untitled - Paint

File Edit View Image Options Help

RISE OF THE HYPEBOTS

click Help Topics on the Help Menu.

マンゴープリン

お口に入れる(O)
お尻に入れる(A)
噛まずに飲み込む(N)
通常食べるプリンに設定(E)
ショートカットの作成(S)
プロパティ(R)

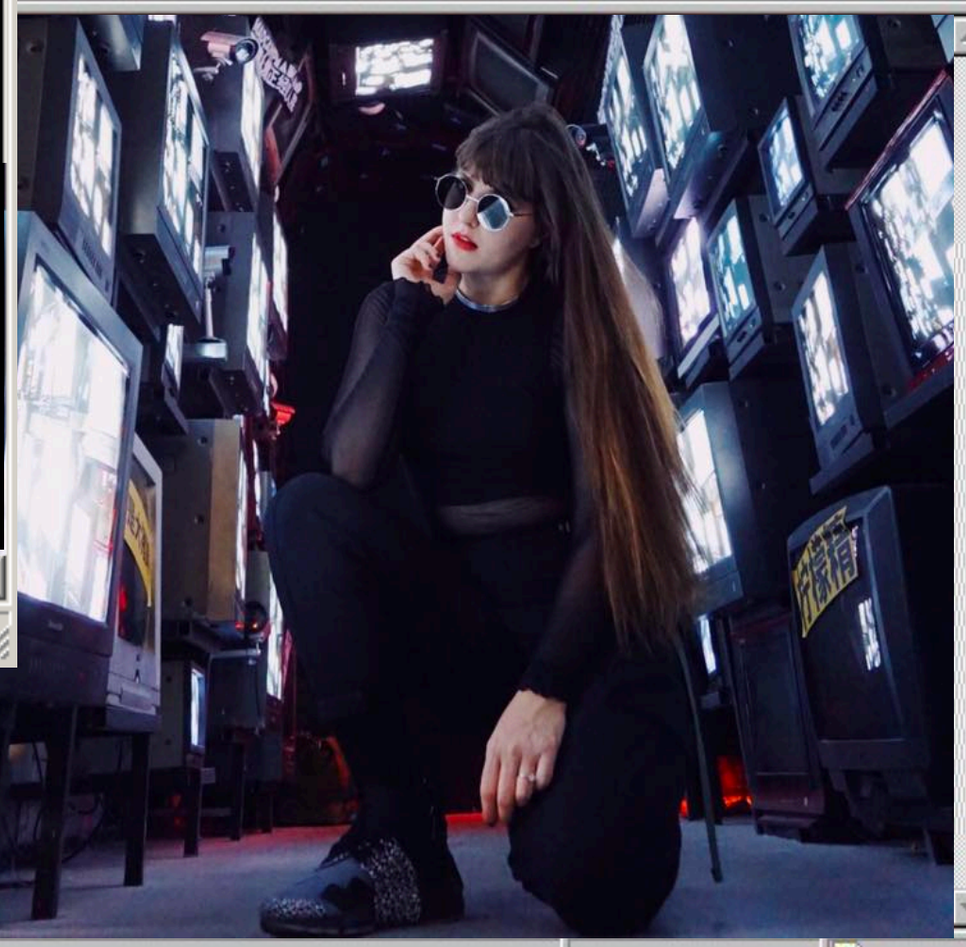
About Me

Couldn’t buy anything due to bots

Decided to enter the game in 2012

Unfortunately still in the game.

Looks good tho?



about:blank - Microsoft Internet Explorer

Archivo Edición Ver Favoritos Herramientas Ayuda

Atrás Búsqueda Favoritos Historial

Dirección Ir Vínculos

Why Bots?

We Built the Internet
For Them.



