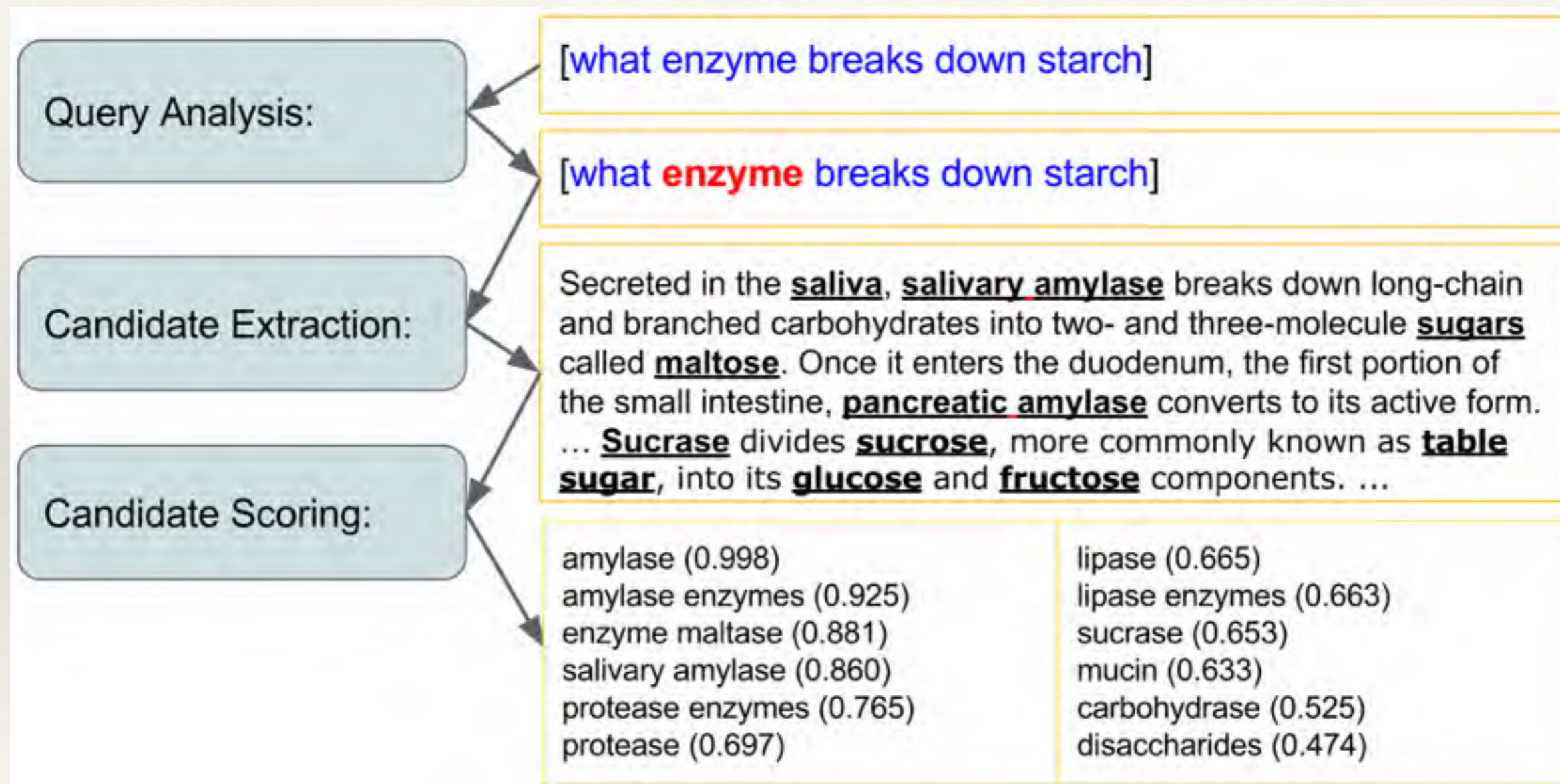
Amylase

Salivary Amylase. Chewing breaks food into small molecules that combine with saliva secreted by the salivary glands in the mouth. Along with mucin and buffers, saliva contains the **enzyme salivary amylase**, which acts on the starch in food and breaks it down to **maltose**.

[What Enzymes Are Used to Break Down Carbohydrates - Healthy Eating](http://healthyeating.sfgate.com/enzymes-used-break-down-carbohydrates-2211.html)
healthyeating.sfgate.com/enzymes-used-break-down-carbohydrates-2211.html

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Question Answering with Unstructured Text



Query Analysis: Find the Focus Words

- ❖ The focus words are words in a query that specify the type of the answer that the user is looking for.
- ❖ A query is answer-seeking if and only if such focus words are found

Focus Words: Explicit Questions

- ❖ Explicit questions have wh-words

who / what / where / ...

谁 / 什么 / 哪 / 几个 / ...

- ❖ Examples

what **enzyme** breaks down starch?

