



SpotiBot—Turing Testing Spotify

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Can Digital Computers Think?

Digital computers have often been described as mechanical brains. Most scientists probably regard this description as a mere newspaper stunt, but some do not. One ~~well known~~ mathematician has expressed the opposite point of view to me rather forcefully in the words 'It is commonly said that these machines are not brains, but you and I know that they are'. In this talk I shall try to explain the ideas behind the various possible points of view, though not altogether impartially. I shall give most attention to the view which I hold myself, that it is not altogether unreasonable to describe digital computers as brains. ^{A different} ~~The opposite~~ point of view has already been put by Professor Hartree.

First we may consider the naive point of view of the man in the street. He hears amazing accounts of what these machines can do; most of them apparently involve intellectual feats of which he would be quite incapable. He can only explain it by supposing that the machine is a sort of brain, though he may prefer simply to disbelieve what he has heard.

The majority of scientists are contemptuous of this almost superstitious attitude. They know something of the principles on which the machines are constructed and of the way in which they are used. Their outlook was well summed up by Lady Lovelace over a hundred years ago, speaking of Babbage's Analytical Engine. She said, as Hartree has already quoted,

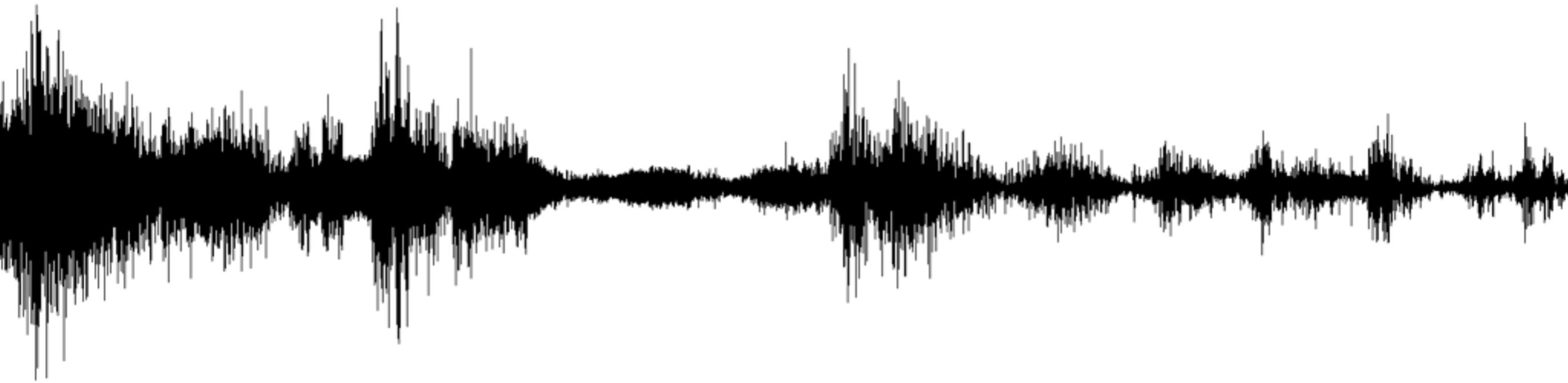
I, personally, am inclined to believe that such a programme will be found. I think it is probable for instance that at the end of the century it will be possible to programme a machine to answer questions in such a way that it will be

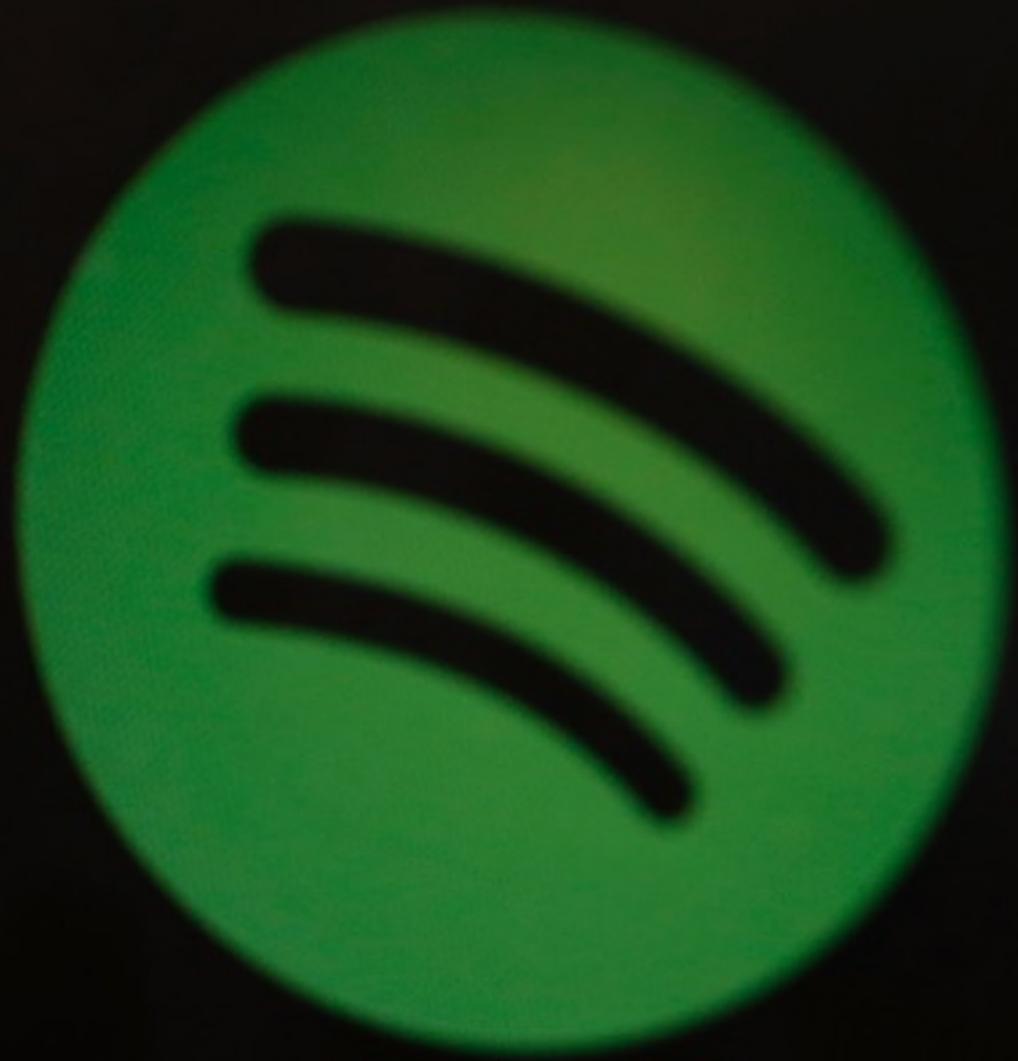
-5-

extremely difficult to guess whether the answers are being given by a man or ^{by} the machine. I am imagining something like a viva-voce examination, but with the questions and answers all typewritten in order that we need not consider such irrelevant matters as the faithfulness with which the human voice can be imitated. This only represents my opinion; there is plenty of room for others.

A vintage BBC microphone, likely a ribbon microphone, featuring a prominent mesh grille and a metal frame. The letters "BBC" are printed in a bold, black, serif font across the center of the microphone's body. The microphone is mounted on a stand, and the background is a plain, light-colored wall.

