# Enterprise Tuesday Make it Brilliant and They Will Come The story of Evi

10<sup>th</sup> February 2015

William Tunstall-Pedoe

Evi (an Amazon company)

Amazon.com

### What is Evi?



- Company founded in Cambridge (as True Knowledge)
  - Full time effort from late 2005
- Automatic question-answering
- Multiple pivots
- Multiple rounds of angel/VC finance
- Successful acquisition by Amazon in late 2012
  - Evi is now a subsidiary of Amazon
  - Amazon now a major employer here in Cambridge

### Who am I?



- William Tunstall-Pedoe
- Founder of business
- Developed core technology
- Cambridge Compsci (Churchill)
  - Student in first ever 1A CST course
  - Former attender of Enterprise Tuesday lectures...



### Evi Vision



People instantly able to get any information, on any subject....

just by asking for it

### Evi Vision



Big Hairy Audacious Goal:

"Answering any question, in any language, in one second or less"

# Six things this requires



- 1. Knowledge representation:
  - Getting world's knowledge in computer understandable form
- 2. Understanding natural language
- 3. Common sense knowledge
- 4. Inference
- 5. Natural language generation
- 6. Speech recognition and synthesis\*

<sup>\*</sup> Evi's core technology is 1-5

### Technology



- Deep technology developed in 1999/2000
- Structured knowledge and inference
- Broad approach is now common:
  - Google Knowledge Graph (2010)
  - Wolfram Alpha (2009)

# Evi financing



- 2006: government grant + F&F money (£75k+£45k)
  - 3 people working in St Johns Innovation Centre
    - One year of work and a crude demo
- 2007: Angel round (£650k)
- 2008: First real Venture Capital round (£2m)
  - Octopus Ventures
- Many further financing rounds followed...

### What is a Pivot?



- Success in business requires iteration
- A pivot is a significant change in direction
  - But still based on core strength
- With Evi (True Knowledge) the vision stayed exactly the same
  - but needed four different attempts to find success

# #1: Stand-alone website (~2006)



- First attempt: stand-alone consumer website
  - www.trueknowledge.com
- Consumers could ask questions and add knowledge
- Web-search would be shown when not answered



### Direct answers to human and machine questions

Home About Beta API Technology Blog News Jobs Contact



True Knowledge is an internet search company. Our <u>unique technology</u> represents general knowledge in a form that computers can understand and process.

We are using it to build a repository of the world's knowledge that can be used to directly answer questions from humans and other computers... (more)

WE'R	F	410	NIGI

We are looking for passionate and talented individuals to join our growing team. <u>Visit our jobs pages</u> to see if True Knowledge is right for you.

4	K1	FV	110
7 1	M		٧.

#### True Knowledge launches private beta

True Knowledge, the internet search company, is seeking interested users to participate in the <u>private</u> beta testing of its consumer website... (more)

### True Knowledge raises first round of venture capital from Octopus Ventures

True Knowledge, the internet search company has raised more than \$1.2m to fund the development and marketing of its <u>unique technology</u>. (more)

Help us test our technology and request an account:	Existing users log in here	
Email:	Username;	
Apply	Password:	
We value your <u>privacy</u> . We will not	Login	
sell or rent your email address to third parties.	Forgotten password?	

Please watch our <u>demo video</u> (just 7 mins). It should rapidly give you a good overview of our technology.

#### How can I help?

is madonna single?



Examples of what you can type:

add knowledge

[true knowledge]

Is Tony Blair older than George W. Bush?
Who was president of the US in 1876? (More...)

#### No

There were two interpretations of your question, but they both resulted in the same answer. When you said "single", I understood you to mean one of the following:

- single (not married or in a committed relationship with another person)
- not joined by marriage (monogamous) to another person

This conclusion is based on a single fact in the knowledge base:

Madonna has been married to Guy Ritchie since the 22nd of December 2000 (endorse) (contradict)

(I understood your question to mean: Determine whether single (an ambiguous term) is an attribute which applies to Madonna Louise Ciccone, the famous singer of popular music at the current time?)

External web pages (using standard web search):

#### Madonna

Official Madonna site with galleries, news, music, media, and fan club. http://www.madonna.com/ - 19k

#### Unreleased Madonna single slips onto Net | CNET News.com

Unreleased **Madonna single** slips onto Net | The pop singer weighs in on the Net music piracy wars after a copy of an unreleased **single** finds its way onto ... http://news.com.com/2100-1023-241341.html - 37k





How can I help? what time is it at google headquarters?



Examples of what you can type: Is Sean Connery resident in Scotland? What is Mexico's currency?

(More examples...)

Home | Forum | Blog | Wiki | Prefs | Recent Activity | League Table | Add Knowledge

Logged in as Johnsmith

Here is the answer that I found:

#### 10:01:01 PDT on the 21st of October 2007

I used the following facts to provide this answer:

- the Googleplex has always been in Mountain View (Silicon Valley), California (endorse) (contradict)
- . Mountain View (Silicon Valley), California has been in Santa Clara County, CA since at least November 2006 (endorse) (contradict)
- Santa Clara County, CA has been in california since at least November 2006 (endorse) (contradict)
- . california has been in the Pacific Standard Time region since at least 00:00:00 UTC on the 13th of July 2007 (endorse) (contradict)
- the Pacific Standard Time region is a time zone area (endorse) (contradict)
- Pacific Daylight Time has been the time zone for the Pacific Standard Time region between 10:00 UTC on the 11th of March 2007 and 10:00 UTC on the 4th of November 2007 (endorse) (contradict)
- -7 hours is the time zone differential of Pacific Daylight Time (endorse) (contradict)

(I understood your question to mean; What is the current local time at the location of the Googleplex, Google Inc's headquarters in Mountain View, California?)

