Possible solutions

- Either to allow space for the box, or:
- Make the box ***dynamic***: it grows when the user types in it
  (not it can also cover other parts of the page, no need to have reserved space)

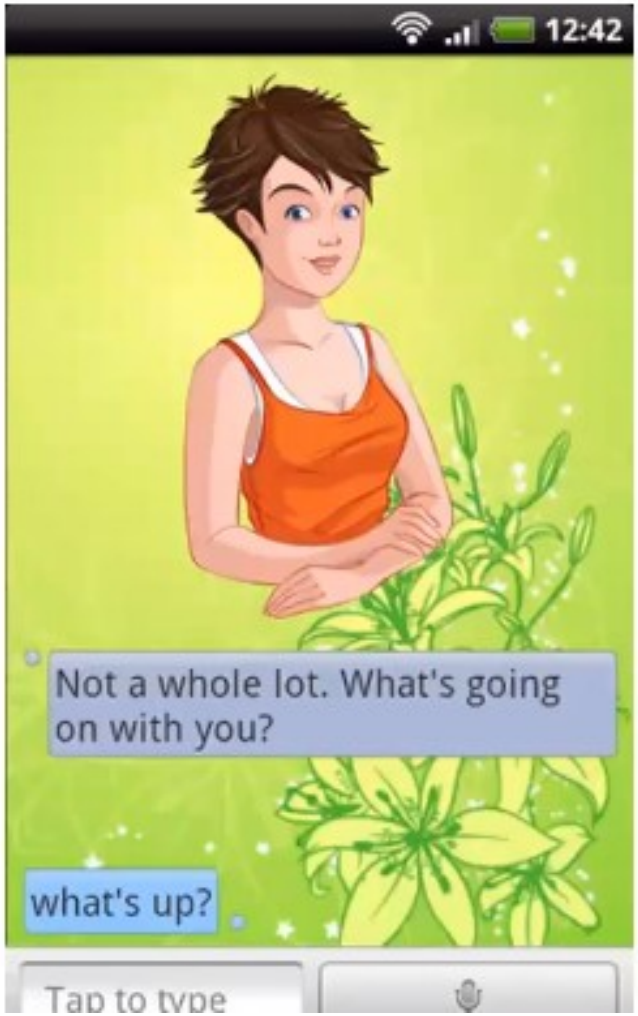
Other interaction modes..?

- We saw users prefer the box «seach-engine like»
- Are there other interaction ways we are used to, so that we could offer something different?
- *str4


5:23
Speak
Opening browser to yahoo news 17:21:19
Yes Peter 17:21:51
Yes Peter 17:22:47
Open facebook 17:22:54
Launching Facebook 17:22:54
Yes Peter 17:23:06
What's on my agenda for today? 17:23:15
Your agenda for today contains the following 2 items 17:23:16
1. On july 4 At 07:30 PM Dinner with friends
2. On july 4 At 09:00 PM Fireworks on the Bay

Siri


9:41 AM
On May 19 remind me it's dad's birthday
Here's your reminder for May 19, 2012 at 9 am:
19 Saturday May 2012
Dad's birthday
Cancel
Confirm

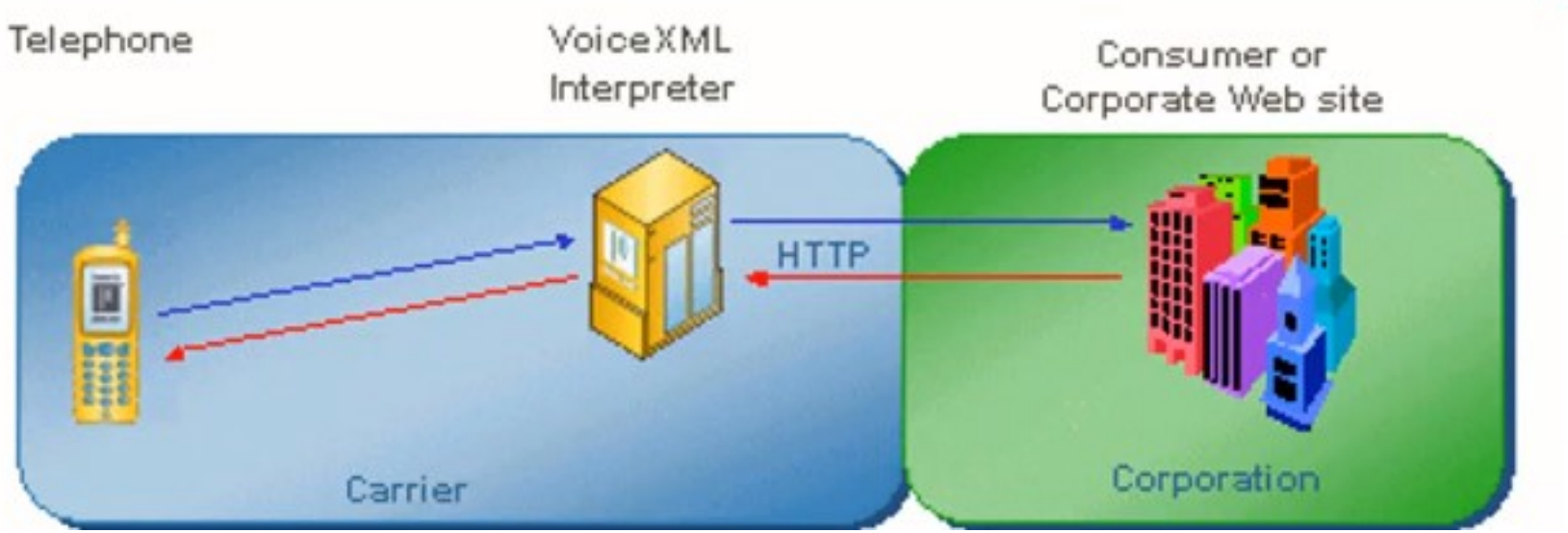

12:42
Not a whole lot. What's going on with you?
what's up?
Tap to type

VOICEXML

- The idea: web == visual
- Why not: web == also **audio**??!!