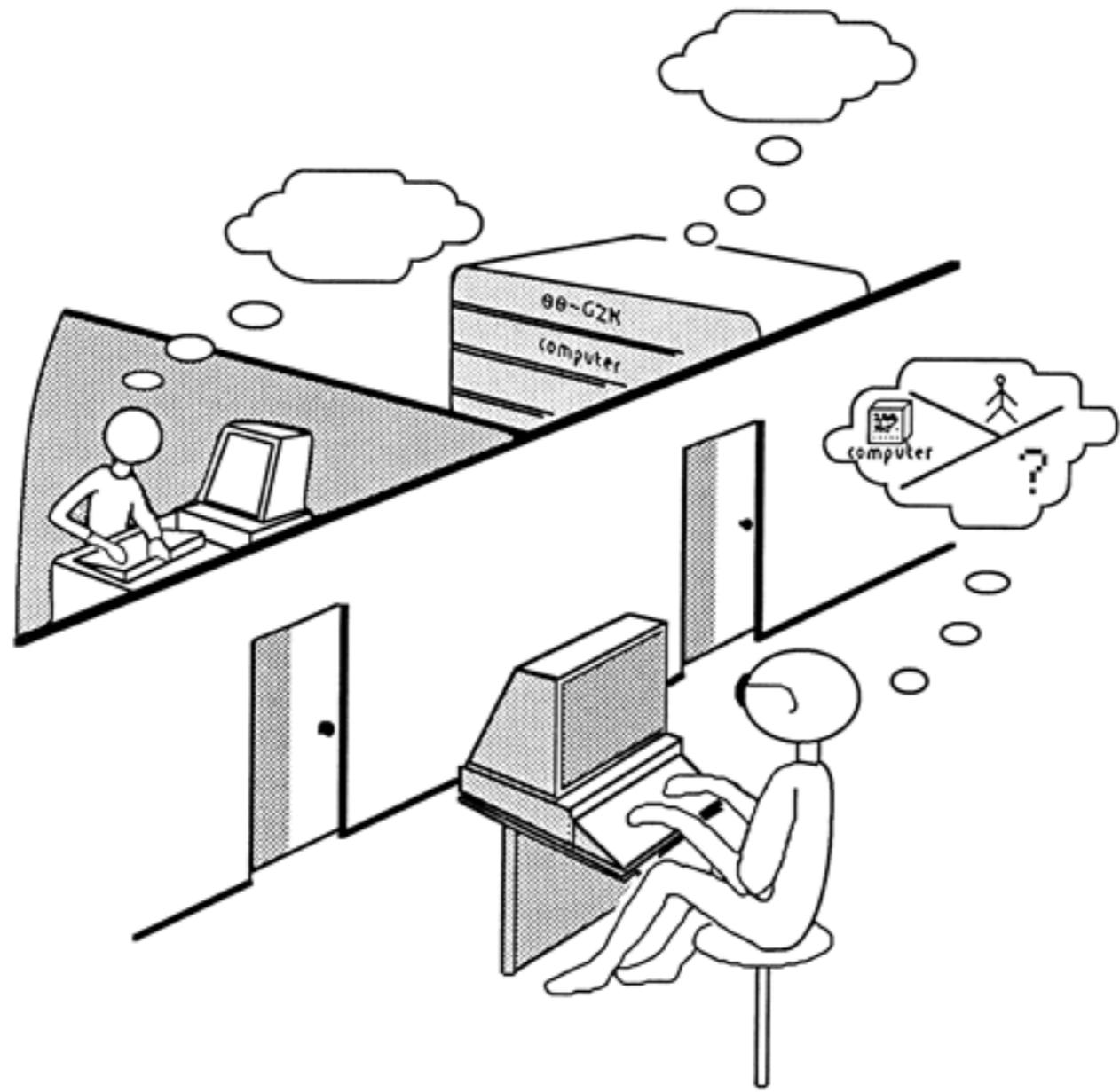
BBC





Spotify

The setting for studying such processes include the distribution and aggregation of self-produced music/sounds through Spotify, ‘monetary interventions’ with calculated musical tinkering, the documentation and tracing of Spotify’s history through constantly changing interfaces—and importantly, the programming of multiple bots to act as research informants.



E.L.I.Z.A. Talking

Welcome to

```
EEEEEE LL      IIII ZZZZZZZ AAAAA  
EE      LL      II      ZZ  AA  AA  
EEEEEE LL      II      ZZZ  AAAAAA  
EE      LL      II      ZZ  AA  AA  
EEEEEE LLLLLL IIII ZZZZZZZ AA  AA
```

ELIZA is a mock (Rogerian) psychotherapist.
The original program was described by Joseph Weizenbaum in 1966.
This implementation ('elizabot.js') by Norbert Landsteiner 2005.
Graphics and real-time text to speech integration added in 2013.

Note: Try Google Chrome to enjoy the true thrills of speech recognition.

VOICE SETUP

Please choose an accent to be used by ELIZA (speech output):