Click here for a more detailed explanation of the answer

External web pages (using standard web search):

#### TIME: Life in the Googleplex Photo Essay

An employee at the Googleplex he ...

http://www.time.com/time/photoessays/2006/inside\_google/



How can I fielp? how old is the eiffel tower?



Examples of what you can type: Who was the president of the US Who is Peru's president? (More examples...)

Home | Forum | Blog | Wiki | Recent Activity | League Table | Add Knowledge

Here is the answer that I found:

. the age 118 years, 9 months and 20 days old

This conclusion is based on a single fact in the knowledge base:

the 31st of March 1889 is the date of creation of the Eiffel Tower (endorse) (contradict)

(I understood your question to mean: Which ages are an attribute which applies to the Eiffel Tower, the tall iron tower in Paris, France at the current time?)

Click here for a more detailed explanation of the answer.

External web pages (using standard web search):

#### Paris Eiffel Tower News: Paris Photos

Paris Eiffel Tower News helps you to discover Paris with the ... Paris Eiffel Tower News Paris Eiffel Tower News Home Page Links: ...

http://paris-eiffel-tower-news.com/photos-of-paris.html

#### Eiffel Tower Gifts and Souvenirs - from Souvenirs of Paris

... 2006). Our collection of Eiffel Tower souvenirs and Eiffel Tower gifts offers everything ...

Tower Blue Silk Scarf \$48 Eiffel Tower silk scarf Eiffel Tower Orange Silk Scarf \$48 See More Eiffel Tower Scarves Paris ...

http://www.souvenirsofparis.com/eiffel-tower/souvenirs-gifts.htm

Amazon.com

Sign in





Web	<u>Images</u>	Groups	News	Froogle	Desktop	more »
is Mad	lonna sing	ıle?			Search	Advanced Search Preferences
Search	: 💿 the v	web 🔘 p	ages froi	m the UK		

Web

Results 1 - 10 of about 3,010,000 for is Madonna single?. (0.21 seconds)

#### <u>Madonna</u>

Official **Madonna** site with galleries, news, music, media, and fan club. www.**madonna**.com/ - 19k - <u>Cached</u> - <u>Similar pages</u>

#### BBC News | ENTERTAINMENT | Madonna single 'leaked' online

Madonna joins the fight against MP3 internet firm Napster after her new single is made available for downloading months early.

news.bbc.co.uk/1/hi/entertainment/774438.stm - 30k - Cached - Similar pages

#### Unreleased Madonna single slips onto Net | CNET News.com

Unreleased **Madonna single** slips onto Net | The pop singer weighs in on the Net music piracy wars after a copy of an unreleased **single** finds its way onto ... news.com.com/2100-1023-241341.html - 34k - Cached - Similar pages

#### Holiday (Madonna song) - Wikipedia, the free encyclopedia

Due to the success of "Holiday" in the clubs, the song became the first **single** from **Madonna's** debut album, receiving a commercial 7" **single** release. ... en.wikipedia.org/wiki/Holiday\_(**Madonna**\_song) - 36k - Cached - Similar pages

#### Madonna single leaked via Napster | The Register

The **single**, to be **Madonna's** next **single** and the title track of her new album, Music, was due for a September or October release. But the song was apparently ... www.theregister.co.uk/2000/06/02/madonna\_single\_leaked\_via\_napster/ - 30k - Cached - Similar pages

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what time is it at Google Headquarters?

Search

Advanced Search Preferences

Web

Results 1 - 10 of about 2,680,000 for what time is it

#### TIME: Life in the Googleplex Photo Essay

TIME: Life in the Googleplex: Inside Google Headquarters, www.time.com/time/photoessays/2006/inside\_google/ - 14k - Cached - Similar pages

#### TIME: Life in the Googleplex Photo Essay (1)

TIME Photo Essay: Life in the Googleplex: Inside Google Headquarters . Desktop gizmos and. EROS HOAGLAND / REDUX FOR TIME ...

www.time.com/time/photoessays/2006/inside\_google/1.html - 20k - Cached - Similar pages
[ More results from www.time.com ]

#### Google Corporate Information: Culture

Google's world headquarters building is located in Mountain View, California, ... real time searches rising from the surface of the globe toward space, ... www.google.com/corporate/culture.html - 12k - Cached - Similar pages

#### Benefits

Parental leave and take-out benefit also apply. See Time Away. ... At Google headquarters in Mountain View, there's on-site oil change, car wash, ... www.google.com/support/jobs/bin/static.py?page=benefits.html - 19k - Cachad - Similar pages.