VOICEXML…

- The main technology born to go beyond the visual-only



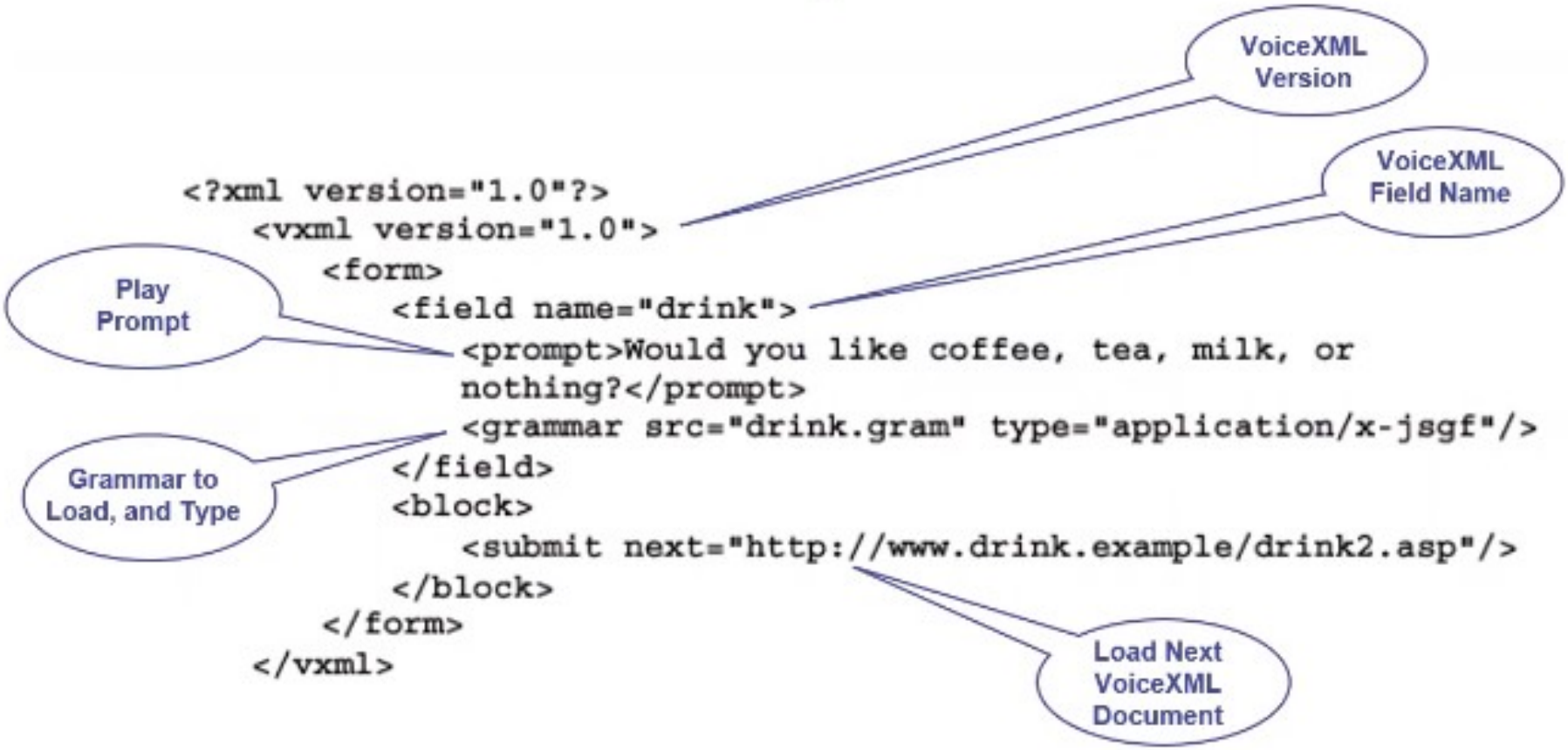
Please note…

- Voice is only a media: what matters is that voice is actually turned into text
- So eventually there is interaction with text (**natural language**)

In turn…

- Don’t be fooled by the «Voice» word in VoiceXML: this is a family of technologies, starting from the vocal fronte-end, that can be used for superior interaction

VoiceXML example




```
<?xml version="1.0"?>
  <vxml version="1.0">
    <form>
      <field name="drink">
        <prompt>Would you like coffee, tea, milk, or
        nothing?</prompt>
        <grammar src="drink.gram" type="application/x-jsgf"/>
      </field>
      <block>
        <submit next="http://www.drink.example/drink2.asp"/>
      </block>
    </form>
  </vxml>
```

VoiceXML and HTML...

- The media changes...

```
<form action="url">
    Enter your Id:
    <input name='id'>
    <input type='submit'>
</form>
```

```
<form>
  <field name='id'>
    <prompt>
      Your ID, please.
    </prompt>
  </field>
  <block>
    <submit next="url"/>
  </block>
</form>
```

VoiceXML technologies

- **Speech Synthesis Markup Language (SSML)**: how to pass from (enriched) text to voice

CCXML's «successor»

- State Chart XML (**SCXML**):
  general language for defining execution environments based on
  state-machines
  (Harel-like, similar but more powerful than UML).

The Big Problem

- Let's see the big problem of every vocal application: *cmp
- → ***the context!***
- **Speech Recognition Grammar Specification (SRGS)**: defines the user grammar, so providing context to the audio channel

SISR

- **Semantic Interpretation for Speech Recognition (SISR):** gives a meaning (corresponding actions) to what the user said

VoiceXML example menu

```
<vxml version="2.0">
<menu> <prompt> Say one of: <enumerate/>
</prompt>
<choice
next="http://www.sports.example/start.vxml"
> Sports </choice>
<choice
next="http://www.weather.example/intro.vxml
"> Weather </choice>
<choice
next="http://www.news.example/news.vxml">
News </choice> <noinput>Please say one of
<enumerate/>
</noinput> </menu> </vxml>
```

VoiceXML example (meteo)

```
<form id="weather_info">
 <block>Welcome to the weather information
  service.</block>
 <field name="state">
   <prompt>What state?</prompt>
   <grammar src="state.gram"
            type="application/x-jsgf"/>
   <catch event="help">
     Please speak the state for which
     you want the weather.
   </catch>
 <field>
```