2014 ebola outbreak happened in what **african countries**

what is the **melting point** of paraffin wax

what do hedgehogs **eat**

Focus Words: Implicit Questions

- ❖ Examples

fastest **bird**

annual rainfall of shenzhen

- ❖ Use explicit questions to obtain training examples

what is the fastest **bird**

what is the **annual rainfall** of shenzhen

Non-Questions

- ❖ when in rome rotten
- ❖ php length

Question Answering with Unstructured Text

Query Analysis:

[what enzyme breaks down starch]

[what **enzyme** breaks down starch]

Candidate Extraction:

Secreted in the saliva, salivary amylase breaks down long-chain and branched carbohydrates into two- and three-molecule sugars called maltose. Once it enters the duodenum, the first portion of the small intestine, pancreatic amylase converts to its active form. ... Sucrase divides sucrose, more commonly known as table sugar, into its glucose and fructose components. ...

Candidate Scoring:

amylase (0.998)
amylase enzymes (0.925)
enzyme maltase (0.881)
salivary amylase (0.860)
protease enzymes (0.765)
protease (0.697)

lipase (0.665)
lipase enzymes (0.663)
sucrase (0.653)
mucin (0.633)
carbohydrase (0.525)
disaccharides (0.474)

Expected Answer Type

- ❖ Expected answer type of a question specifies what phrase / text can potentially be an answer.
- ❖ The expected answer type of a question depends on
 - The focus words of the question
 - The ability of recognize whether something belongs to that type

Coarse-Grain Answer Types

- ❖ A small number of types
 - PERSON, LOCATION, TIME, TEMPERATURE, ...
- ❖ Advantage: can use a named entity recognizer
- ❖ Disadvantage: mapping from the focus word in query to an answer type is non-trivial

melting point → TEMPERATURE

annual rainfall → LENGTH

assistant coach → PERSON

Fine-Grain Answer Types

- ❖ Use as many answer types as focus words
 - Trivial mapping from focus words to answer types
 - Similar types are modeled separately

E.g., diameter and width are treated as two different types.

Training Examples for Answer Types

❖ Numerical types

- (has | with) (a | an) TYPE of _____
- Example:
 - has a DIAMETER of 13 cm

❖ Entity types:

- TYPE(s), such as _____
- Example:
 - cities such as Beijing

Answer Type Example: annual rainfall

- ❖ The Zatecka Basin, the driest area, has an **annual rainfall** of **about 18 inches**.
- ❖ More than 80% of the continent has an **annual rainfall** of **less than 600 mm**;
- ❖ Cuzco with a mean average temperature of 10.7°C, and highest average monthly 12.1, has an **annual rainfall** of **804 mm**.
- ❖ along the western Ghats escarpment, has an **annual rainfall** of **about 5600 mm** which is towards the mid-range of rain stations in the area

Answer Type Example: sleeping pills

- ❖ There is little evidence that the newer generation sleeping pills such as Ambien or Lunesta are more effective than older **sleeping pills** such as **Dalmane** or ...
- ❖ Diphenhydramine is found in many popular over the counter **sleeping pills** such as **Tylenol PM**, Excedrin PM and Nytol.
- ❖ A newer class of non-benzodiazepine **sleeping pills** such as **eszopiclone** or zolpidem appears to be safe to use by patients with OSA

Question Answering with Unstructured Text

Query Analysis:

[what enzyme breaks down starch]

[what **enzyme** breaks down starch]

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lipase (0.665)
lipase enzymes (0.663)
sucrase (0.653)
mucin (0.633)
carbohydrase (0.525)
disaccharides (0.474)

Answer Candidate Scoring

❖ Features

- Answer type score
- Proximity to query keywords
- Popularity
-

Search → Answer → **Action**

搜索 → 回答 → **助手**

Action Engine

- ❖ Both search engine and answer engine aim at **providing useful information** to users.
- ❖ Action Engine aims at **performing actions** on users' behalf.

Search Engine vs Answer Engine vs Action Engine

- ❖ Search Engine: Know where to look
- ❖ Answer Engine: Know what to look for
- ❖ Action Engine: Know what to do

Search Engine vs Answer Engine vs Action Engine

- ❖ Search Engine: Semantic relations are mostly ignored
- ❖ Answer Engine: Semantic relations are mildly useful
- ❖ Action Engine: Semantic relations are critically important



what do cows eat



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About 10,600,000 results (0.45 seconds)

dairy

Cows eat a mixture of **grass hay**, alfalfa **hay**, **grains** as well as **corn** and **grass** silage. **Grass** and alfalfa are dried to make **hay**. Farmers grow a lot of **grass** and **corn** at their farm, so even BC's local **dairy** cows are eating local!



[BC Dairy | What do dairy cows eat? - BC Dairy Association](https://bcdairy.ca/dairyfarmers/articles/what-do-dairy-cows-eat/)
bcdairy.ca/dairyfarmers/articles/what-do-dairy-cows-eat/

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Search Engine vs Answer Engine vs Action Engine