#### Wired 11.05: Inside the Soul of the Web

The display sits on a shelf on the second floor of Google's headquarters, ... On the bottom,

Amazon.com

Sign in





Web	<u>lmages</u>	<u>Groups</u>	<u>News</u>	<u>Froogle</u>	<u>Desktop</u>	more »
How o	ld is the E	Searc	h Advan Prefere			

Search: 

the web pages from the UK

Web

Results 1 - 10 of about 1,150,000 for How old is the Eiffel Tower?. (0.27 seconds)

#### Eiffel Tower in Paris France. When was the Eiffel Tower built ...

Evoking the construction of the **Eiffel Tower**, operation of the **old** hydraulic elevator that ran to the top until 1983 and the current elevator. ...

www.group-trotter.net/france/places/eiffel/eiffel.html - 21k - Cached - Similar pages

This group total includes placed of the first of the firs

#### Eiffel Tower

The **old** 200-franc banknote (the equivalent of slightly less than \$US 40 at one time) has several pictures of the **Eiffel Tower** on it, as well as a picture of ... www.atkielski.com/main/**EiffelTower**FAQ.html - 50k - <u>Cached</u> - <u>Similar pages</u>

#### Travel Trivia

It's probably one of the most recognizable structures in the world. And we've uncovered some interesting facts. **How old is the Eiffel Tower?** 55 years **old ...** www.offbeattravel.com/trivia.html - 13k - Cached - Similar pages

#### Metropole Paris The Eiffel Tower

The 106-year-**old Eiffel Tower** Is In Fine Shape. Paris:- Wednesday, 18. June 1997:- Without doubt, the best place to start a trip to the top of the Tour ... www.metropoleparis.com/1997/70623225/eiffel.html - 31k - <u>Cached</u> - <u>Similar pages</u>

#### The latest news

Spreading holiday cheer to young and **old** alike, the **Eiffel Tower** offers a decorative visit of the monument during this holiday season. ... www.tour-eiffel.fr/teiffel/uk/actualites/page/news\_list.html?Year=2003 - 30k - Cached - Similar pages



#### add a fact (step 10)





Please tell me about the source of the fact that Alan Wallace is a founder of Katalyst Ventures.

Are you the source for this fact?

- Yes
- No

If you are not the source, please enter the source of the fact here:

katalyst

If you know the fact because somebody else with direct experience told it to you, enter the **name** of that person.

If you got the fact from a **website**, enter the name of the site or the **web address** of the page where you saw the fact.

Or, for example, if you know it because you read it in a **newspaper**, or saw it on the **television**, enter the name of the newspaper or TV programme.

You can also enter additional information about how you know the fact here, to help other users understand where the fact came from. For example, if you have cited a newspaper as a source you can give the date and page number here.

Entering this information is optional. (Maximum 500 characters.)

This is mentioned on the company website. The company gave his name in an email listing the founders and he has also told me this himself.



submit →

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November 8 2007

### True Knowledge Launches Natural Language Search Engine

Michael Arrington

31 comments »

Cambridge, UK-based **True Knowledge** released its natural language search engine into private beta yesterday (a story broken by **TechCrunchUK**).

Like the much-anticipated **Powerset**, the company aims to give appropriate answers to natural language queries, even if key query terms are not included in the data being indexed. Current search engines are unable to return appropriate results for these queries.



At first glance True Knowledge and Powerset are competitors - but in fact they really aren't. Powerset is both indexing the web and working to convert natural language queries into database-understandable queries. True Knowledge is only tackling half the problem - the conversion of queries. They are not indexing the web.

Instead, True Knowledge is grabbing data from structured databases, like, for example, the CIA Factbook. In many ways, they are more comparable with Freebase, a startup focused on gathering

# Result of first attempt



- Competing directly with Google
- Great technology demo
  - but no significant consumer traction
- Company lacked product and UX expertise

# Ugly baby syndrome





Just as people don't tell proud parents when they have an ugly baby... ...founders rarely get feedback about things they are doing badly.

Our website was *very weak* from a design point-of-view. ...a lesson we didn't learn until 2011

Amazon.com

# #2: Platform for 'Big Search' (~2008)



- Second attempt (first pivot):
  - License technology to "Big Search"
    - (Google, Bing, Yahoo, Yandex, Baidu....)
- Box at the top of search results
  - when direct answer possible





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Topic: CXO





### True Knowledge API lies at the heart of real business model

Summary: Semantically powered question answering start-up True Knowledge today made its Semantic Search API available for public consumption, taking the next step on the company's journey out of beta and providing a clear steer as to the way in which they intend to generate revenue. As the company's press release notes, "True Knowledge offers two distinct API services for developers: the 'Direct Answer API' and the 'Query API.



By Paul Miller for The Semantic Web | April 13, 2009 -- 22:01 GMT (23:01 BST)

Follow @ZDNet 217K followers

Get the ZDNet Must Read News Alerts - US newsletter now

Semantically powered question answering start-up True Knowledge today made its Semantic Search API available for public consumption, taking the next step on the company's



## Result of attempt #2



- Solid engagement but no deal
- Not-invented-here
- Latency

 Some smaller (non Big Search) deals done though

## API used in other products









#### Full name

Matthew Paige Damon

#### Born

October 8th 1970 Cambridge Massachusetts

#### Height

5 feet and 10 inches

#### Spouse

Luciana Boz n Barroso

#### Starred in

- Saving Private Ryan
- The Departed
- The Bourne Ultimatum
- · Ocean's Thirteen

#### Produced

- The Battle of Shaker Heights
- Feast
- · The People Speak
- . 5 feet and 10 inches