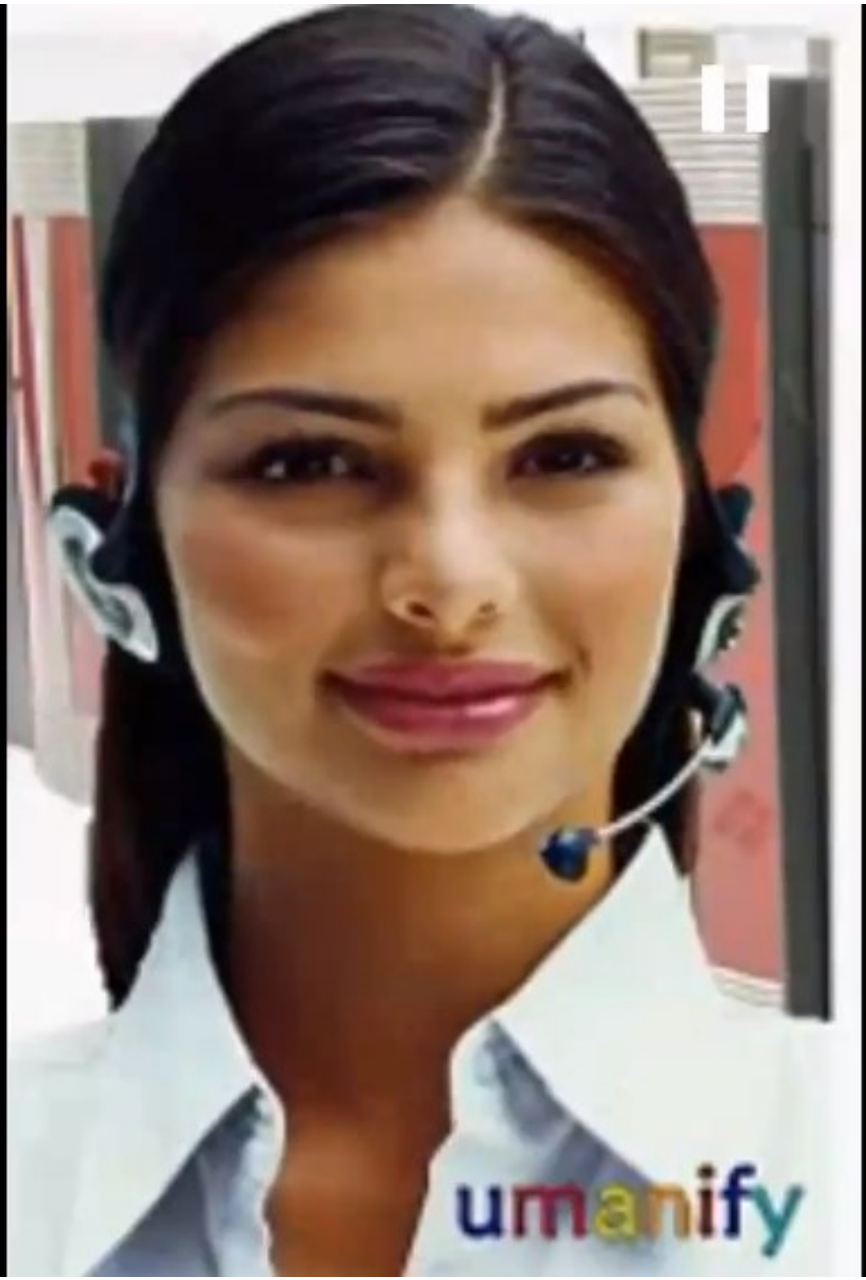
E-commerce VoiceXML example

```
<field name="card_type">
  …
  <grammar>
     visa                    {visa}
   | master [card]           {mastercard}
   | amex                    {amex}
   | american [express]      {amex}
  </grammar>
  <help>Please say Visa, Mastercard, or
        American Express.</help>
  …
</field>
```


GUILE

So… Voice Power Up?…

- Lulu
- Hellena
- And the hybrid's: Umanify, Sonia.


umanify

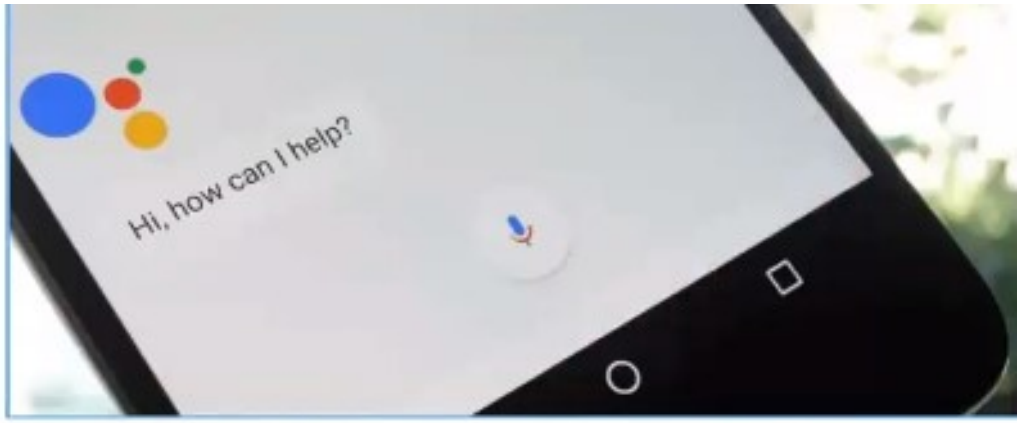
What happened?

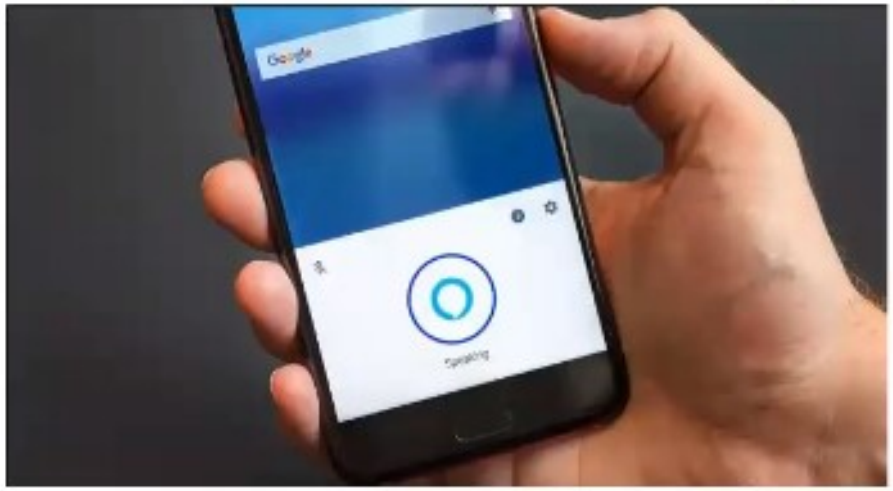
- User satisfaction level?
- Roughly **-42%** (!!)