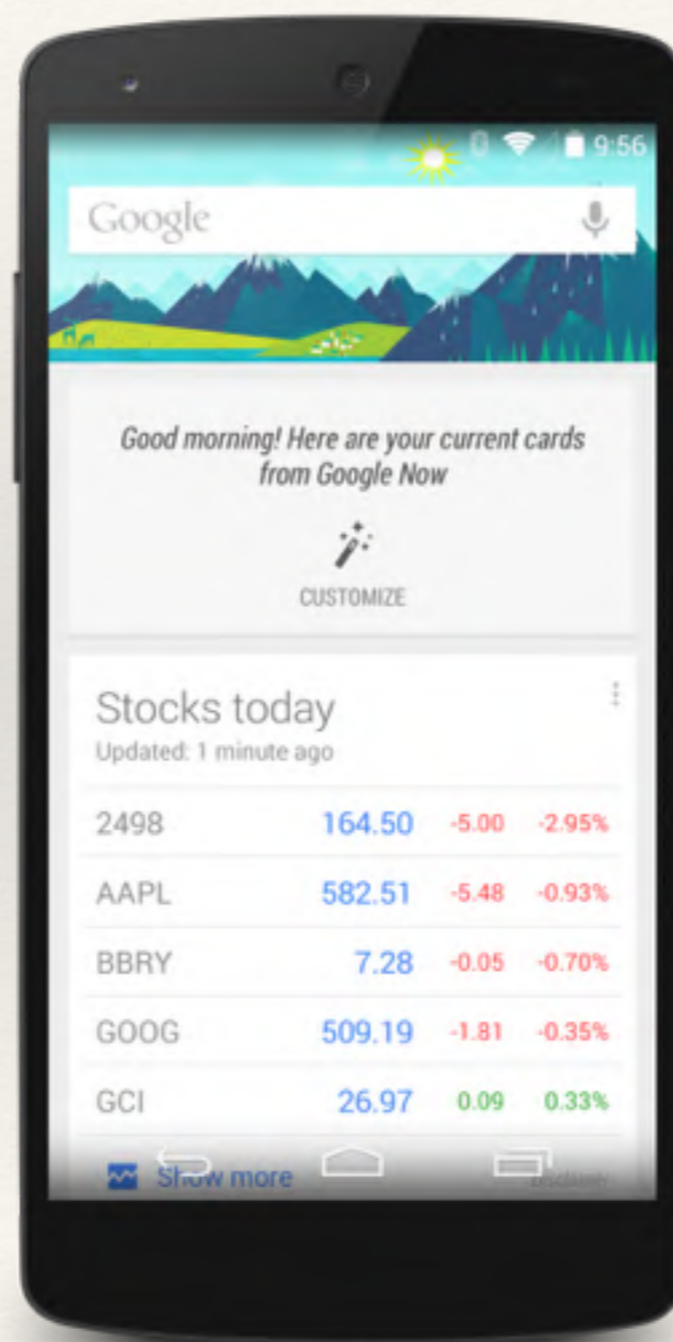
- ❖ Search Engine: Ranked list of results
- ❖ Answer Engine: First result is much more important
- ❖ Action Engine: One interpretation