### #3: SEO (June 2009-2010)



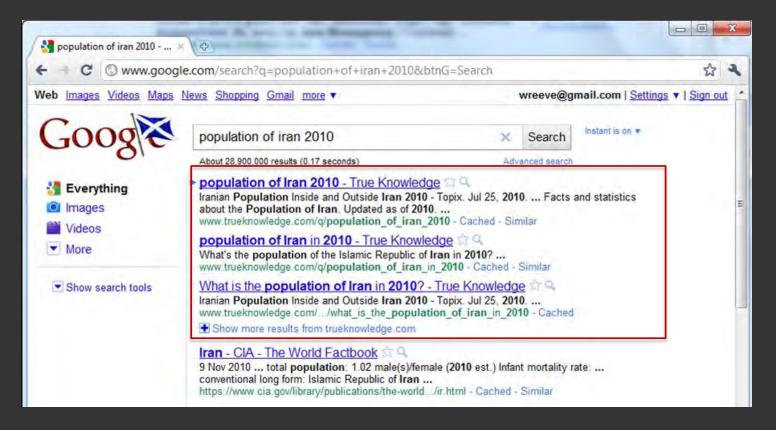
- Third attempt: get content into search by having it indexed
- SEO = Search Engine Optimisation
  - getting Google to send you free traffic
- No need to do deal with search engine
- Inferior user experience to direct integration
  - but much easier to achieve

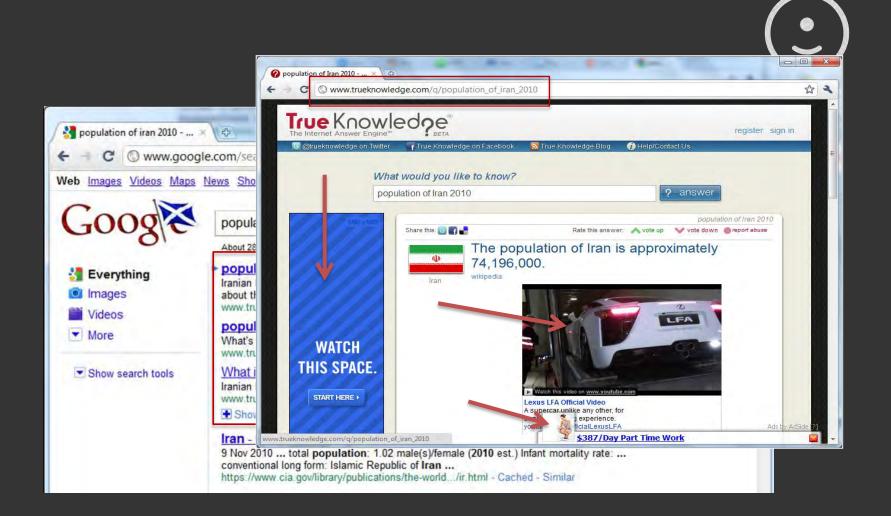
## SEO for trueknowledge.com



- trueknowledge.com/q/this\_is\_a\_question
  - calls platform for "this is a question?"
  - Infinite questions -> Infinite pages
- Point Google at (millions of) valuable questions
  - Google indexes and sends customers to you
- (plus lots of black art)