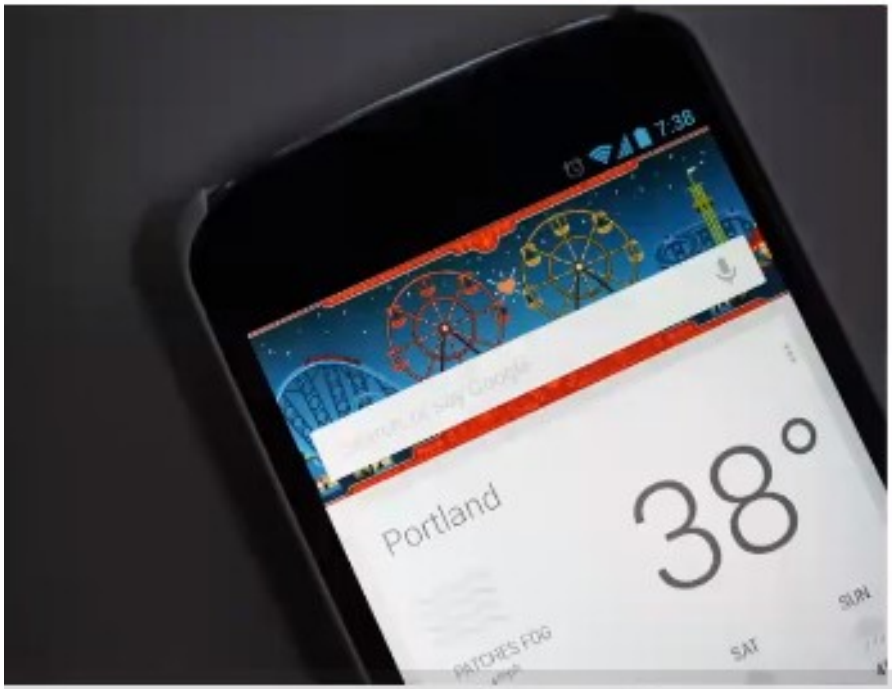
So, beware…

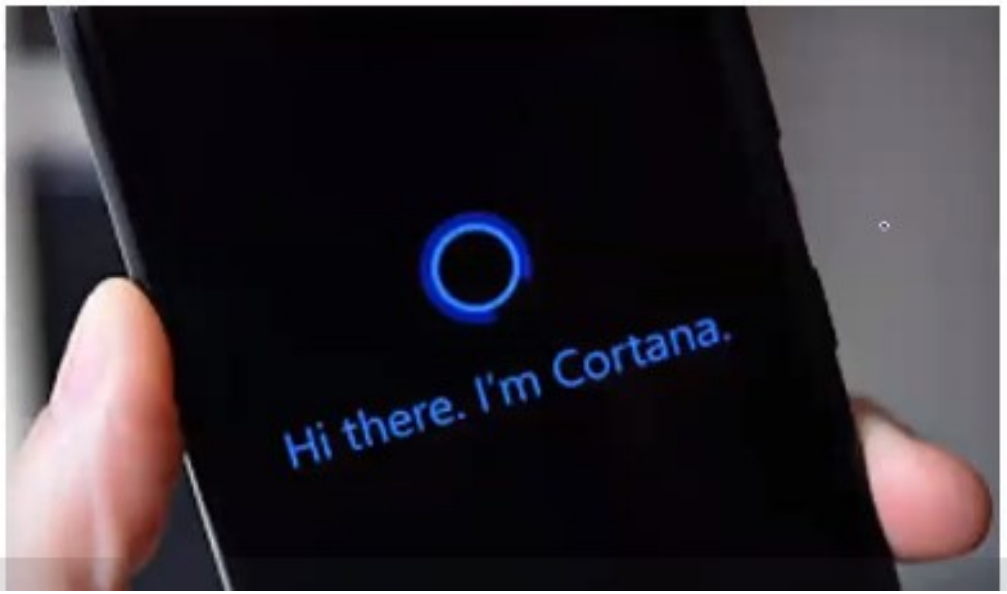
- Of the usability component!!
- (and remember "less is more"…)
- Users, faced with a human digital assistant, have corresponding ***expectations***: finally I can use my natural language!

Consequently..