Interface to OS and First Party Apps

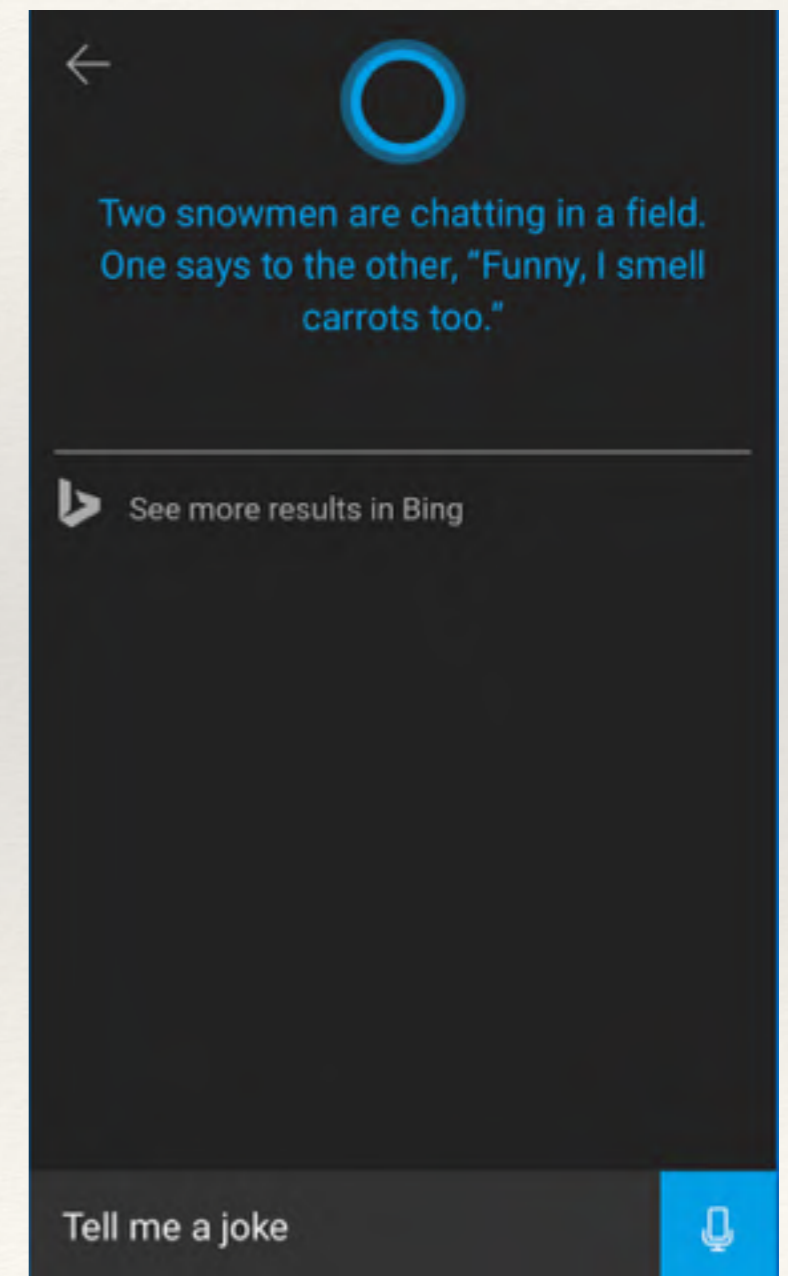
Siri



Google Now



Cortana



Siri API

❖ Siri API only works with six functionalities:

Ride booking

Messaging

Photo Search

Payments

VoIP Calling

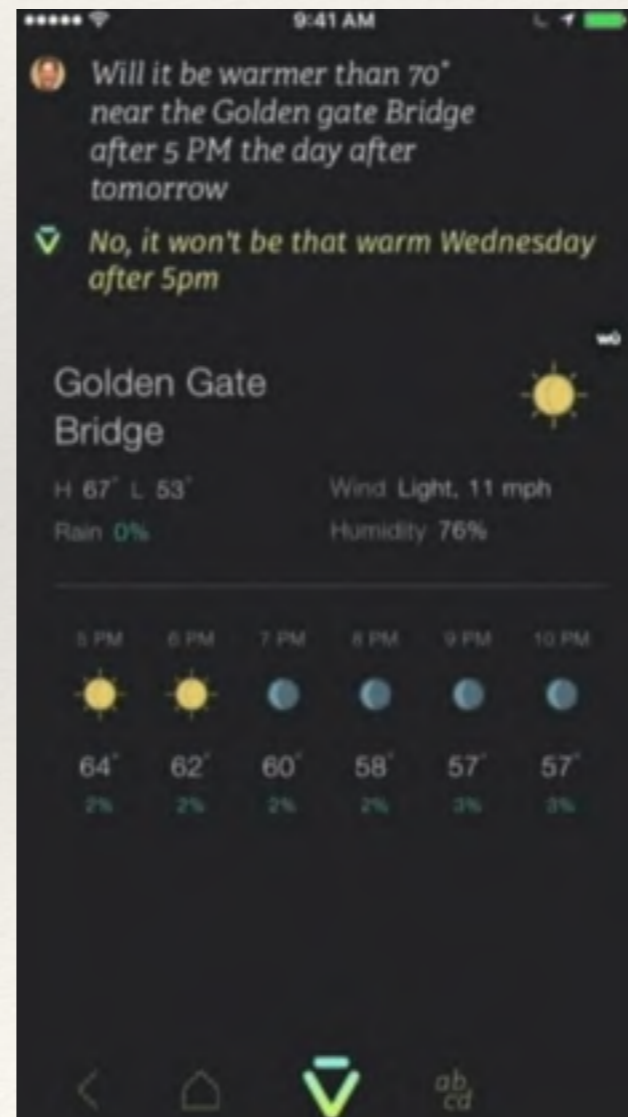
Workouts

Interface to Backend Services

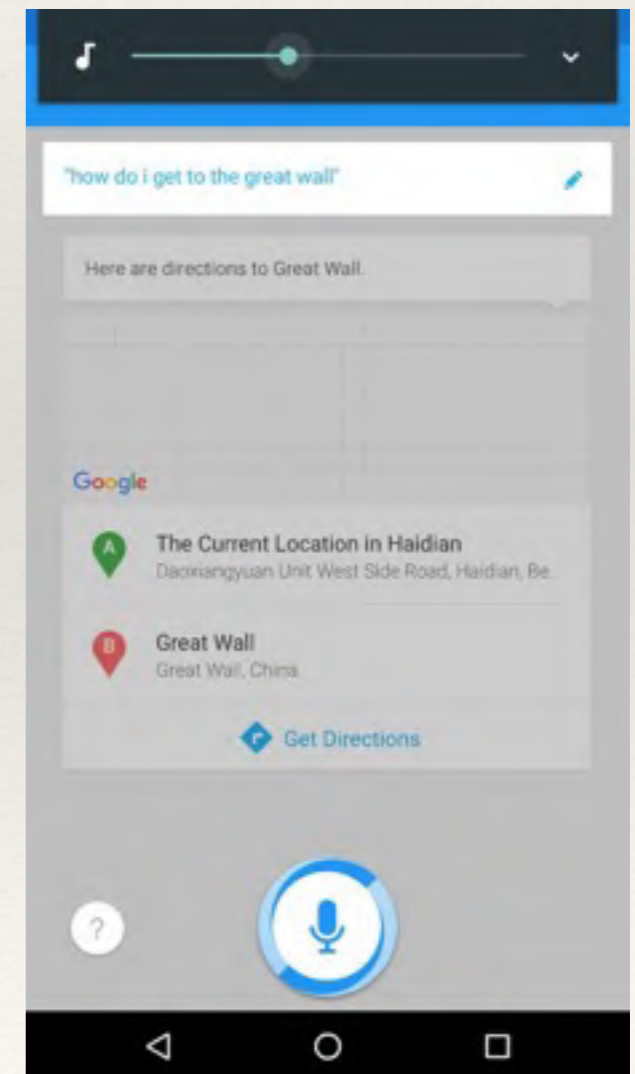
Amazon Echo



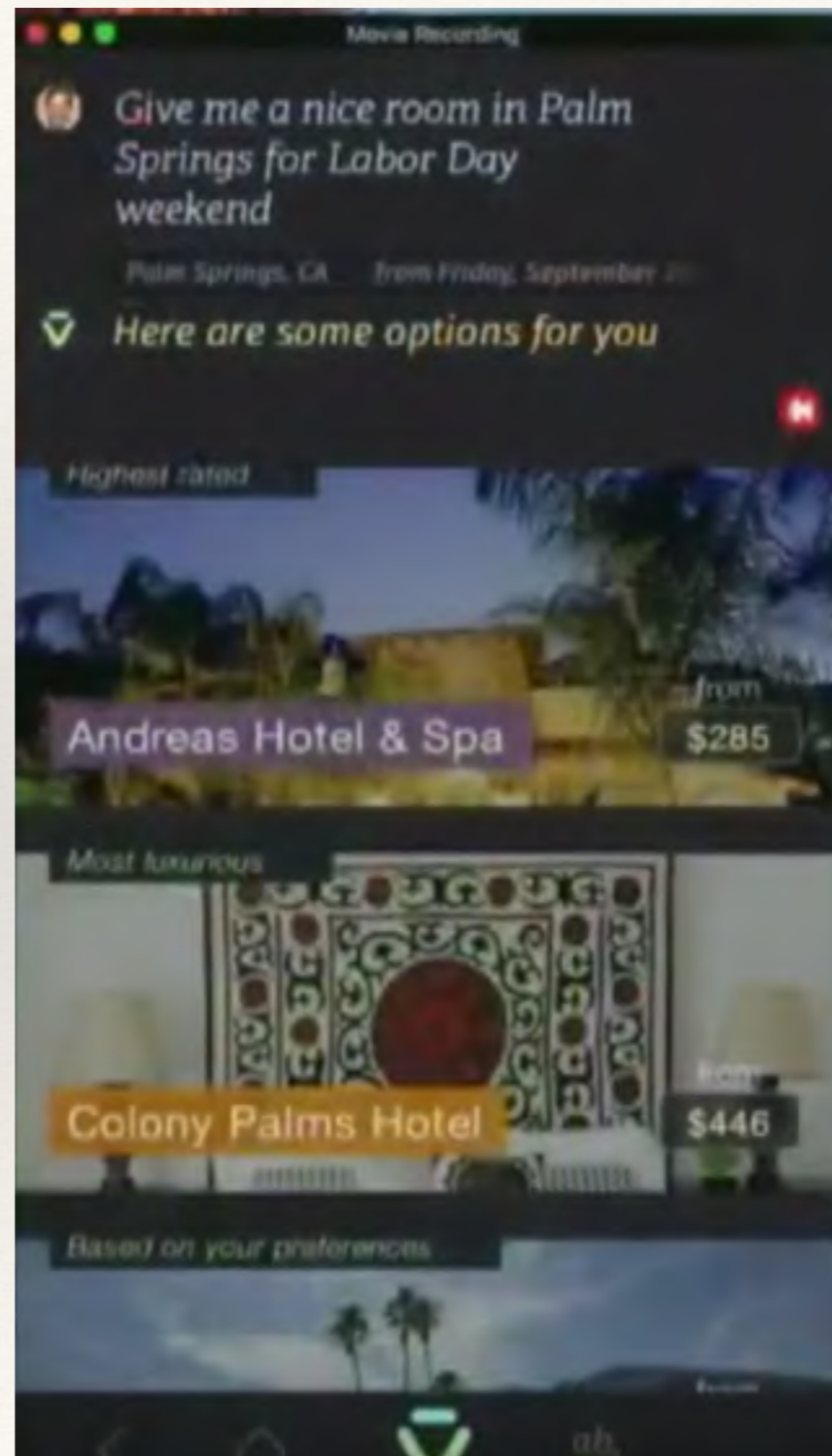
VIV



Hound



VIV



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北戴河海洋度假村
4.1分 不错 60点评 高档型 2013年装修
距市中心5.4公里·海港区
环境不错 **¥2803**起

北戴河国际俱乐部
4.4分 很好 1067点评 高档型 2011年装修
距市中心10.3公里·森林湿地公园
很安静 最新预订:1小时前 **¥338**起

北戴河观海楼宾馆
4.5分 很好 1663点评 高档型 2011年开业
距市中心11.1公里·鸽子窝, 奥林匹克公园
风景很好 最新预订:1小时前 **¥400**起