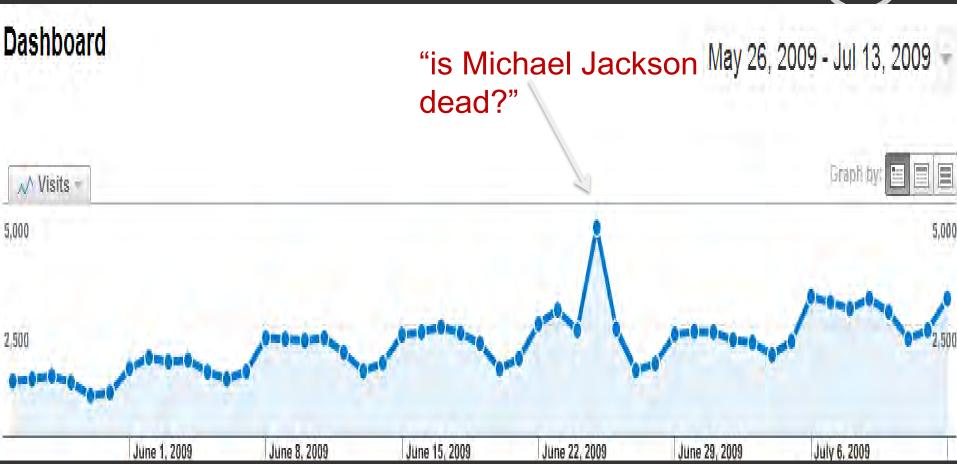


### Results

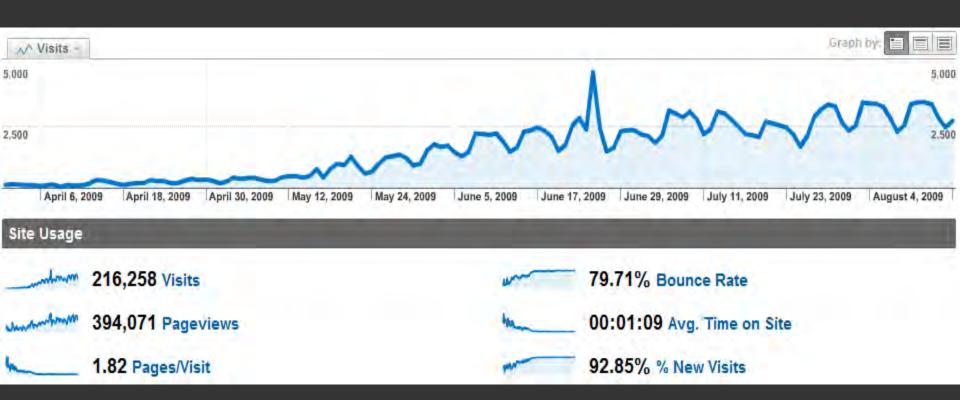


- Exponential growth for a long while
  - 10%+ per week
- Strange effects











### 2,405,491 people visited this site

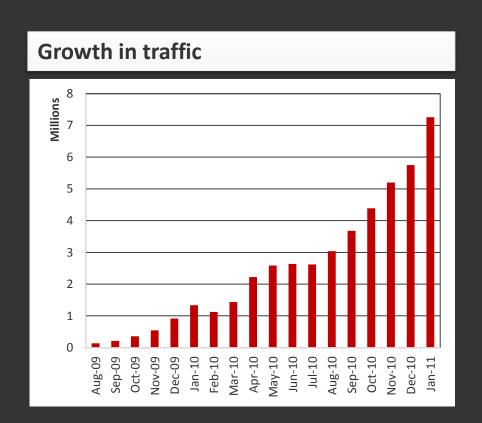
# 3.8m September 2010 4.4m October. 5.2m November. 19 consecutive record weeks only broken by Thanksgiving



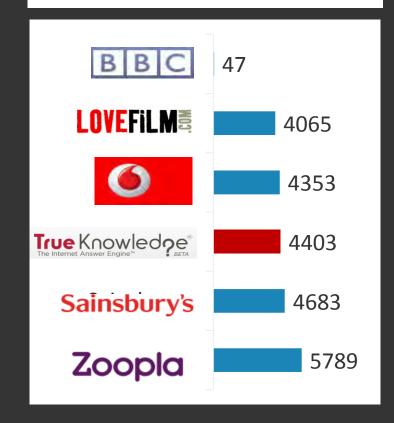


### What we were able to say about size (Jan 2011)





#### **Global Web Traffic: Alexa Rank**



# Fun things we did



- 'Exponential' purchasing of crates of beer...
- Buy ever growing increases when traffic grew >10% in a single week (to new record)
  - 1 crate, then 2 crates, then 3 crates etc.

To be drunk at 2010 Christmas Party

#### Result



Team highly focussed on growth

 So much beer at party it would have killed team if all drunk...



Amazon.com

#### Result



Team highly focussed on growth

 So much beer at party it would have killed team if all drunk...

Still drinking it nine months later...

## Second fun thing...



- SEO benefits from links to site
- PR about company is therefore helpful

- Used our technology to calculate the most boring day in history: April 11<sup>th</sup> 1954
  - and put out Press Release

#### Result



- Thousands and thousands of press mentions
  - in hundreds of languages



# Here isn't the news

April 11, 1954...the most boring day of the 20th century

By Andrew Levy

IT WAS the year that Roger Bannister broke the fourminute mile and food rationing came to an end.

The Queen became the first reigning monarch to visit Australia and Marilyn Monroe married Joe DiMaggio.

But amid historic events of 1954 was a date which can only today be classed as significant - for its insignificance.

April 11 of that year has been identified by experts as the most boring of the 20th century - a day when nothing of note happened.

After feeding 300million facts into a new computer search engine they have announced there were no key news events or births and deaths of famous people.

The best the machine could muster for the day was the fact that Belgium had its fourth post-war general election and a Turkish academic who taught electronics was

Journeyman footballer Jack Shufflebotham, who played a handful of games for Oldham Athletic and



#### **HOLD THE FRONT PAGE**

APRIL 11, 1954 was so dull that the theft of a sliver cup worth £50 made it on to the following day's front page of the Daily Mail, left.

We reported that a thief had pushed a hooked pole through an open window to steal the cup from a home in West London.

The lead story detailed U.S. support for the French army In Indo-China against 'Communist aggression in the Far East' - a confrontation which would later escalate into the Vietnam War. Another Item which would feel familiar to today's readers is a story about complaints over BBC repeats.

#### **DORIS DAY TOPS CHART**

ONE in seven families owned a car back in April 1954 when the average salary was just £101.

The family norm was 2.2 children - a big fall from 3.5 children in 1905, but more than the 1.7 figure in 1997. The population of the UK stood at around 50.2million and the world population numbered 2.52billion.

Doris Day's single Secret Love was Number One on April 11 - but Elvis Presley had only just left high school and would not release his first hit for three more years.

Top films included White Christmas and 20,000 Leagues Under the Sea.

Notts County, died, aged 69, and plans for a coup d'etat in Yanaon, a French colony in India, are believed to have been agreed.

But it could all have been so different for April 11. History notes that Bill Haley and the Comets recorded Rock Around The Clock the next day.

It is not the first time a particular day has been singled out for its lack of moment.

According to BBC Radio, April 18, 1930, was the dullest day of the 20th century after an announcer informed the nation at the 6.30pm bulletin: 'There is no news.'.

But the experts claim this date fell in the midst of the Great Depression and witnessed the death of Joaquim Arcoverde de Albuquerque Cavalcanti, the first Cardinal to be born in Latin

There was also the birth of Clive Revill, the New Zealand-born actor best known for his Shakespearean performances on the London

William Tunstall-Pedoe, founder

of the new search engine True Knowledge, which is based in Cambridge, said: 'When the results came back, the winner was April 11, 1954 - a Sunday.