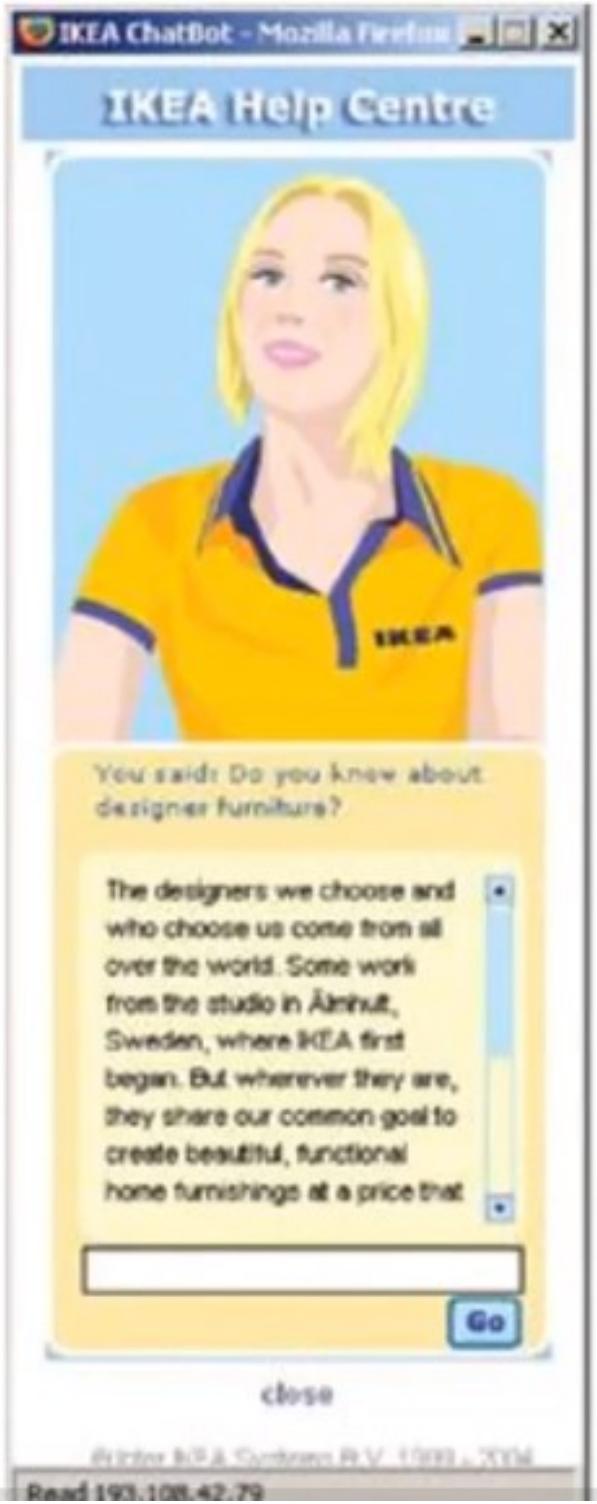




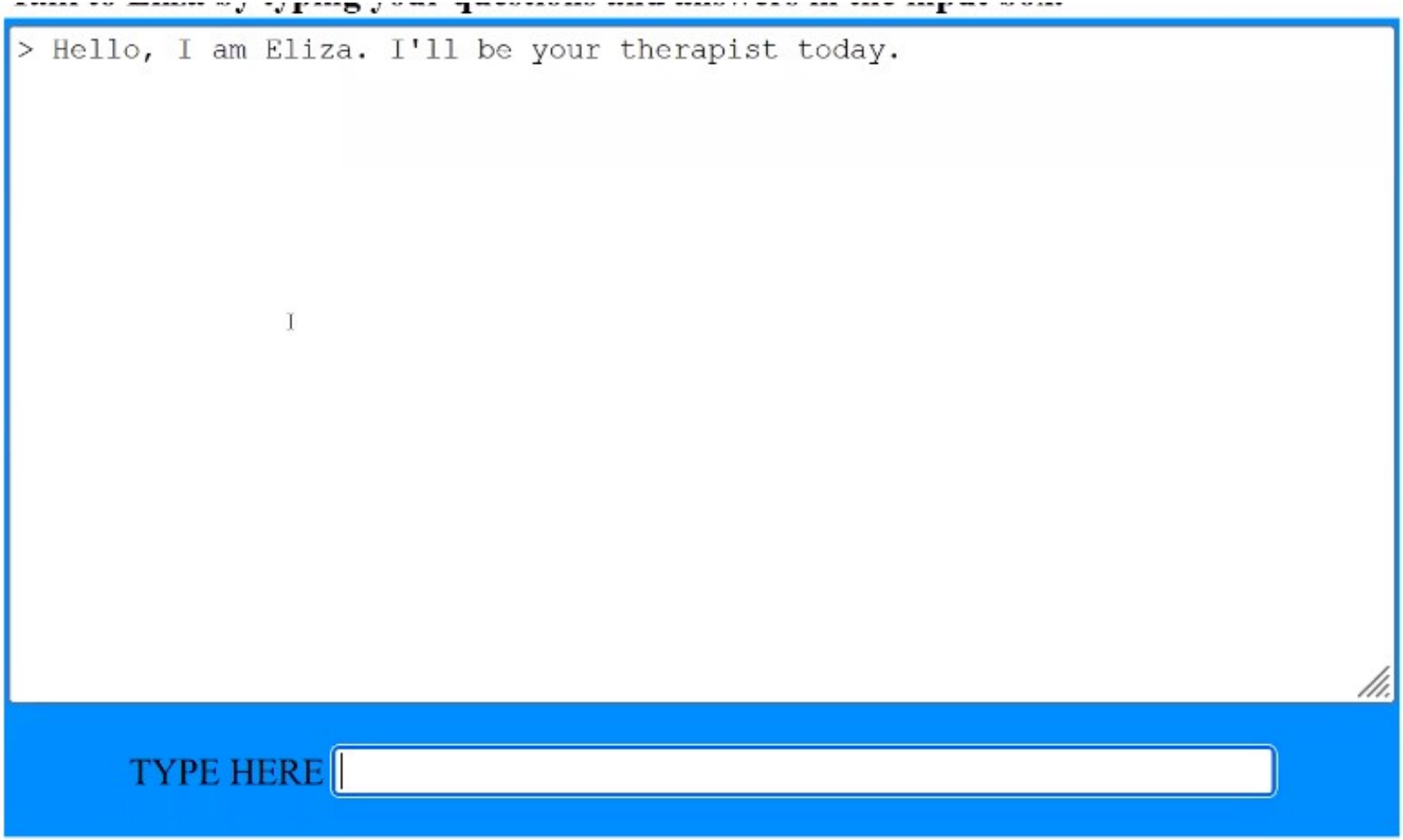
The «Anna» case…

- Ikea eventually stayed with a «cartoon» picture, without going to photorealism
- And only textual input…
- And a language engine (based on VoiceXML) quite powerful and complete
- And… it was an **optional** assistant (***users choice!***)

Main reason (!)