- [1] English - US
- [2] English - EN

> █



VOX



digital VT100

digivox





Premium

Hjälp

Ladda ner

Registrera dig

Logga in

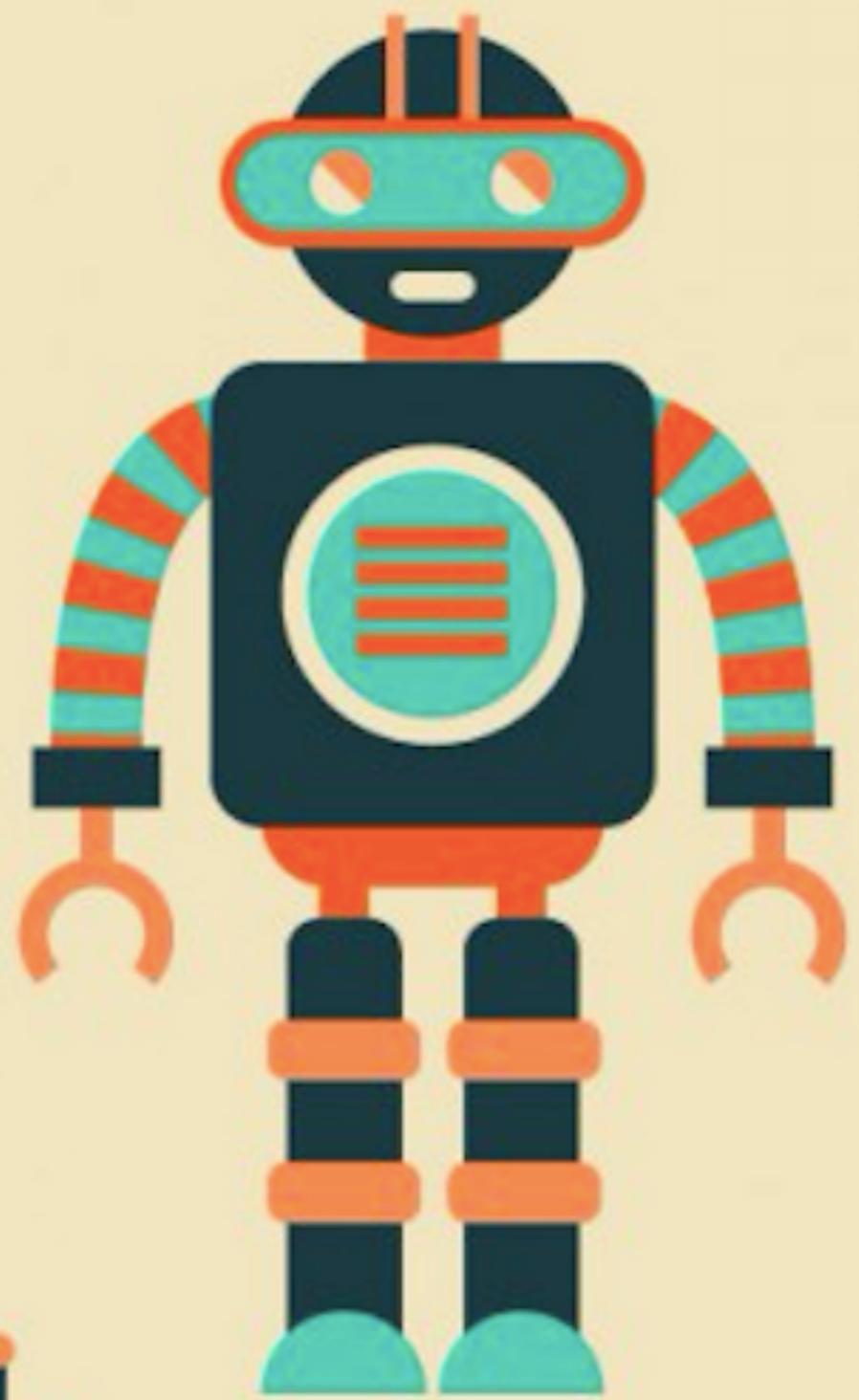
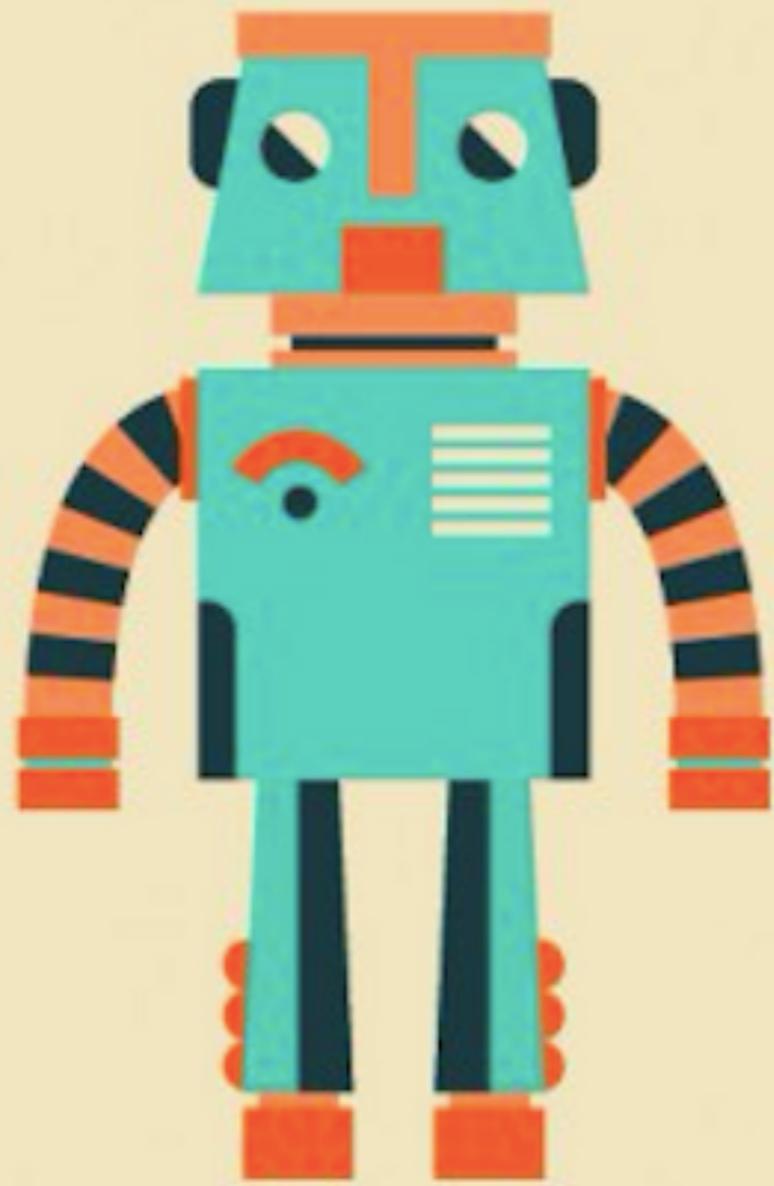
Musik för alla.