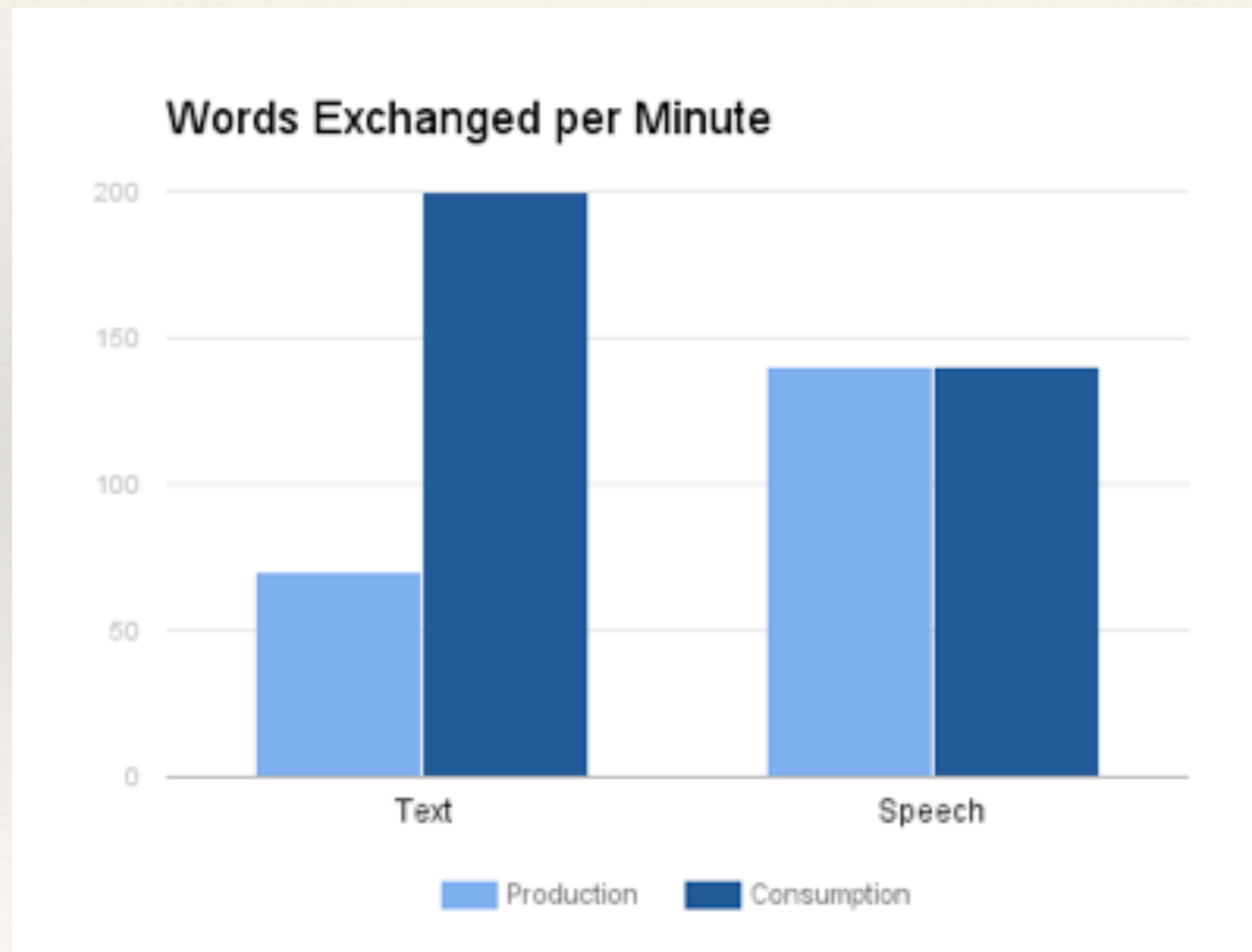
北戴河亿腾海景酒店
4.3分 很好 148点评 高档型 2016年开业
距市中心11.1公里·鸽子窝, 奥林匹克公园
位置好 最新预订:2小时前 **¥314**起