IKEA ChatBot - Mozilla Firefox
IKEA Help Centre
You said: Do you know about designer furniture?
The designers we choose and who choose us come from all over the world. Some work from the studio in Älmhult, Sweden, where IKEA first began. But wherever they are, they share our common goal to create beautiful, functional home furnishings at a price that
Go
close


IKEA ChatBot - Microsoft Int...
IKEA Help Center
Welcome to IKEA. I'm Anna, IKEA USA's Automated Online Assistant. You can ask me about IKEA and our products and our services. How can I help you today?
Go
close



Radio Shack computers that made up the first computer lab in the junior high school where I taught in the 1970s. By then, ELIZ

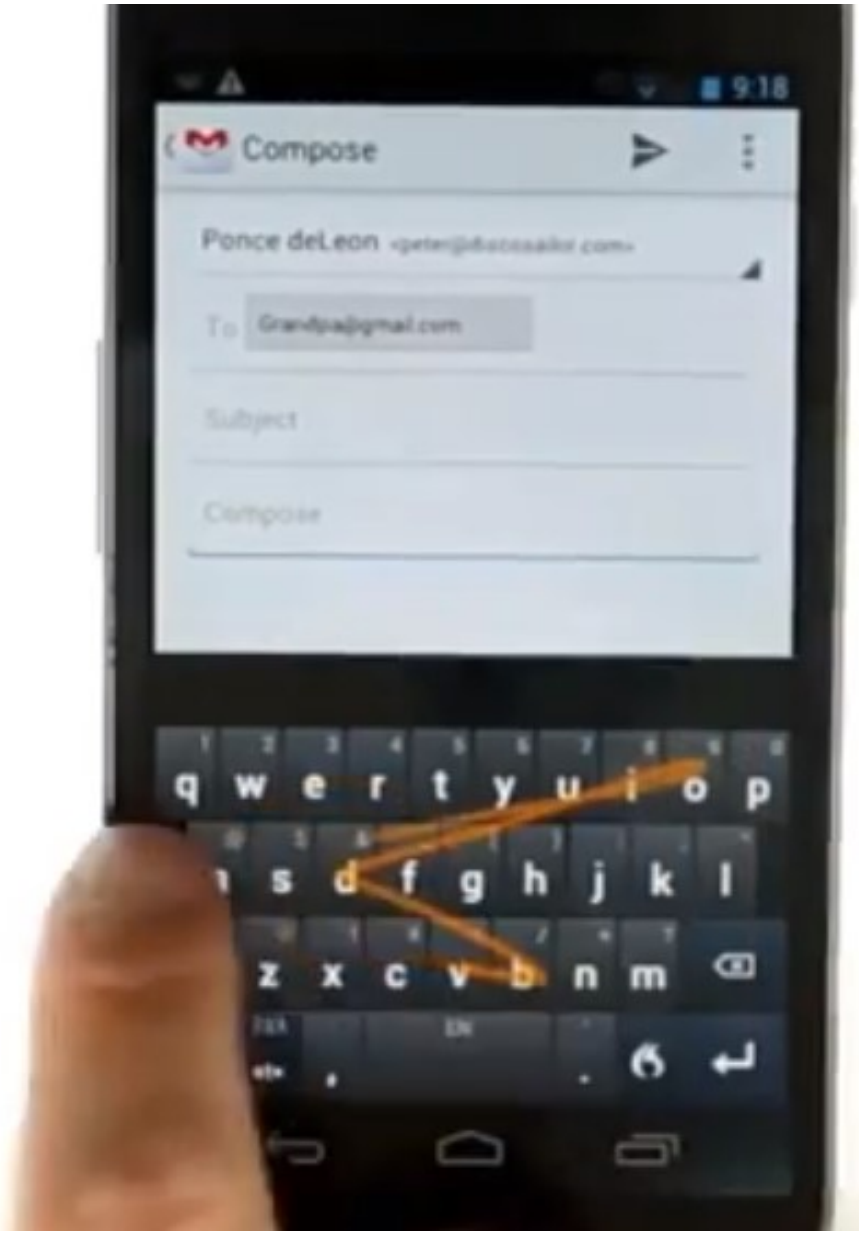
1975...

```
'AUSE  INIT DONE statement executed
'o resume execution, type go.  Other input will terminate the job.
go
'xecution resumes after PAUSE.
WELCOME TO ADVENTURE!!  WOULD YOU LIKE INSTRUCTIONS?



SOMEWHERE NEARBY IS COLOSSAL CAVE, WHERE OTHERS HAVE FOUND
FORTUNES IN TREASURE AND GOLD, THOUGH IT IS RUMORED
THAT SOME WHO ENTER ARE NEVER SEEN AGAIN. MAGIC IS SAID
TO WORK IN THE CAVE.  I WILL BE YOUR EYES AND HANDS. DIRECT
ME WITH COMMANDS OF 1 OR 2 WORDS.
(ERRORS, SUGGESTIONS, COMPLAINTS TO CROWTHER)
(IF STUCK TYPE HELP FOR SOME HINTS)


YOU ARE STANDING AT THE END OF A ROAD BEFORE A SMALL BRICK
BUILDING . AROUND YOU IS A FOREST. A SMALL
STREAM FLOWS OUT OF THE BUILDING AND DOWN A GULLY.
```


Welcome to Colossal Adventure, the
first of the Jewels of Darkness,
copyright (C) 1986 Level 9 Computing.
(This version allows you to use RAM
SAVE and RAM RESTORE to save a position
in memory, and OOPS to "take back" bad
moves).
You are standing beside a small brick
building at the end of a road from the
north. A river flows south. To the
north is open country and all around is
dense forest.
What now?