SKAFFA SPOTIFY FREE

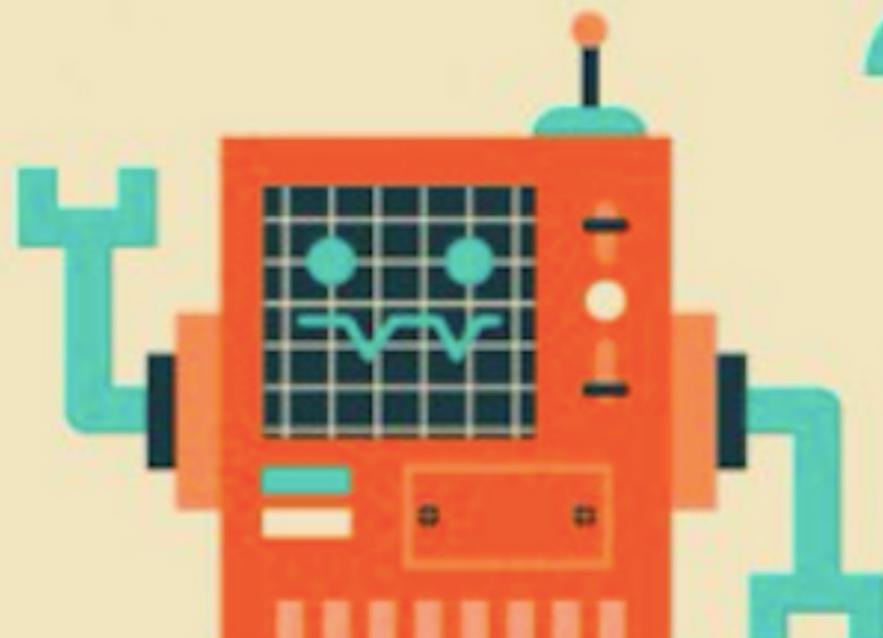
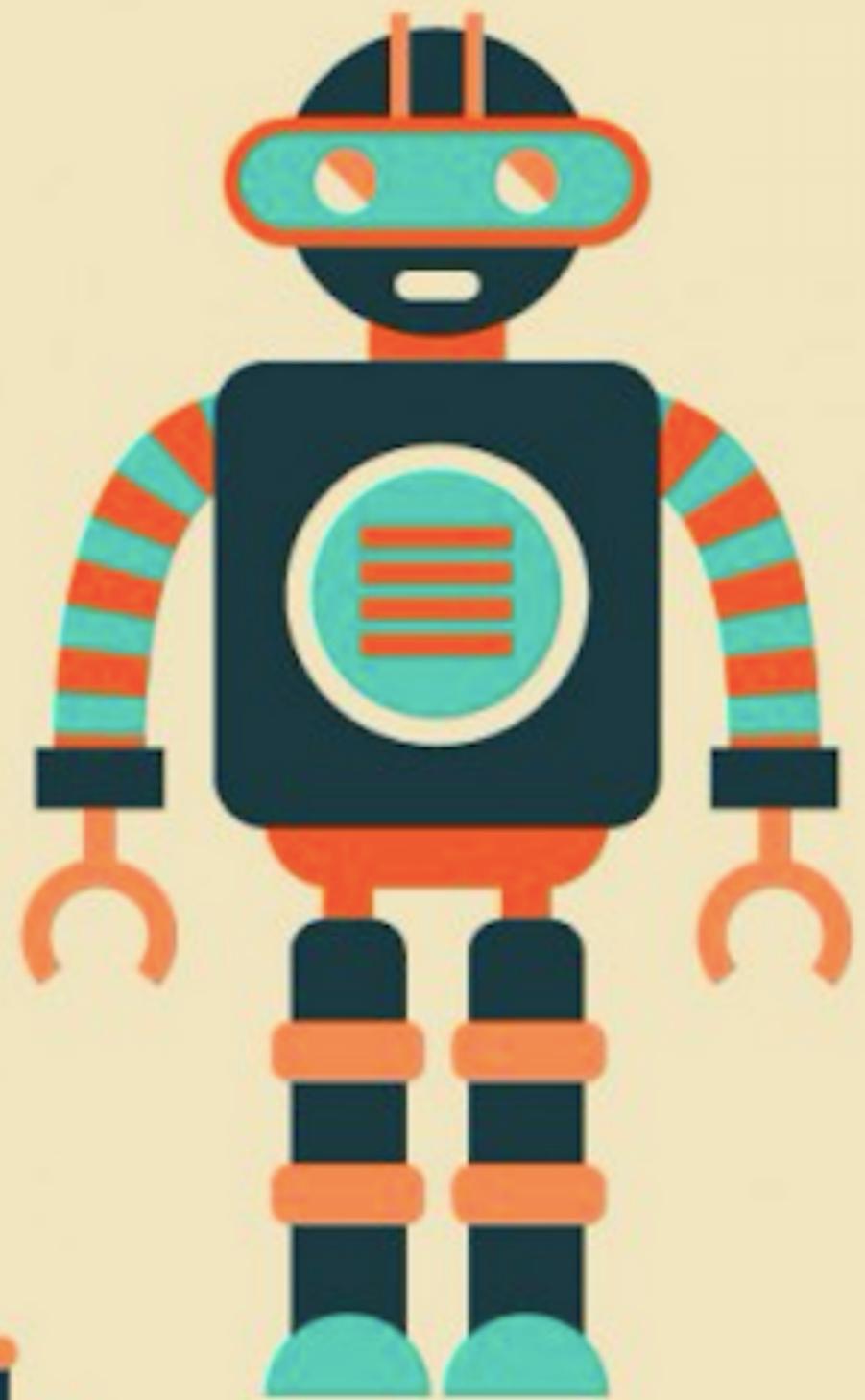
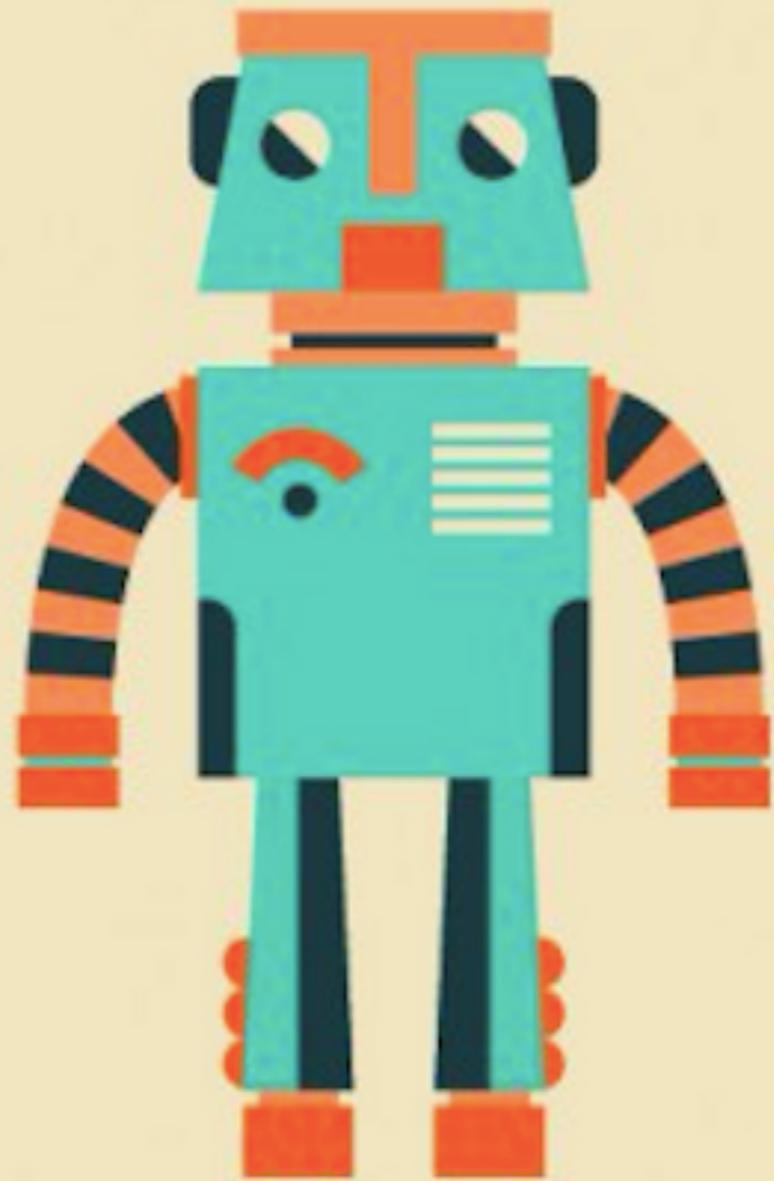
UPPGRADERA TILL SPOTIFY PREMIUM

[LÄS MER OM SPOTIFY](#)

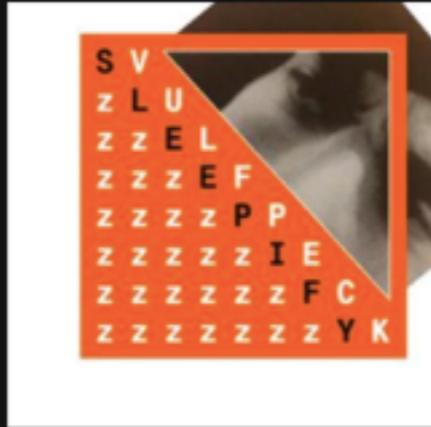
CAPISHA



bots as informants



One of the major contemporary controversies regarding the transition to streaming music platforms involves payouts to artists. The sometimes heated discussion has been centered around the issue *if* streaming music will be able to generate a sustainable income for musicians —or not.