Listo

Internet

The Bots We Loved

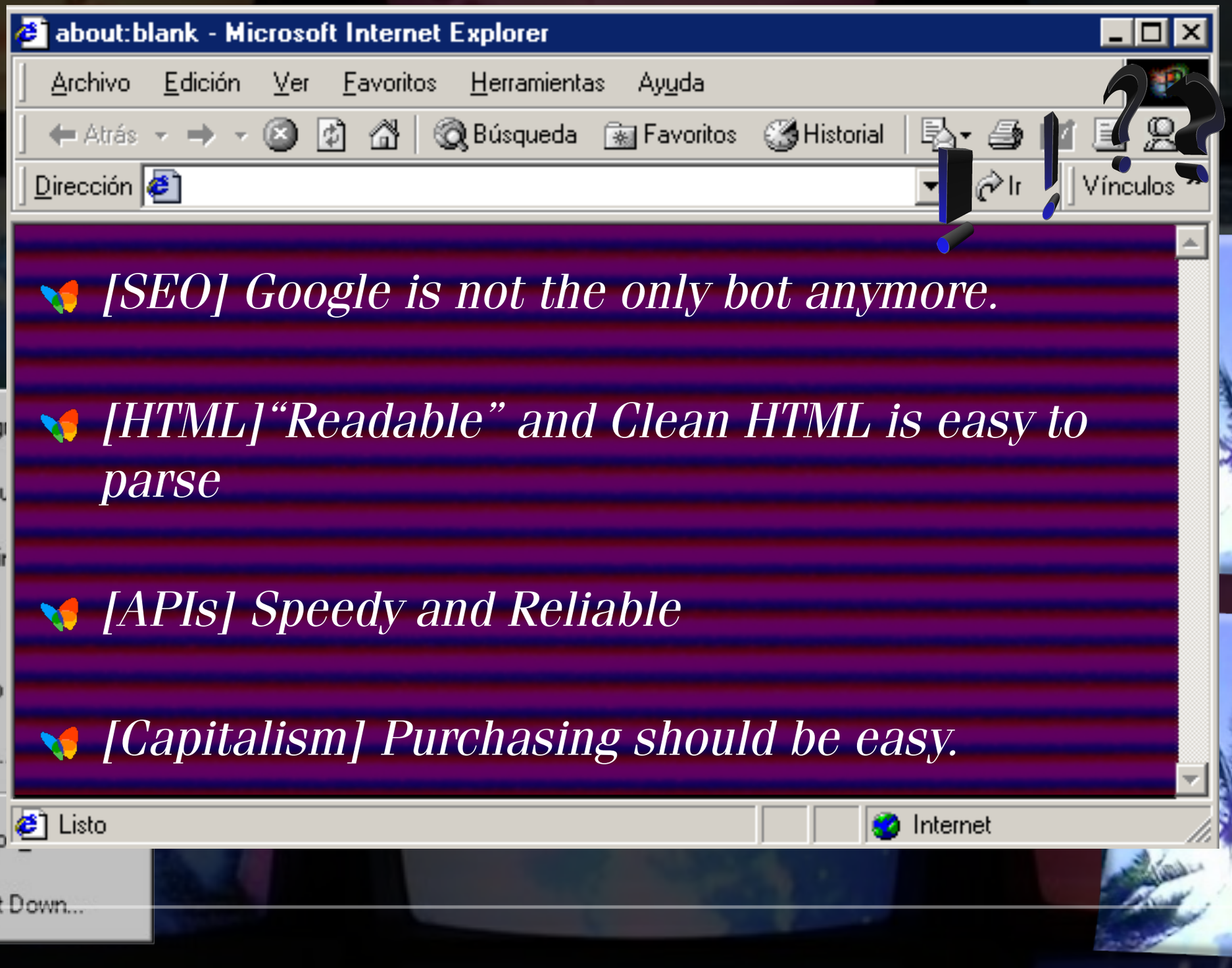
1988 First Internet Bot spotted on IRC

1994 AOL Releases WebCrawler

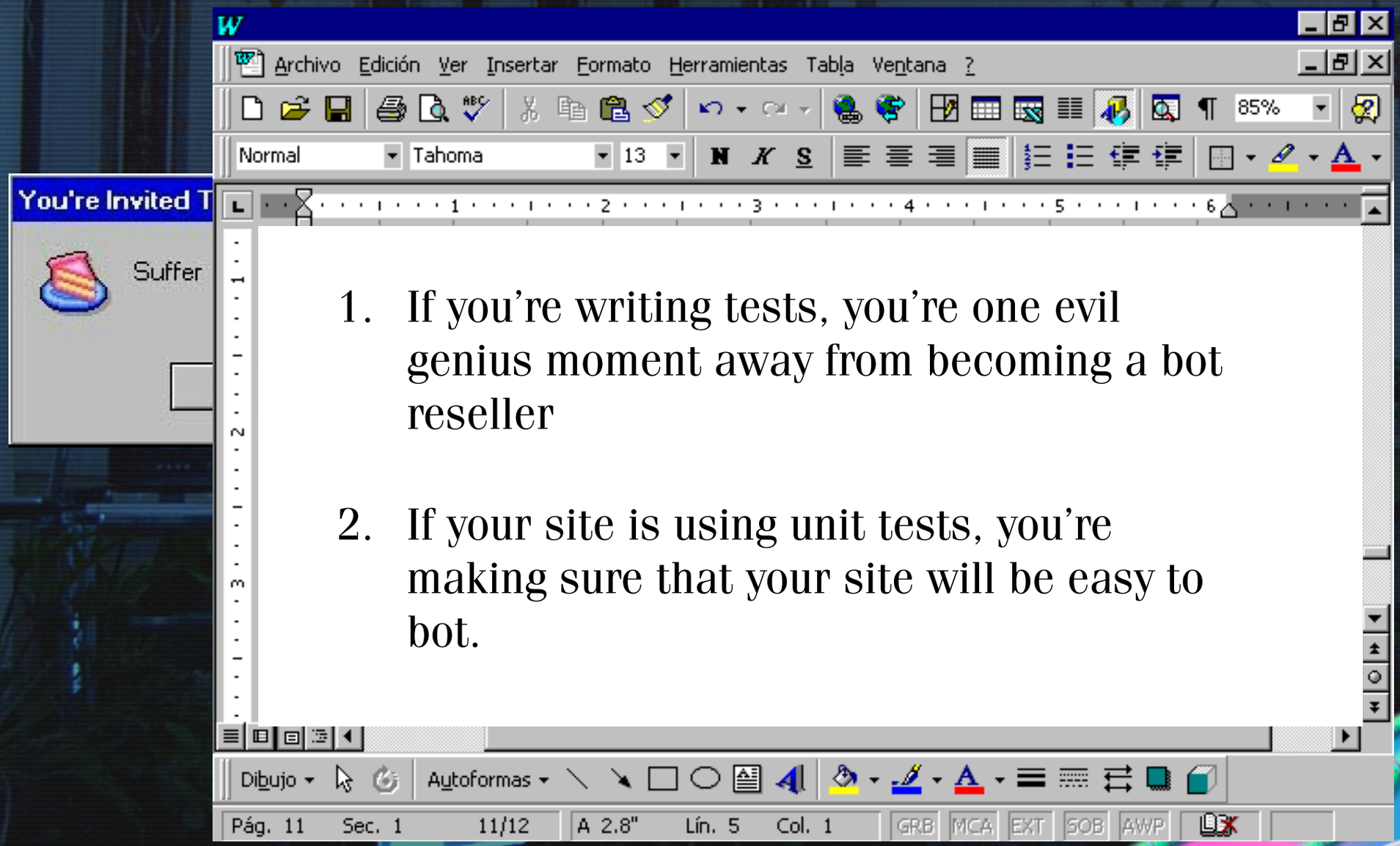
1999 IRC's first Malicious Botnet

2007 First "large scale" HTTP botnet

Our (best) Internet



Test Driven Development



PLAY

--:--

CAPITALISM ENCOURAGES BAD BEHAVIOR

SLP 0:00:00

Why We Bot

- Restricted supply increases demand for a heavily marketed product

- Speed run checkout system creates a problem that requires an optimal solution

- Optimal Solution: Computers using computers.

Why "They" Bot

- Restricted supply increases demand for a heavily marketed product
- Buyers market allows for space for a "grey market" to emerge to resell product.
- Need a vast amount of restricted product for more profit
- Optimal Solution: Many computers using computers

about:blank - Microsoft Internet Explorer

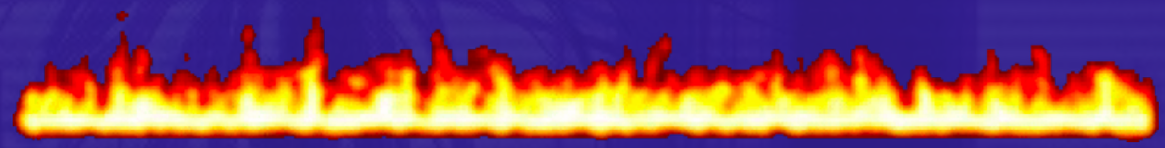
Archivo Edición Ver Favoritos Herramientas Ayuda