16:39

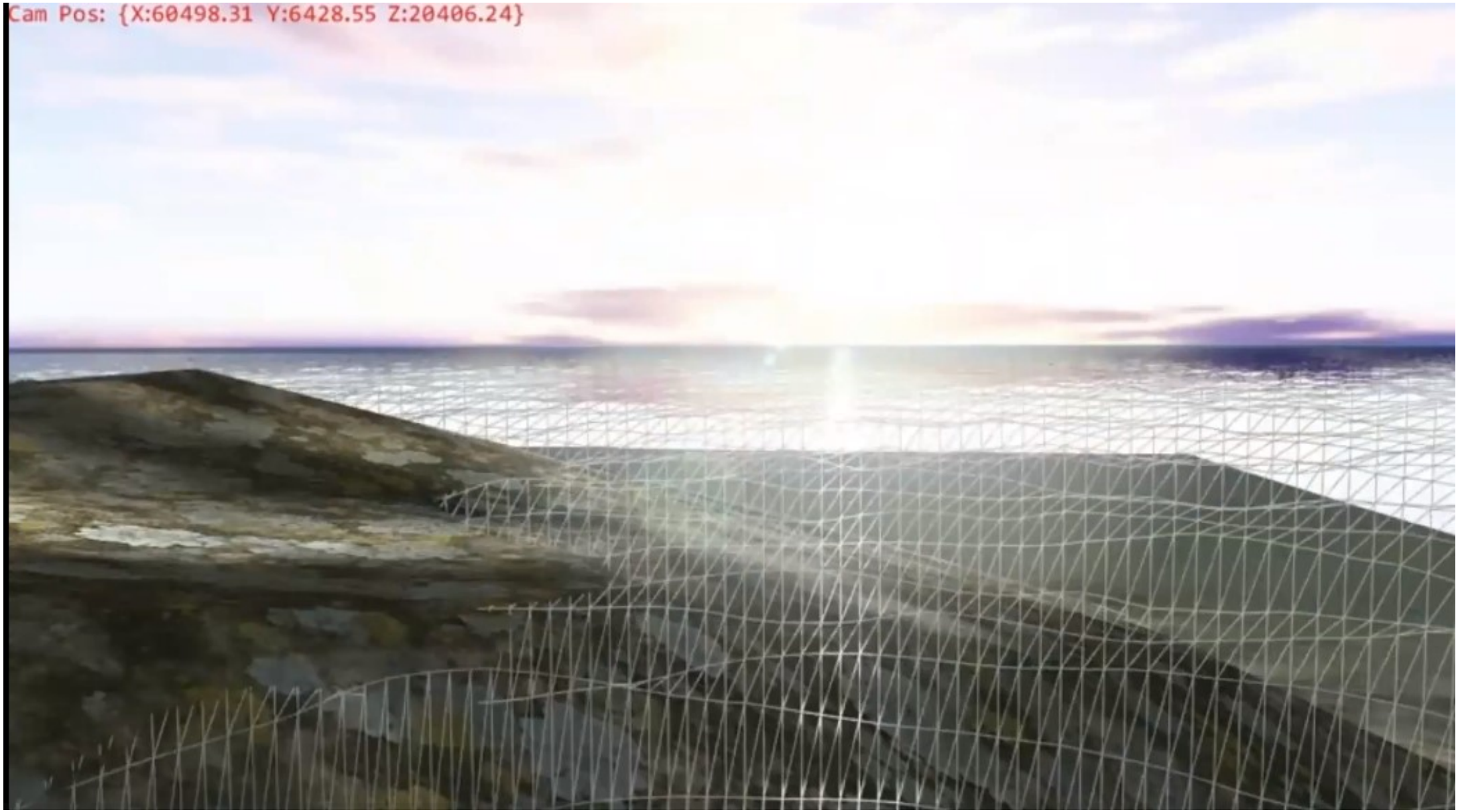

60
56

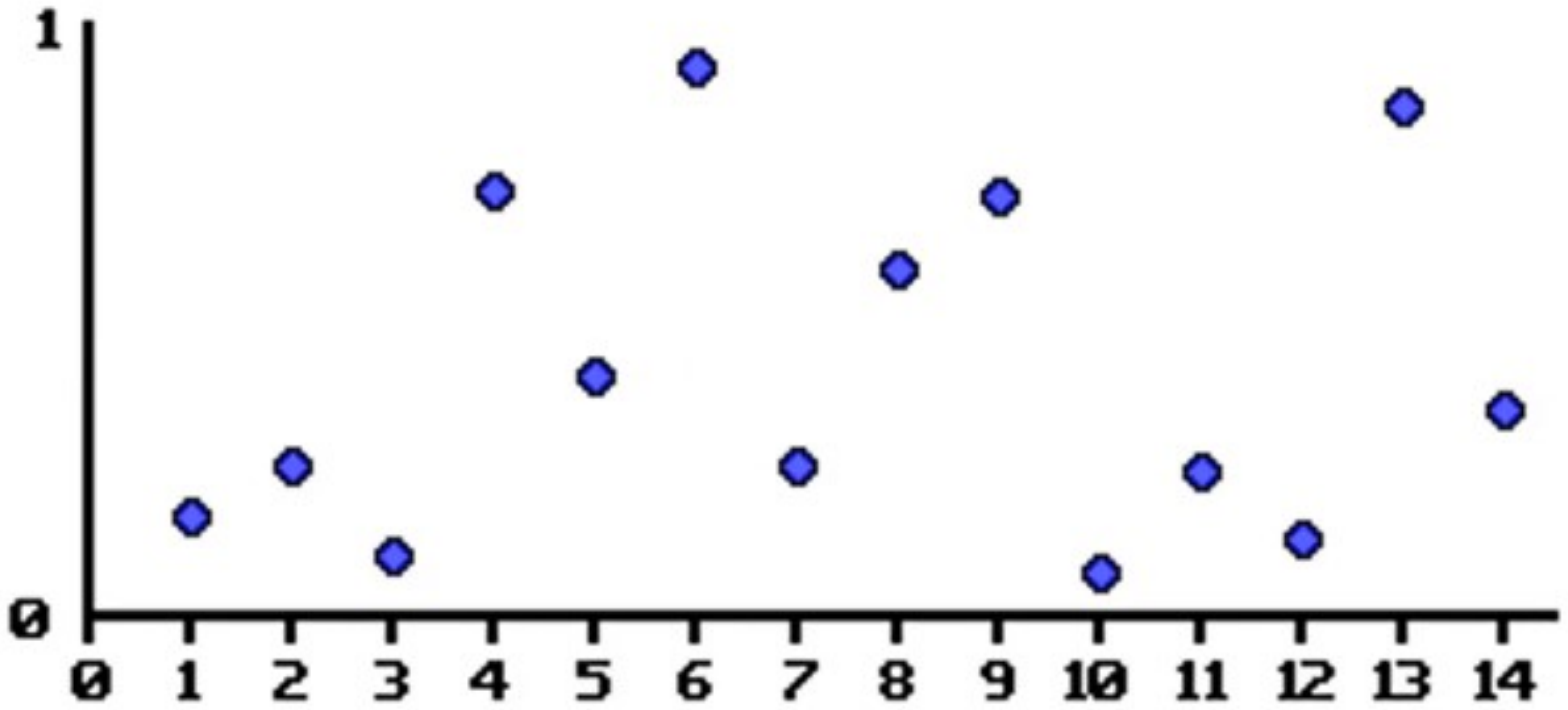

9:18
Compose
Ponce deLeon
To
Grandpa@gmail.com
Subject
Compose
q w e r t y u i o p
s d f g h j k l
z x c v b n m