ALBUM

Sleepify

[▶ PLAY](#) [SAVE](#) [...](#)

By Vulfpeck • 2014 • 10 songs, 5 min 16 sec

#		SONG		
1	+	Z	0:31	
2	+	Zz	0:32	
3	+	Zzz	0:32	
4	+	Zzzz	0:32	
5	+	Zzzzz	0:31	
6	+	Zzzzzz	0:32	
7	+	Zzzzzzz	0:32	
8	+	Zzzzzzzz	0:32	
9	+	Zzzzzzzzz	0:31	
10	+	Zzzzzzzzzz	0:31	

E T E R N I F Y

Stream It Like You Mean It.

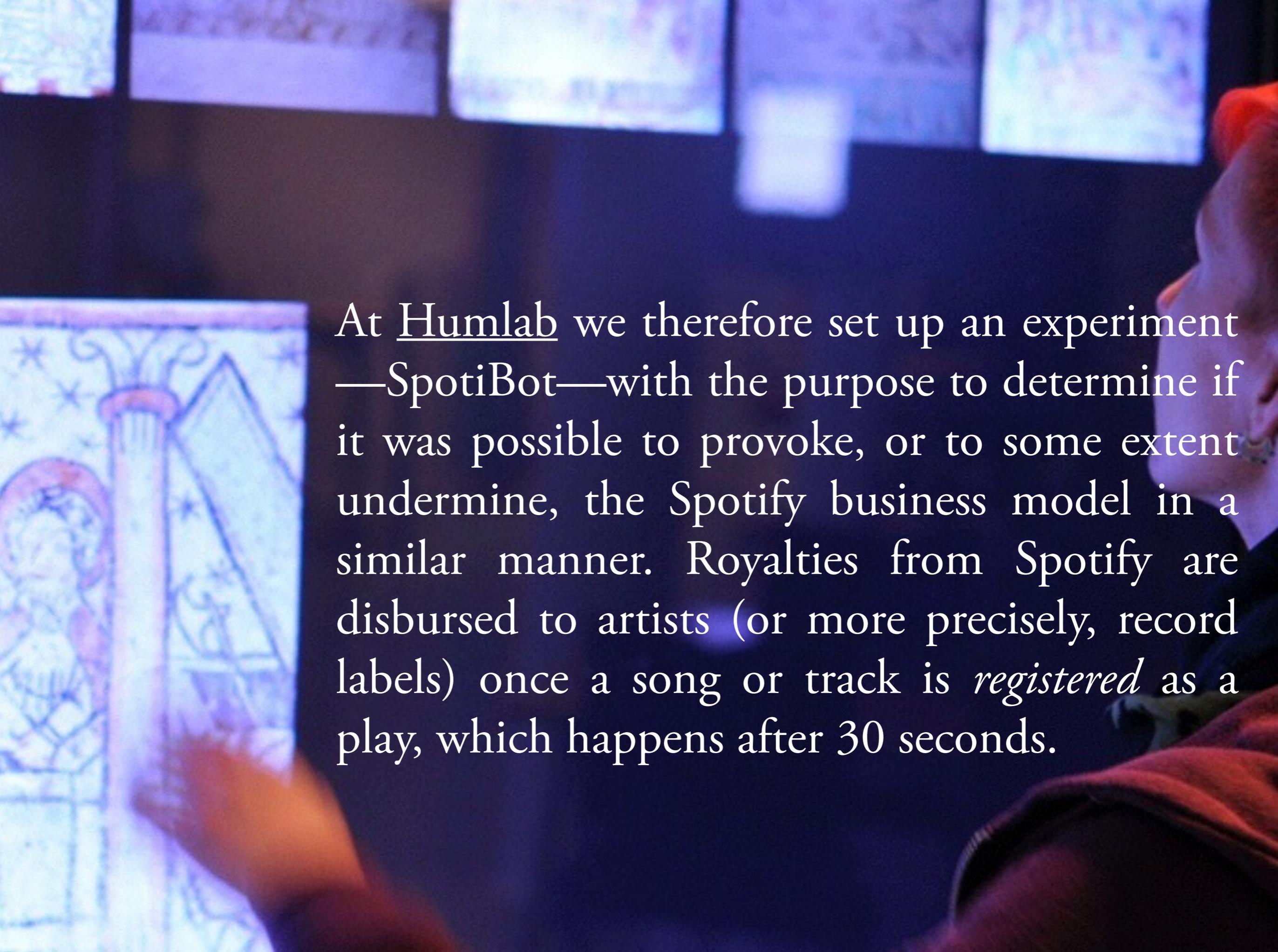
Music streaming's virtually worthless for artists. But we can change that.

Stream your favorite artist forever.

Search

[Learn more](#)



A person is seen from the side, interacting with a large digital display. The display shows a page from a medieval manuscript, featuring a large illuminated initial 'A' and a figure. The background is dark with several smaller, glowing screens displaying various images. The text is overlaid on the right side of the image.

At Humlab we therefore set up an experiment—SpotiBot—with the purpose to determine if it was possible to provoke, or to some extent undermine, the Spotify business model in a similar manner. Royalties from Spotify are disbursed to artists (or more precisely, record labels) once a song or track is *registered* as a play, which happens after 30 seconds.



SINGLE

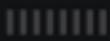
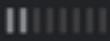
Frukost