中国社会科学院北戴河培训中心(一区)
4.2分 不错 372点评 高档型 2015年装修

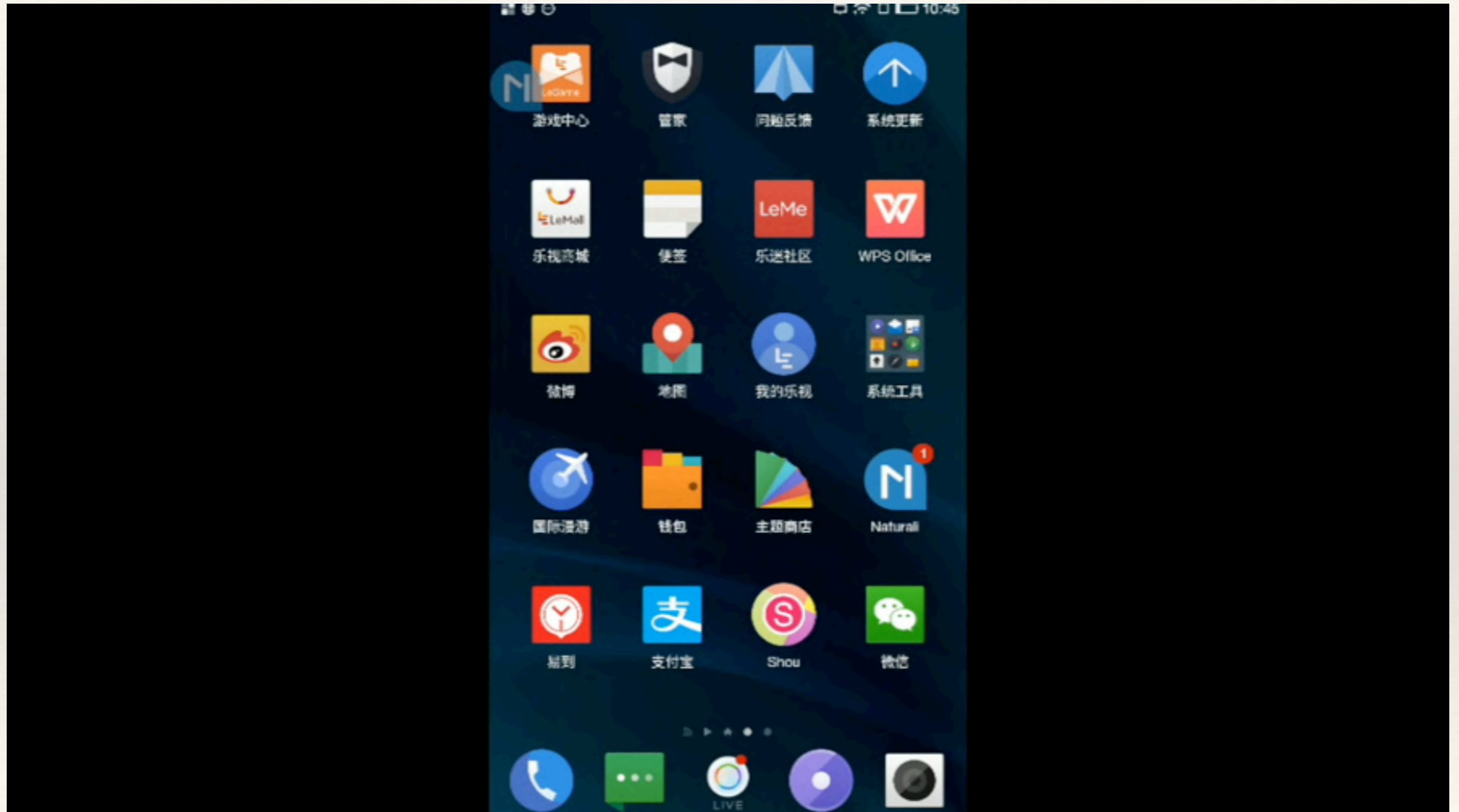
筛选 位置区域 四星/高档,五星/... 距离近→远

Communication Throughput

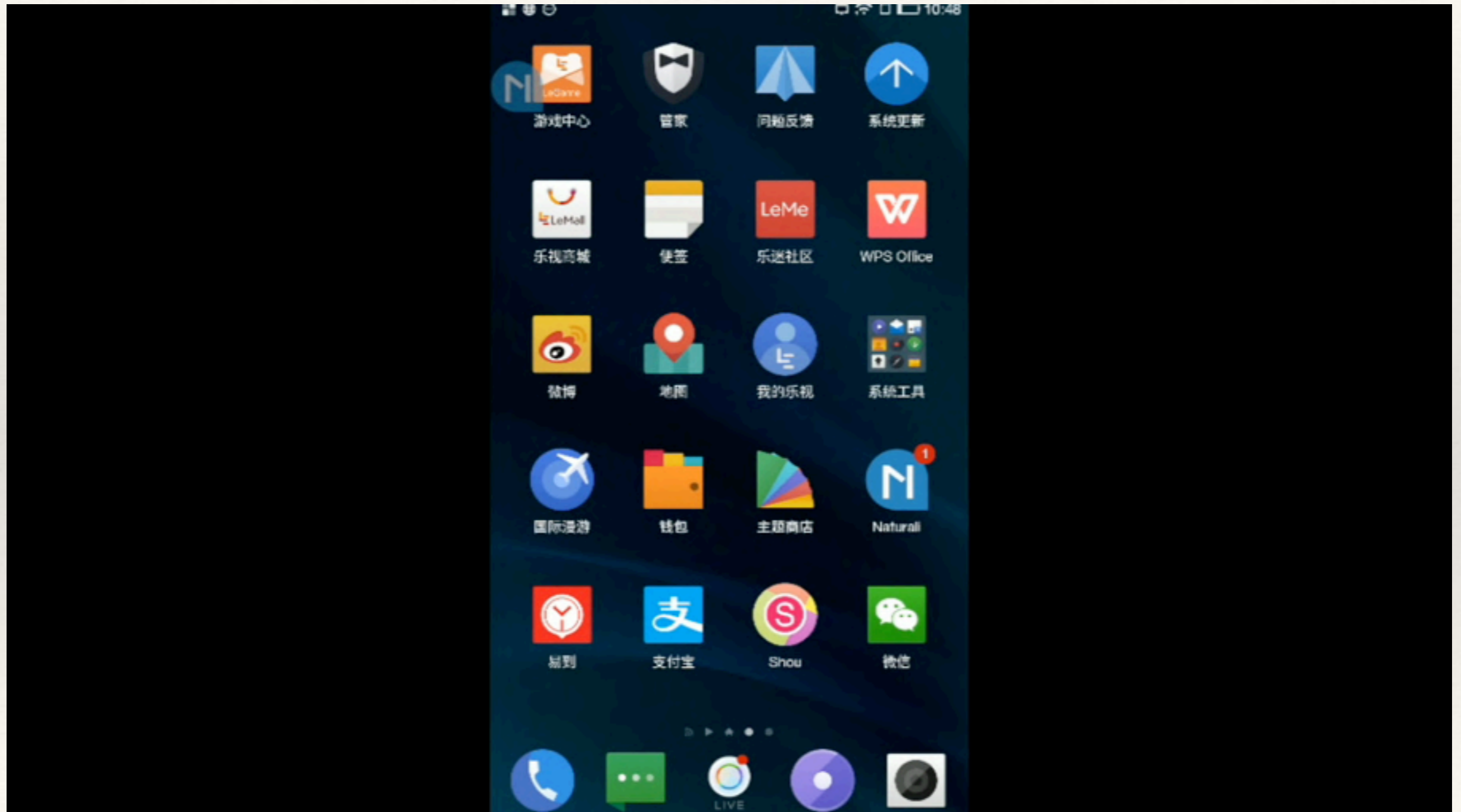
- ❖ Yao, Chen and Sagae, [TechCrunch 2016-08]