the staggering
WANTED

Note on interaction/ evolution …

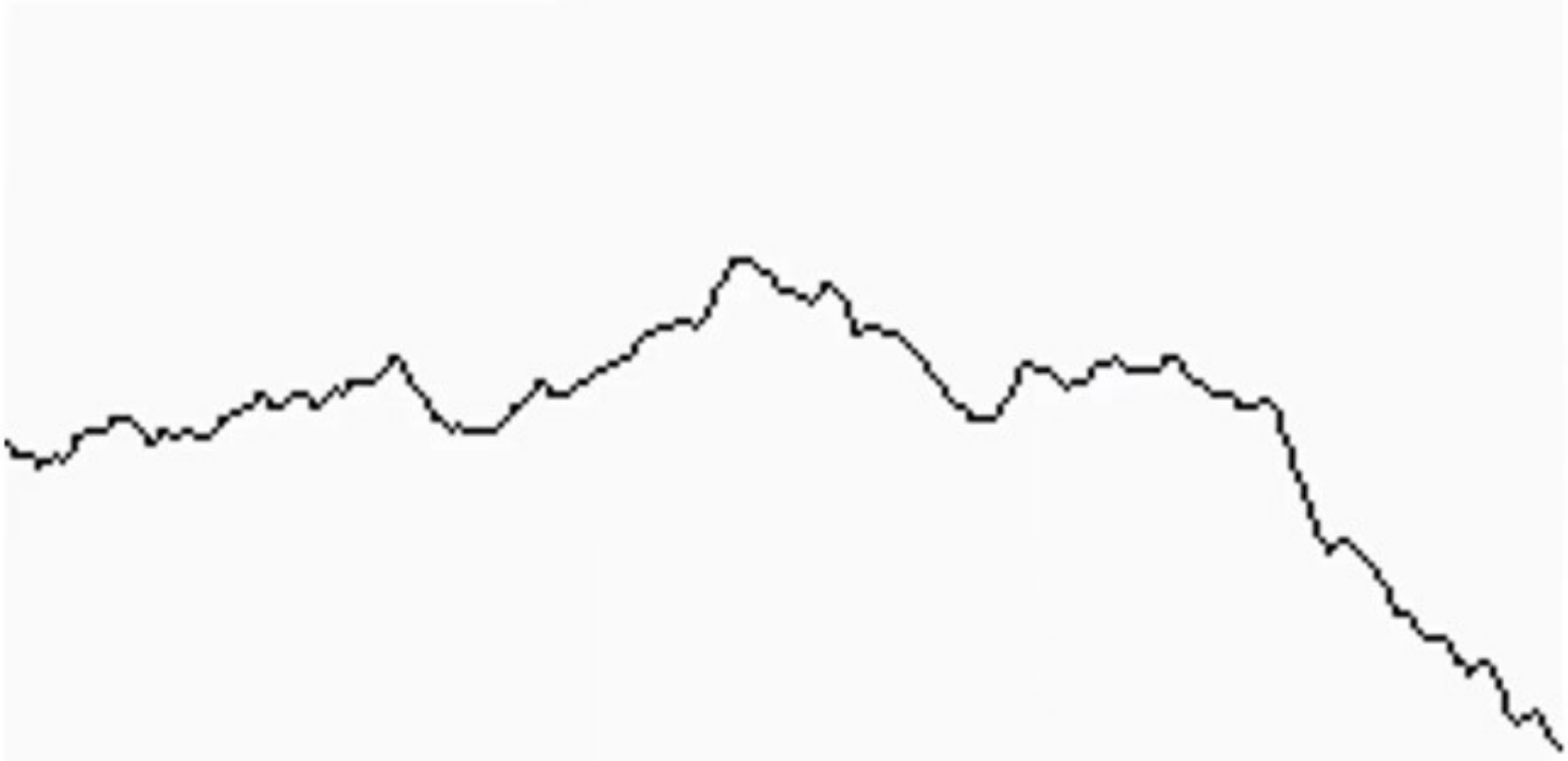
- Hellena vs betty 2 and liz 3…
- **s *sac

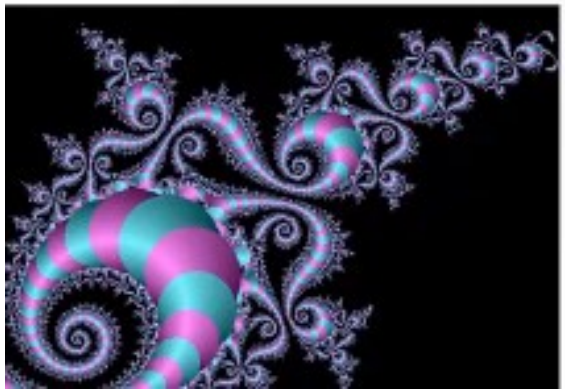

Cam Pos: {X:60498.31 Y:6428.55 Z:20406.24}


1
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14


1
0
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

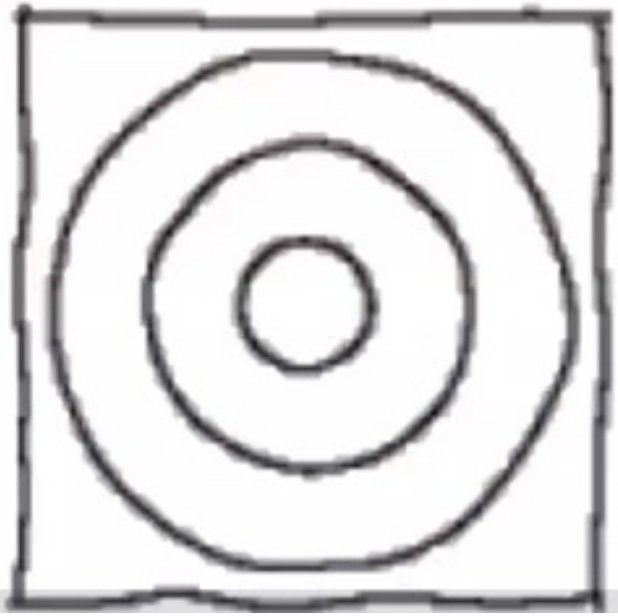
Sum of Noise Functions = (Perlin Noise)





So the real point…

- Is to view technology from every angle, to better understand its limits and potential




GUILE