Atrás Búsqueda Favoritos Historial

Dirección Ir Vínculos

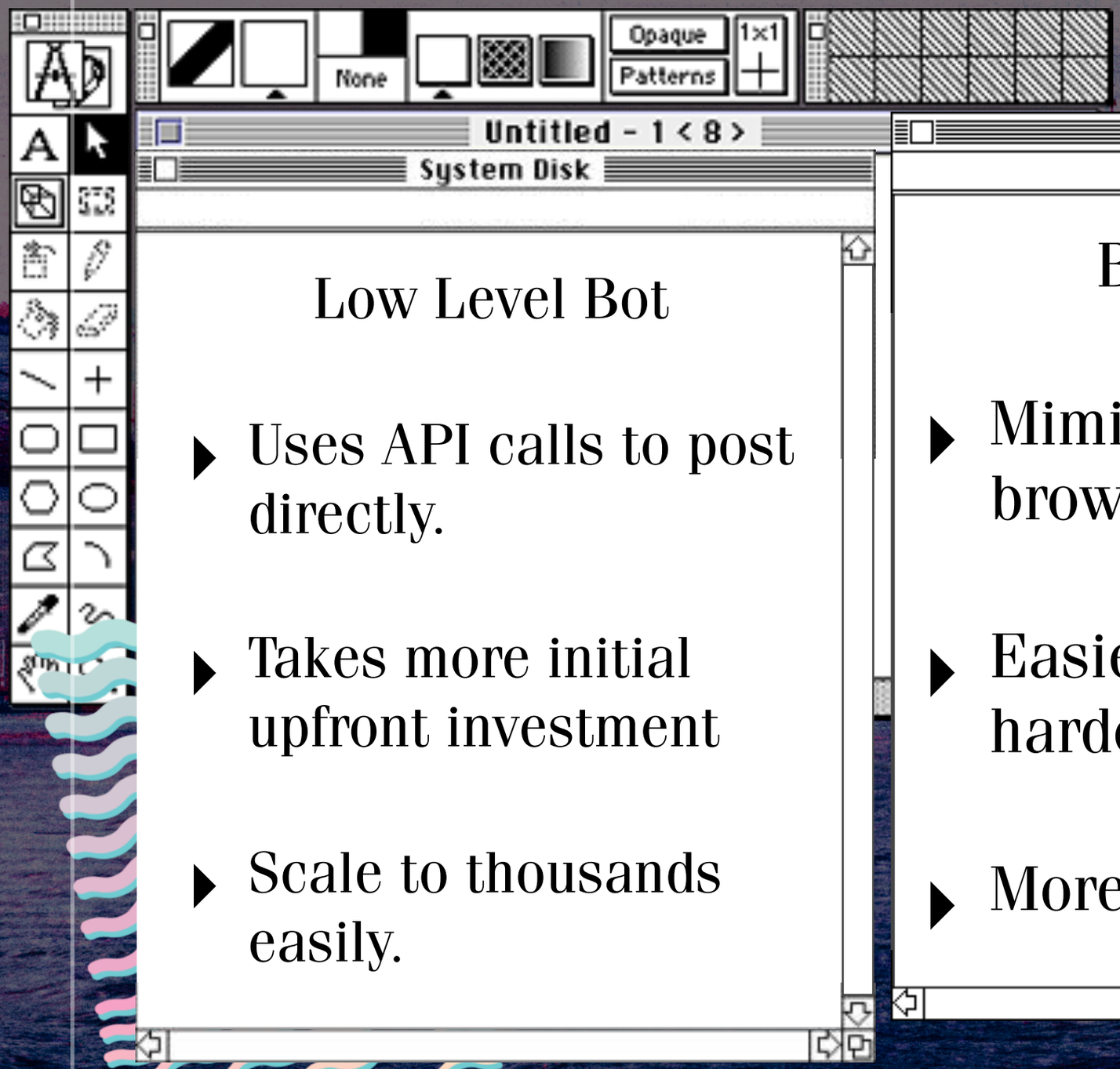
How Bots?