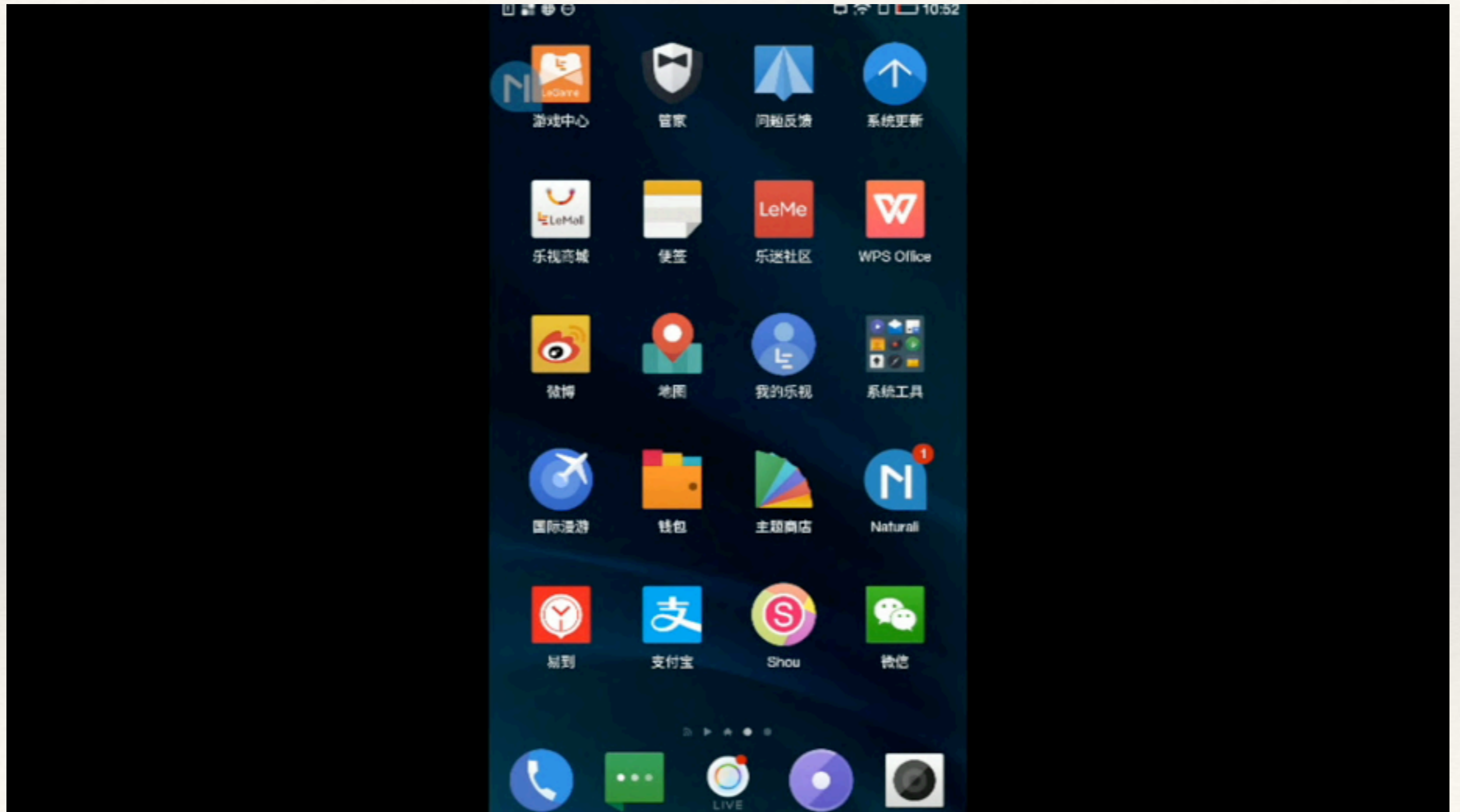
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小不点:看视频



小不点: 听歌曲



NATURALI

小不点，不用点