'Nobody significant died that day, no major events apparently occurred and, although a typical day in the 20th century has many notable people being born, for some reason that day had only one who might make that claim -Abdullah Atalar, a Turkish academic.

'The irony is, though, that - hav-

ing done the calculation - the day is interesting for being exceptionally boring.

'Unless, that is, you are Abdullah

True Knowledge, which provides a direct answer to a question instead of providing a list of links like other sites such as Google, was launched online in February

The system can store hundreds of millions of facts about people. places, events and businesses.

a.levy@dailymail.co.uk





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Only 20th Century date As scientists Channel 4 Ne with no news...except a asks can it be Belgian poll and death 11 Api

1954 of, er, Jack Shufflebotham

Friday 26 Novemb

All the days in a

"Experts", we're

1954 - the day

No news . . possible Sun on day pinpointed the 20th Century's most boring date after feeding 300 million day - April 11, 1954, facts into a new search engine called True Knowledge. It was the only 24 hours called True Knowiecke.
Founder William TunstallPedoe said yesterday. Whan
the results came back the winthe treate came back the winNobody significant died
that day and no major events
apparently occurred.

"Although a typical day in
the 30th Century has many
notable people being born, for
some reason that day had
day is interesting for heine
day is interesting for heine years with NO major event, birth or death. In a century that saw two world wars, space exploration, and the invention of the telly and the internet, the spring Sunday could only boast a general election in Belgium. There was the death at 69 of journeyman footballer Jack Shufflebotham, who played a few games for Oldham - but day is interesting for being exceptionally boring." The news soon picked up. In May 1954, Sir Roger Bannister broke the four-minute mile. a planned coup in Yanaon, a French colony in India, failed go ahead. old anything eventful hap-pen to you on April 11 1954? RING The was that of Turkish academic and Sun on 0207 microwave elec-4104 or EMAIL ronics expert exclusive@the-

sun co uk e.nash@the-

Born . . . Atalar

#### Interestingly, boredom is not so boring

potentially useful. Boredon-like beauty, is in the eye of the beholder.

For reasons too comp

warm to a computer expert but I quite like the sound of William Tunstall-Pedoe. His Cambridge company

stores all sorts of random can help us draw Its latest finding is that April 11, 1954 was the most boring day in the 20th century because nothing of any importance happened then

However, it is the measure of William's geniu that he then confesses his most machine's discovery instantly makes April 11, 1954 an interesting day for the very reason that it was ome so boring. It is a clear case of the old philosophical concept that by asking a question you change the

that only a boring person can be bored because to an

morning I was swept up in

many others.

many others.

Forgive me if at this point I recall yet again that greatest moment in my career when, many years ago I was invited by undergraduates to address the annual dinner of Cambridge University Anti-Society because, they explained with great explained with great politeness, I was the most boring writer in the city.

As soon as I began to address them on the role of the semi-colon in spoken English they shouted me down because I was too interesting.

For reasons too compies to go into here, I was once trapped into spending a whole Sunday in Trujillo, which the guide books led me to believe was the most boring small provincial town in all Peru, if not the world. They were right; even semi-colons can be interesting.

nothing, even boredom itself, is boring. Boredom does not exist unless you let it sneak into your soul. April 11, 1954 must have been wonderful because there is nothing in my teenage diary for that day. Happy days!

get widget minimize True Knowledge

ng platform which can take in ne knowledge source is not mation provided by CrunchBase

... well ... nothing great happened on 4-11-54.

Abdullah Ata-

Boffins in

Cambridge

arrived at the



82425 tor

Only £1.50

Club for £3

per week

# NEIL BOOZE RAN' ON JET FROM OZ



Jet Me Outta Here . . . Neil got drunk leaving Oz

DRUNKEN Neil Morrissey shocked Club

DRUNKEN Neil Morrissey shocked Club Class passengers with a series of foul-mouthed rants as he jetted back from commendating on I'm A Celebrity.

Manager of the Commendating on I'm A British Airways source said. When he works up five feely a commendation of the Commenda



Brand is driven to pass test

RUSSELL Brand is taking driving lessons to the land of the land of

bizarre SHLEY'S ON DUTY ALL NIGHT



Star role for Ross on Beeb

FORMER television chat king Jonathan Ross is returning to the BBC for a REALLY star-studded show star-studded show on astronomy poper in the series Stargazing Live in January. We as suspended over the Andrew Sachs phone contract each of the series of th







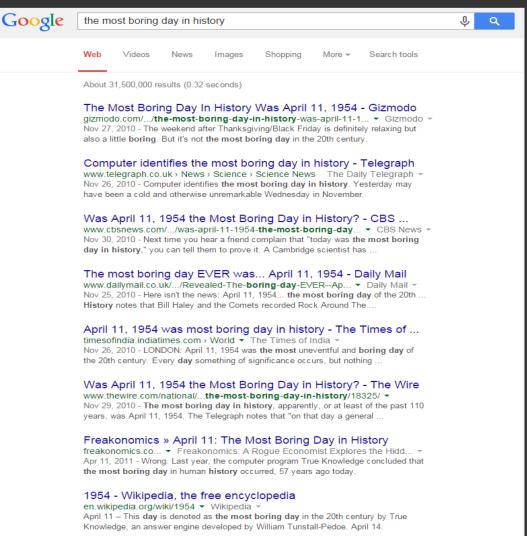
## Boring day...