Complex Systems
Simple Answers



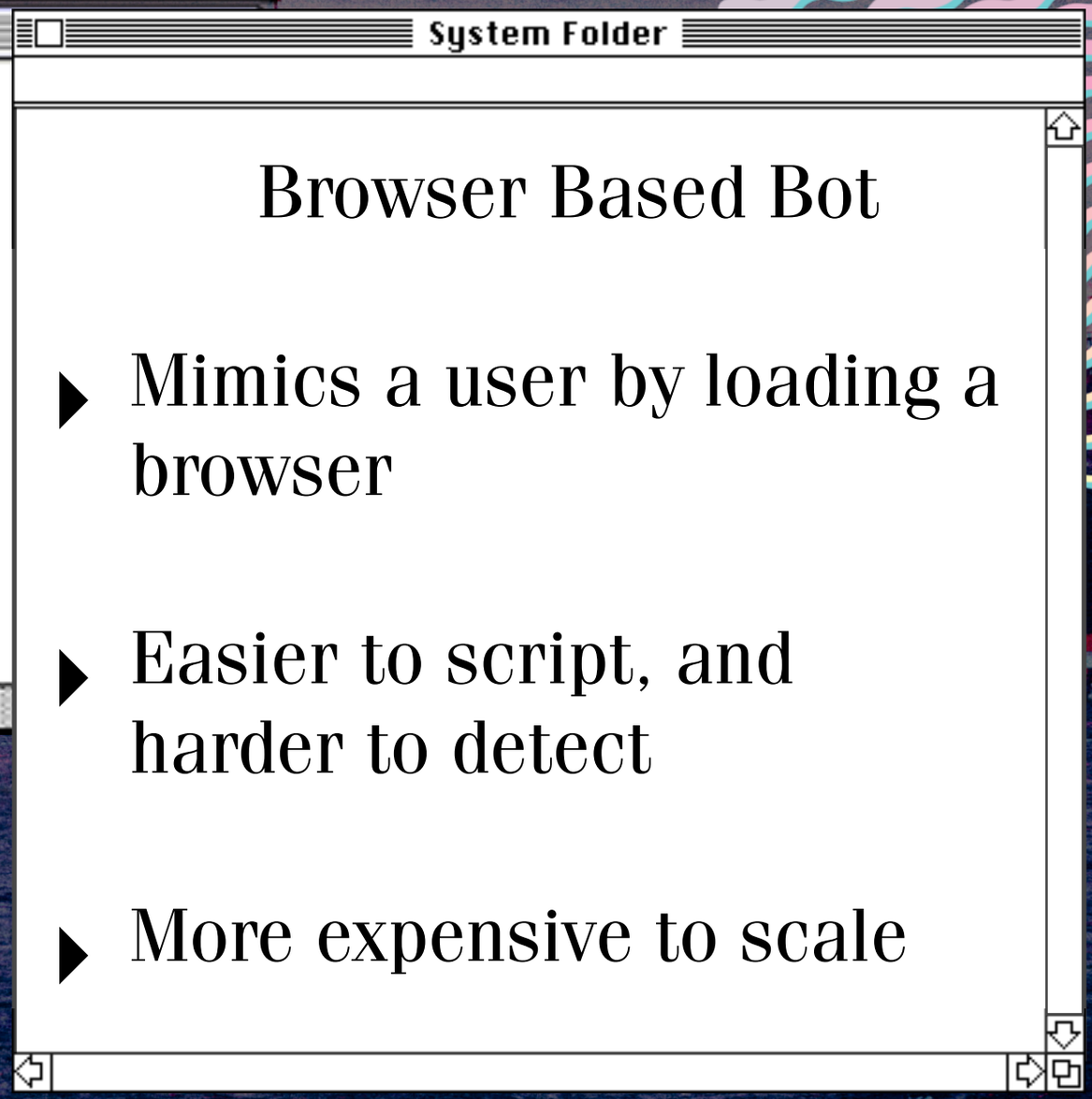
Listo Internet

Types of Bots



Low Level Bot

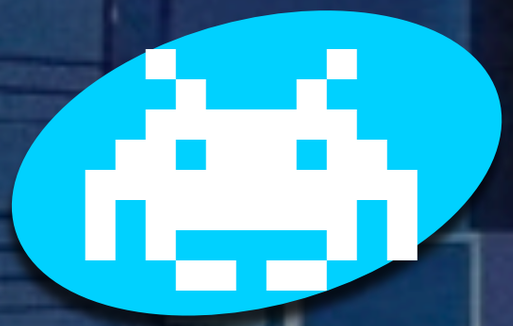
- Uses API calls to post directly.
- Takes more initial upfront investment
- Scale to thousands easily.



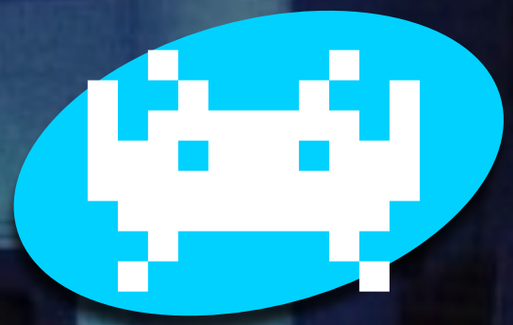
Browser Based Bot

- Mimics a user by loading a browser
- Easier to script, and harder to detect
- More expensive to scale

Meet the Team!