By Fru Kost • 2014 • 2 songs, 2 min 14 sec

 PLAY

SAVE

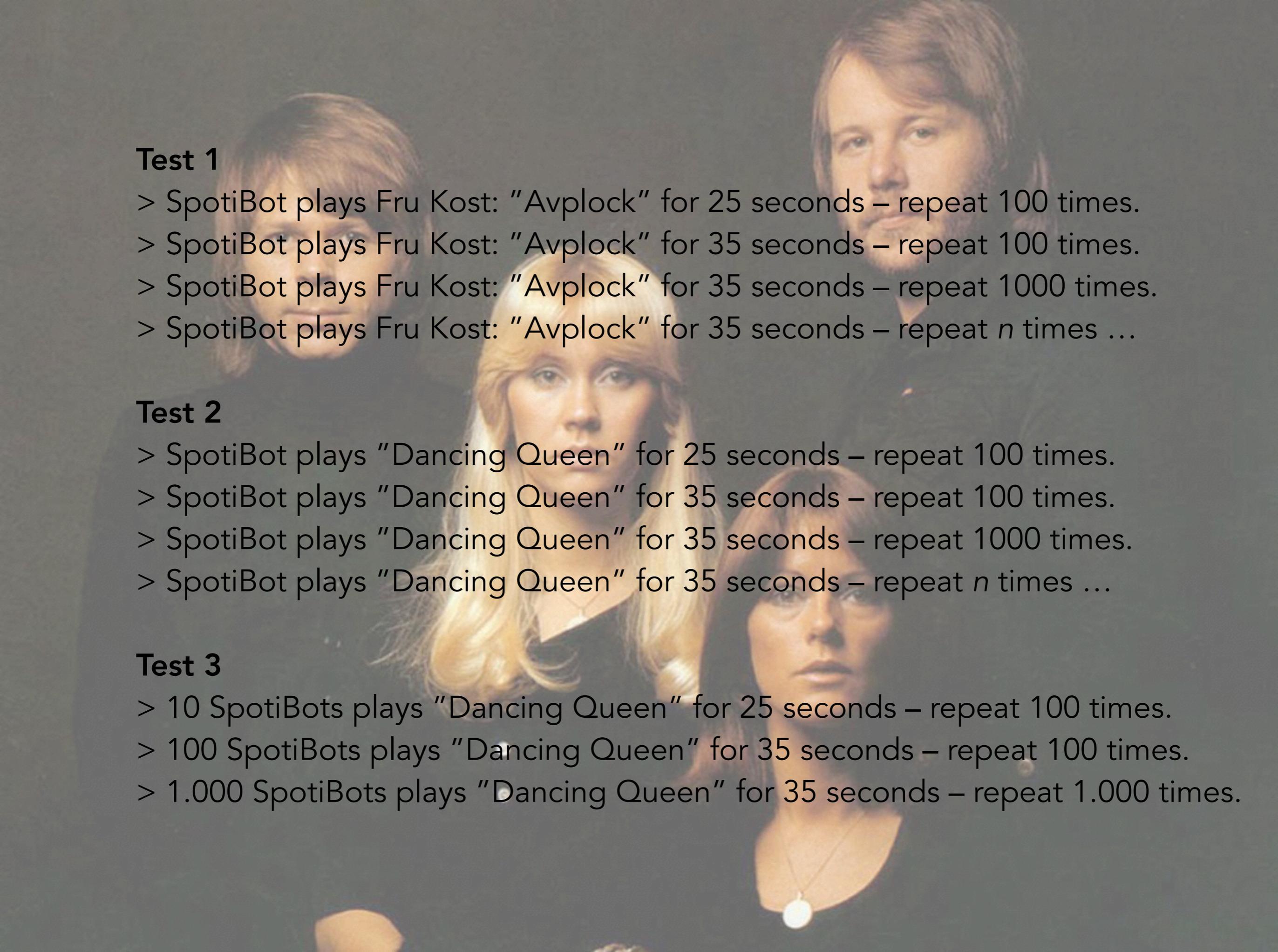


#		SONG		
1		Avplock	0:58	
2		Kaffe	1:16	

© 2014 Fru Kost

© 2014 Fru Kost





Test 1

- > SpotiBot plays Fru Kost: "Avplock" for 25 seconds – repeat 100 times.
- > SpotiBot plays Fru Kost: "Avplock" for 35 seconds – repeat 100 times.
- > SpotiBot plays Fru Kost: "Avplock" for 35 seconds – repeat 1000 times.
- > SpotiBot plays Fru Kost: "Avplock" for 35 seconds – repeat n times ...

Test 2

- > SpotiBot plays "Dancing Queen" for 25 seconds – repeat 100 times.
- > SpotiBot plays "Dancing Queen" for 35 seconds – repeat 100 times.
- > SpotiBot plays "Dancing Queen" for 35 seconds – repeat 1000 times.
- > SpotiBot plays "Dancing Queen" for 35 seconds – repeat n times ...

Test 3

- > 10 SpotiBots plays "Dancing Queen" for 25 seconds – repeat 100 times.
- > 100 SpotiBots plays "Dancing Queen" for 35 seconds – repeat 100 times.
- > 1.000 SpotiBots plays "Dancing Queen" for 35 seconds – repeat 1.000 times.

Spotify Play

https://play.spotify.com/album/752948114789-0384-C787

Du använder en kommandochiffra som inte stöds. Ignorera certifikat-avvis. Detta påverkar stabilitet och säkerhet negativt.

Premium låter bättre!

Prova gratis

OVERSIKT TOPPLISTOR SÖNER OCH TEMAN NYA RELEASES NYHETER UPPTÄCK

Håll fokus uppe, sommaren är runt hörnet.

Spotify

https://play.spotify.com/album/752948114789-0384-C787

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ARRIVAL

Album

ARRIVAL

Av ABBA - 1979 - 12 spår, 47 min

SPILKA SPILKA

1. When I Kissed The Teacher 3:21
2. Dancing Queen 3:50
3. My Love, My Life 3:51
4. Dum Dum Diddle 2:54

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Get 3D Printed

Gifts For Father's Day

shapeways

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TOGETHER

CLICK TO LISTEN

Apple Store

Windows Explorer

\\network - harschulmburke > windows_play > spotify > album

Name	Size	Type	Modified
01	38 524 KB	MP3	2015-08-03 22:38
02	1 732 540 KB	MP3	2015-08-03 22:32
03	88 821 KB	MP3	2015-08-04 03:26
04	275 921 KB	MP3	2015-08-03 22:32
05	321 KB	MP3	2015-08-03 22:32
06	321 KB	MP3	2015-08-03 22:32
07	321 KB	MP3	2015-08-03 22:32
08	321 KB	MP3	2015-08-03 22:32
09	321 KB	MP3	2015-08-03 22:32
10	321 KB	MP3	2015-08-03 22:32
11	321 KB	MP3	2015-08-03 22:32
12	321 KB	MP3	2015-08-03 22:32

Profile: Unknown - System: Unknown - Open: 2015-08-03 22:32

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9 sätt att undvika investeringsmissstag

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Skulpterad kropp som hos kroppsbyggare på 1 månad

Med denna upptäckt, kan vem som helst se ut som en kroppsbyggare - utan bantning och daglig träning ...