We were nominated for PR Industry award

 Have had more press (spontaneously) every April 11<sup>th</sup> since... Still there several years later...

Google search from 8<sup>th</sup> February 2015





## How did the SEO pivot work out?



- Failed financing
  - despite hockey-stick graph, Silicon Valley not interested in SEO anymore

- Google 'Panda': 50% loss of traffic in Feb 2011
  - never made it to cash-flow positive

What now?

## #4: Evi (2011-2012)



- Fourth attempt: own branded mobile product
  - Powered by our core tech
  - UX and mobile product skills needed quickly
- Major pivot we bet the company
  - Team changes/funding milestone

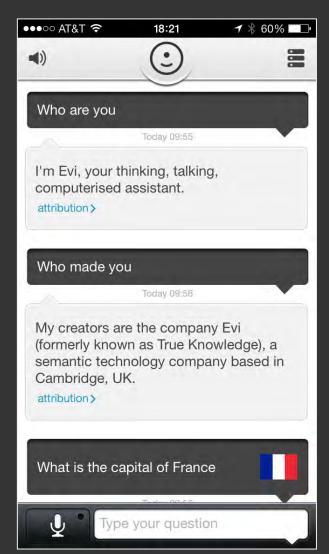
#### Evi timeline

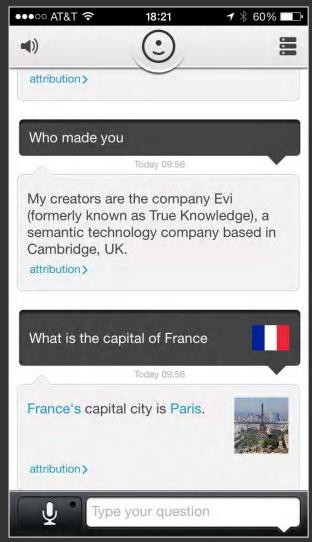


- Committed to pivot early 2011
- Funding milestone and first version June 2011
  - company 'lockdown'
- Apple launched Siri October 2011
- Evi launched January 2012



#### Demo

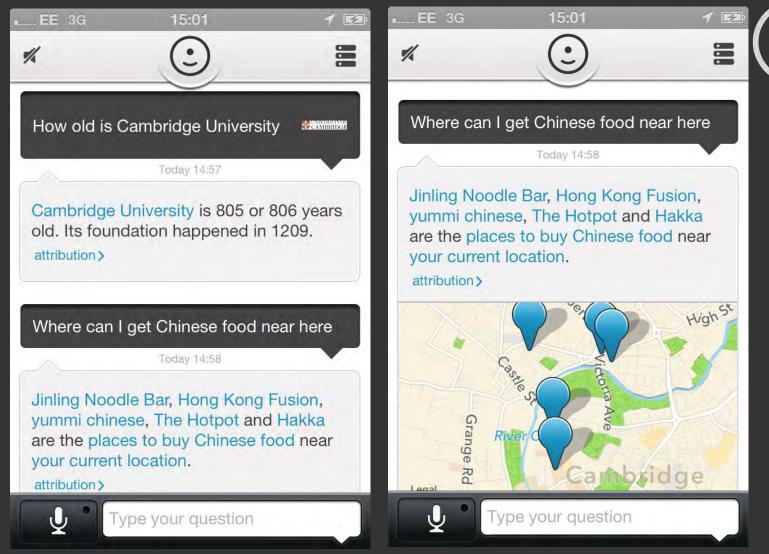


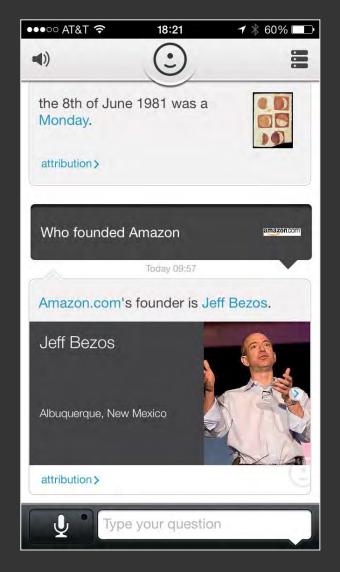


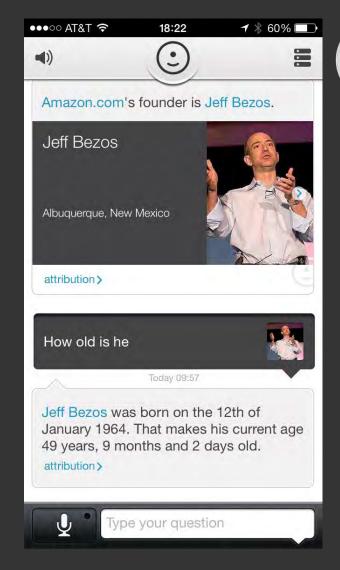


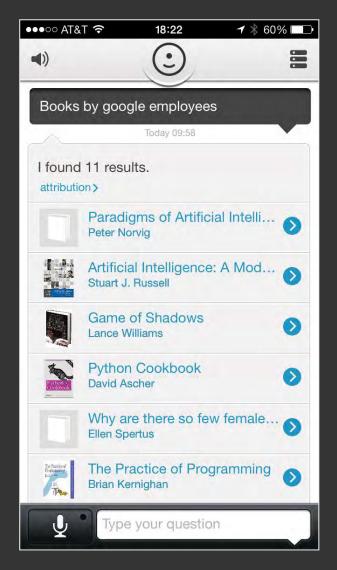


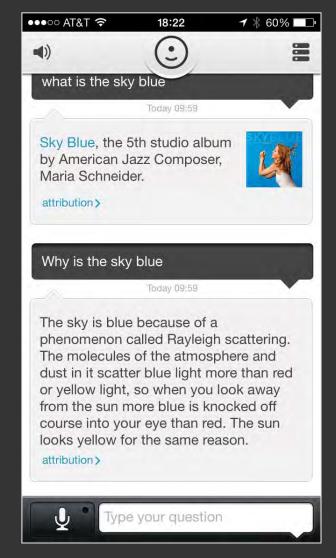
Amazon.com



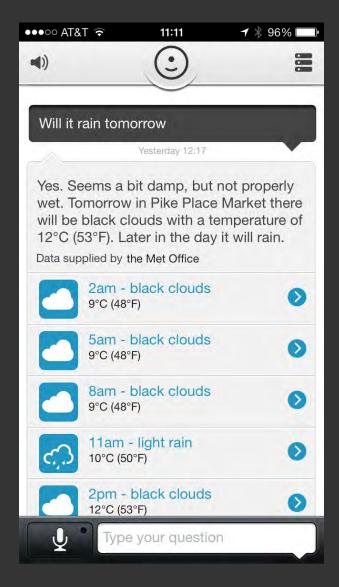
















## Result of fourth attempt



- Success!
- Enormous interest:

#### with cheap

#### Apple's Siri has a new British rival -

A billion facts | Evi Evi has the ans

THEY were up all night at True Knowledge (TK) in Cambridge's Hills Road after the launch of Evi, coping with the massive number of downloads from around the

"Evi can compare different facts and come up with new information," William says.



Cambridge firm True Knowledge outsmarts tech giant with phone as: copes with variety of UK accents

"She is an artificial intelligence, she is not an app. She is based in

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#### Evi Arrives In Town To Go Toe-to-Toe With Siri













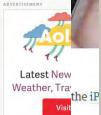




When Siri arrived on the iPhone 4S I thought to myself, who else could do this? It would need to be a search engine with natural language processing, but also behave in the manner of artificial intelligence and respond to voice recognition. One company that sprung to mind was True Knowledge, I pinged them. Are you working on a Siri type application, I asked? Interesting question, was their response. And then they went

Now they can reveal what they've been building. Evi is a new iPhone (iTunes link) and Android app in Beta (link) which might just give Apple's Siri a run for her money. She - we'll call this Artificial Intelligence a she - returns amazing results when

consulted. Given that Siri is just not very good at giving answers which aren't about the US, Evi



#### **CrunchBase**

#### true knowledge

DESCRIPTION True Knowledge is a service intelligent answers to your

Amazon.com





#### The Brit taking on Siri

Apple's assistant app

William 'Tunstall-Pedoe's The quest to beat the Turing Test, which Evi claims a bigger tests a machine's ability to engage in intelliknowledge base than gent conversation with a human, took a step forward in January with the launch of Evi. Developed by Cambridge-based company

True Knowledge, Evi has gone head-to-head with Apple's Siri and Google's voicesearch app. But Evi - available for iPhone (all models) and Android - claims a better understanding of real English and returns results in the same conversational style Ask it a question (by speaking or typing) and it aims to give a real answer, rather than a list of links (Google) or the suggestion that you use the web (Siri).

The app uses the same Nuance voice-recognition technology as Siri, but relies on a far wider knowledge base. "The platform draws on a vast store of ideas, lexical uses and common sense that lets it understand a plain-English question much more accurately," says William Tunstall-Pedoe, 43, True Knowledge's CEO (above). Using the phone's location capability, you can ask Evi "Where is the nearest petrol station?" and get an actual address.

anything," he says.

"Evi is the final app."

Tunstall-Pedoe is something of an artificial-intelligence prodigy; he has been making and selling software since he was 13, such as Crossword Maestro.

Evi was almost victim of its own success - more than 250,000 downloads in its first week meant early users found its servers often unresponsive, before more server space eased the congestion. Extra features are on the way, including Siri-like command functions for Android. Tunstall-Pedoe is positioning Evi as a multipurpose platform. "A personal-assistant product is a framework in which you can do almost



84 MILLION Views for 2011's mostwatched YouTube video in

The UK (a talking day)



nost-watched YouTube eldec (a royal-wedding spoot). For sources see Colopnan (e.192)

0 8 8

## Result of fourth attempt



- Success!
- Enormous interest:
  - >1 million downloads
  - 40 serious approaches from big companies
- New CEO
- Company name change (True Knowledge -> Evi)
- Acquisition by Amazon
  - completed October 2012



## The adventure continues...







Amazon's new Cambridge development centre (Castle Park)



Amazon.com



#### Amazon Echo launch



 Amazon doing amazing things in speech and language space

- Echo launched in November 2014
  - the project I work for

## Amazon just surprised everyone with a crazy speaker that talks to you



It's called Echo, and it's shipping 'in the coming weeks'





## Other teams hiring in Cambridge



Prime Air (www.amazon.com/primeair)



## Final thoughts



Very big ambitions can carry you a long way

 A great idea often needs multiple iterations to hit success

#### Questions?



- William Tunstall-Pedoe
  - wpedoe@amazon.com

http://amazon.jobs/location/cambridge-uk

## Spare slides