Testa >>

Apple Store

Spotify

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CPU 3% 1.31 GHz

Minne 15743 MB 24 %

Disk D 0 %

Disk E 0 %

Effektivitet 1.00 % 1.00 MHz

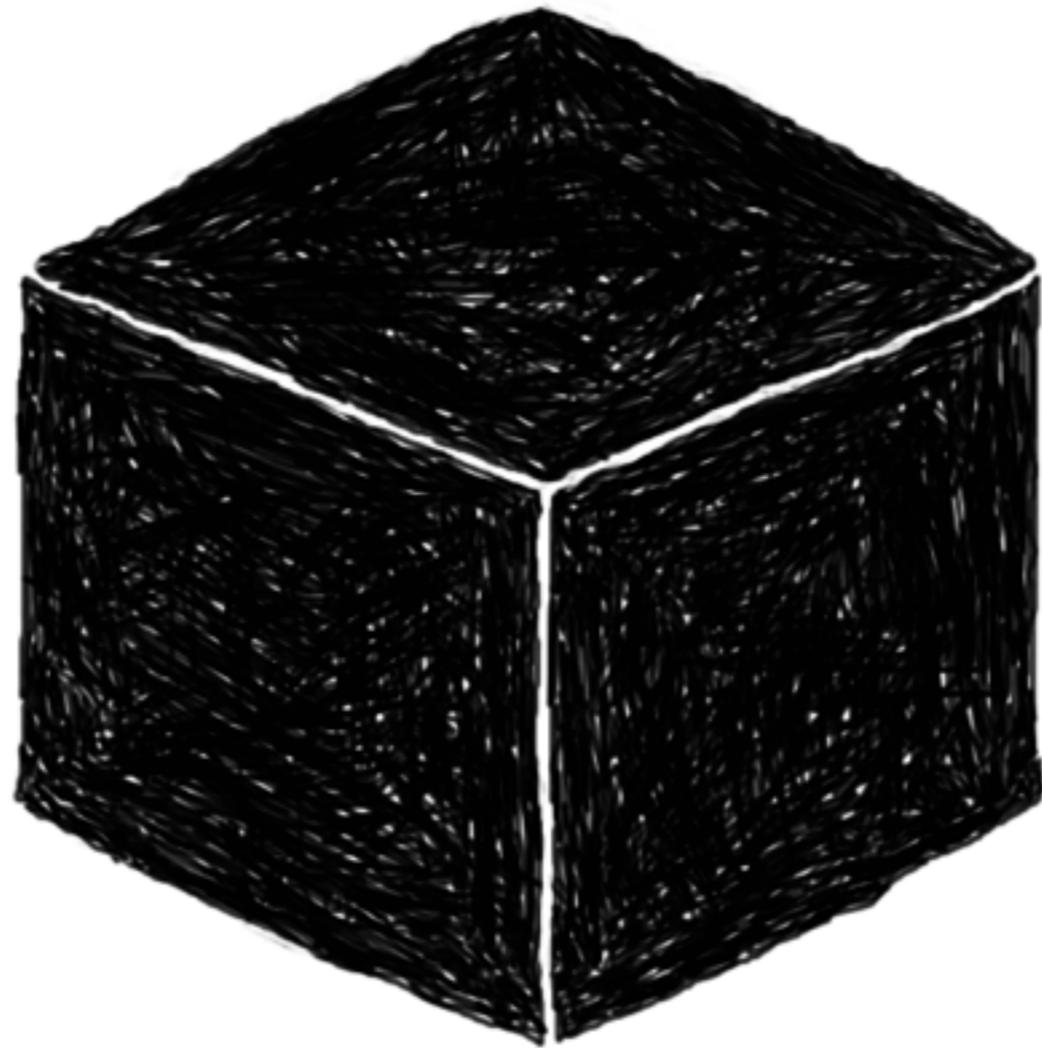
Effektivitet 1.00 % 1.00 MHz

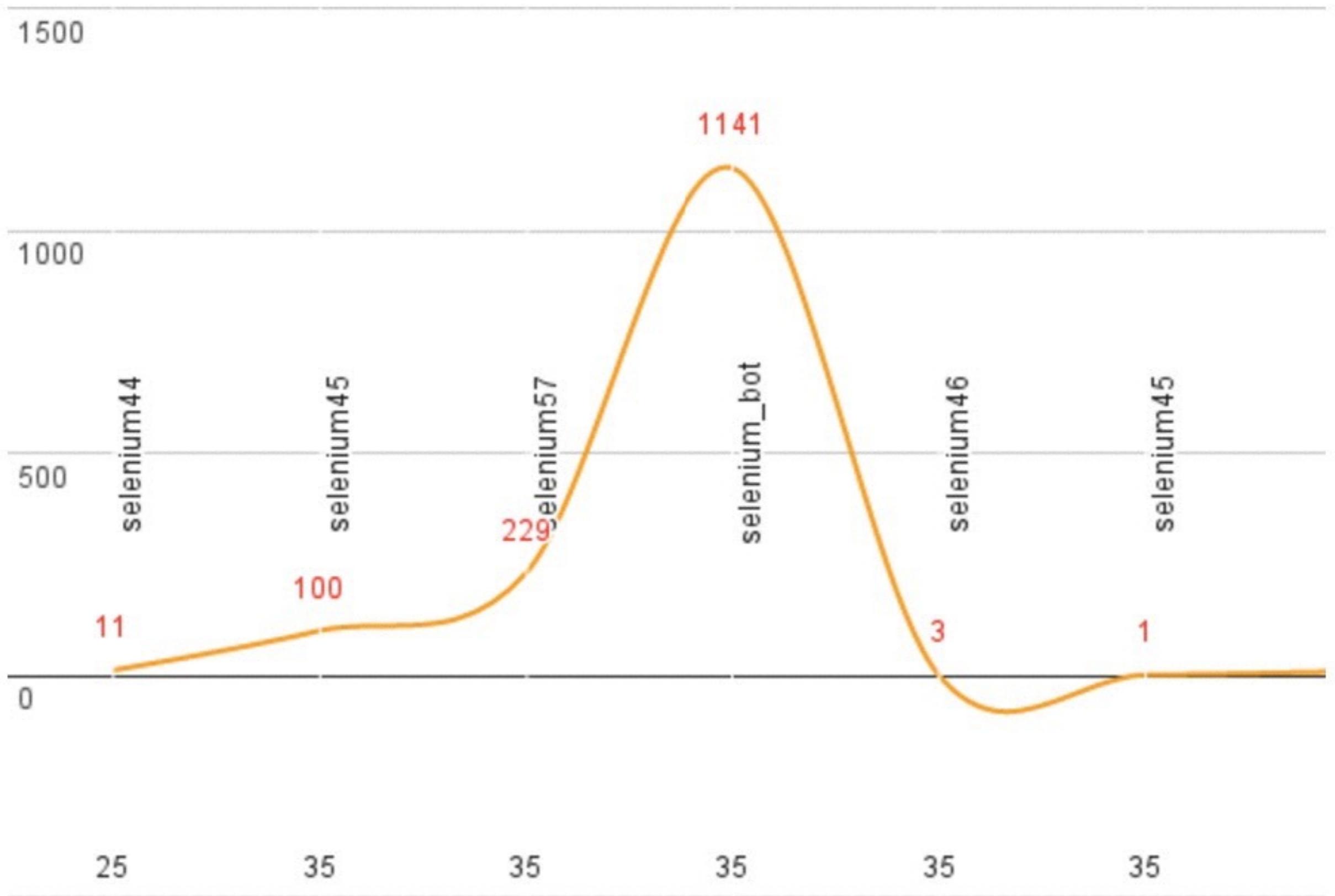
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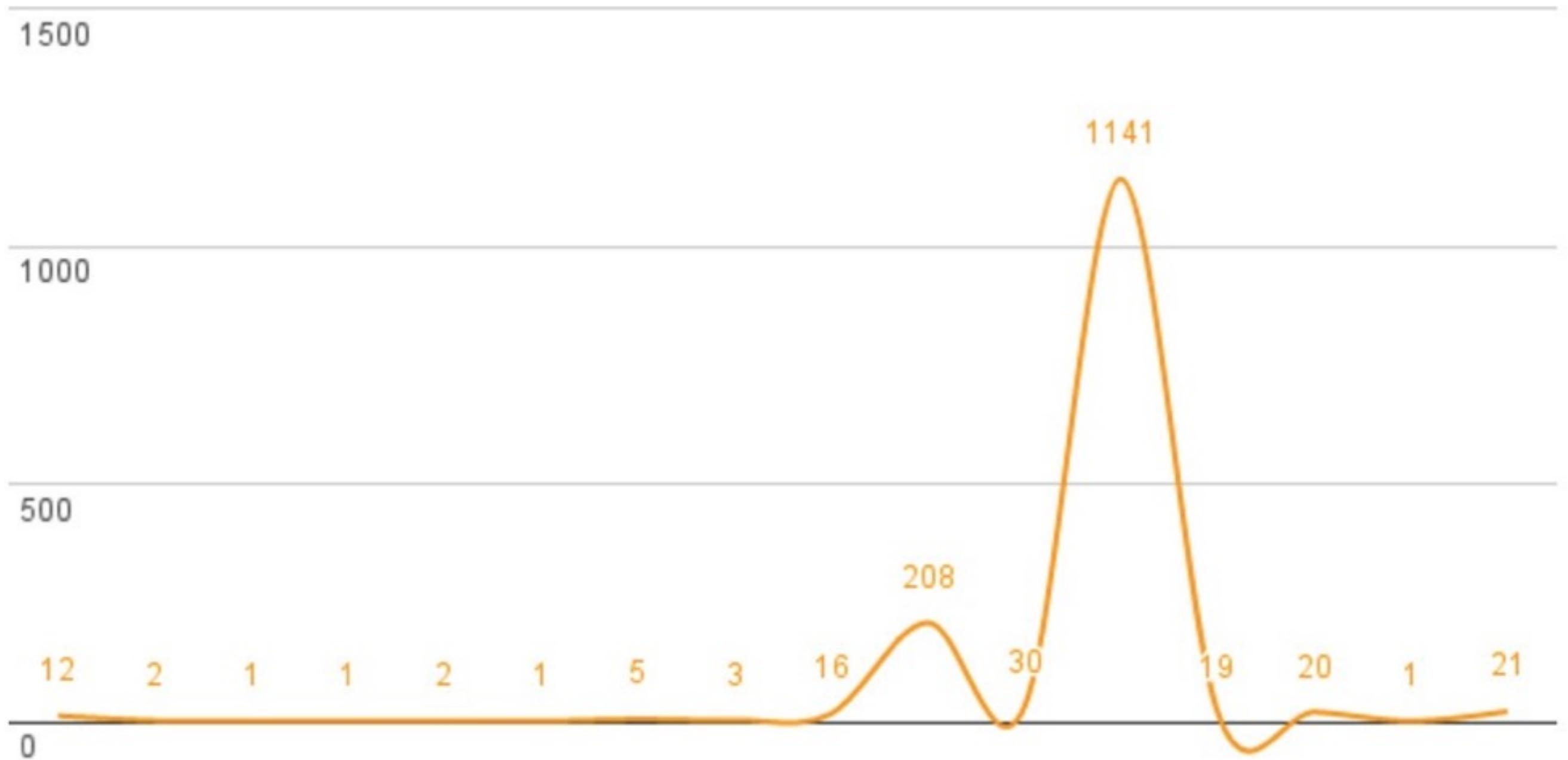
Testa >>

Apple Store

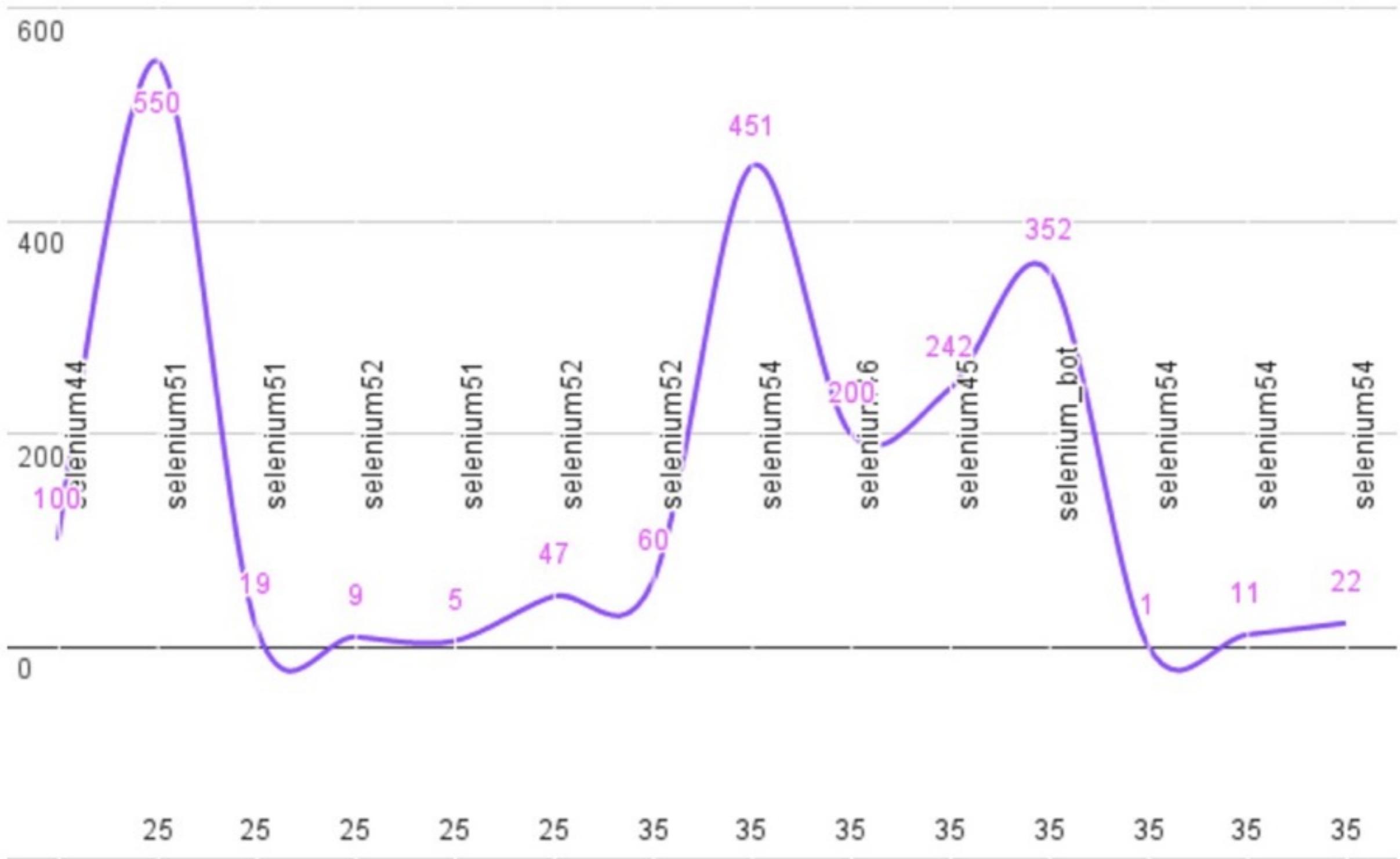




Different SpotiBots playing Fru Kost “Avplock”, repeatedly for 25 or 35 seconds (nevermind negative results).



“selenium_bot37” repeatedly plays Abba’s “Dancing Queen” for 35 seconds—with recurrent and (often) unknown Chrome browser errors (nevermind negative results).



Multiple SpotiBots playing ABBA's "Dancing Queen", simultaneously and repeatedly for 25 or 35 seconds (nevermind negative results).





- thanks!