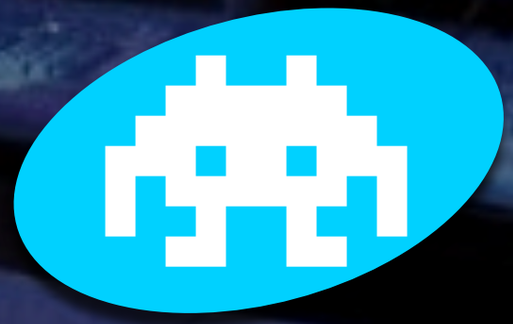
Monitor-Bot



Account-Bot



Buy-Bot



Sell-Bot

WRITE A TEST



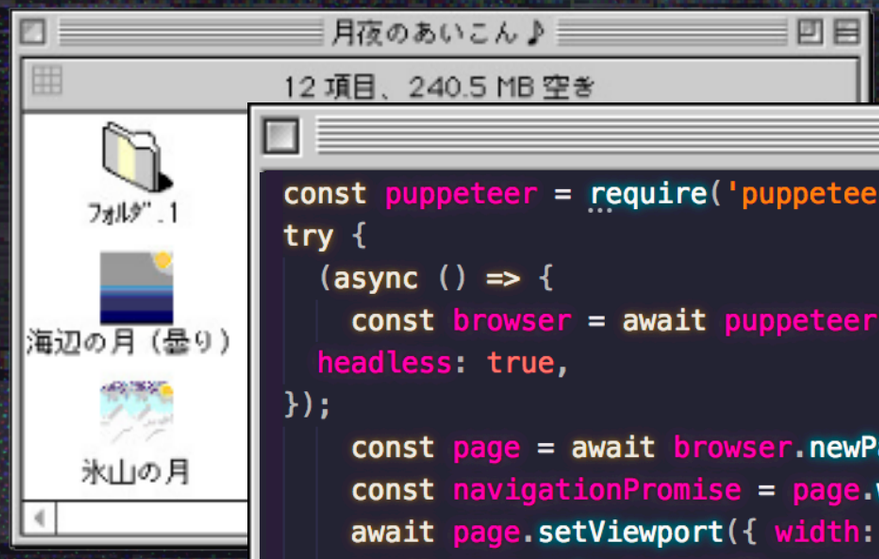
untitled

```
const puppeteer = require('puppeteer')
let browser
let page

beforeAll(async () => {
  browser = await puppeteer.launch()
  page = await browser.newPage()
})

describe('Target Site Homepage', async () => {
  test('has product we want', async () => {
    await page.setViewport({ width: 1280, height: 800 })
    await page.goto('https://www.targetsite.com',{ waitUntil: 'networkidle0' })
    const product = await page.$('#targetProduct')
    expect(product).toBeTruthy()
  })
});
```

MAKE IT WORK



untitled

```
const puppeteer = require('puppeteer')
try {
  (async () => {
    const browser = await puppeteer.launch({
  headless: true,
});
    const page = await browser.newPage()
    const navigationPromise = page.waitForNavigation({ timeout: 60000, waitUntil: 'domcontentloaded' })
    await page.setViewport({ width: 1280, height: 800 })
    await page.goto(targetURL, { timeout: 60000, waitUntil: 'domcontentloaded' })
    await page.type('input#Search', productName)
    await page.keyboard.press(String.fromCharCode(13))
    await navigationPromise
    await page.waitForSelector('div.row.abide > div.product-grid-item')
    await page.click('div.product-grid-item > a.image-pg')
    await navigationPromise
    await page.waitForSelector('form.data-product-form')
    await page.click('button[name="add"]')
    await page.waitFor(2000)
    await navigationPromise
    await page.evaluate(() => {
        document.querySelector('input.cart-form-checkout.button.primary').click();
    });
    await navigationPromise
    await page.waitForSelector('div.main__content')
    await page.$eval('input#checkout_email', el => el.value = 'test@example.com')
    await page.$eval('input#checkout_shipping_address_first_name', el => el.value = 'Test')
    await page.$eval('input#checkout_shipping_address_last_name', el => el.value = 'Test')
    await page.$eval('input#checkout_shipping_address_address1', el => el.value = '123 Test Street')
    await page.$eval('input#checkout_shipping_address_address2', el => el.value = 'Apt 123')
    await page.$eval('input#checkout_shipping_address_city', el => el.value = 'Test City')
```

Canvas: Color Sequence in Senderos color

Color Sequence

00:14:51:05

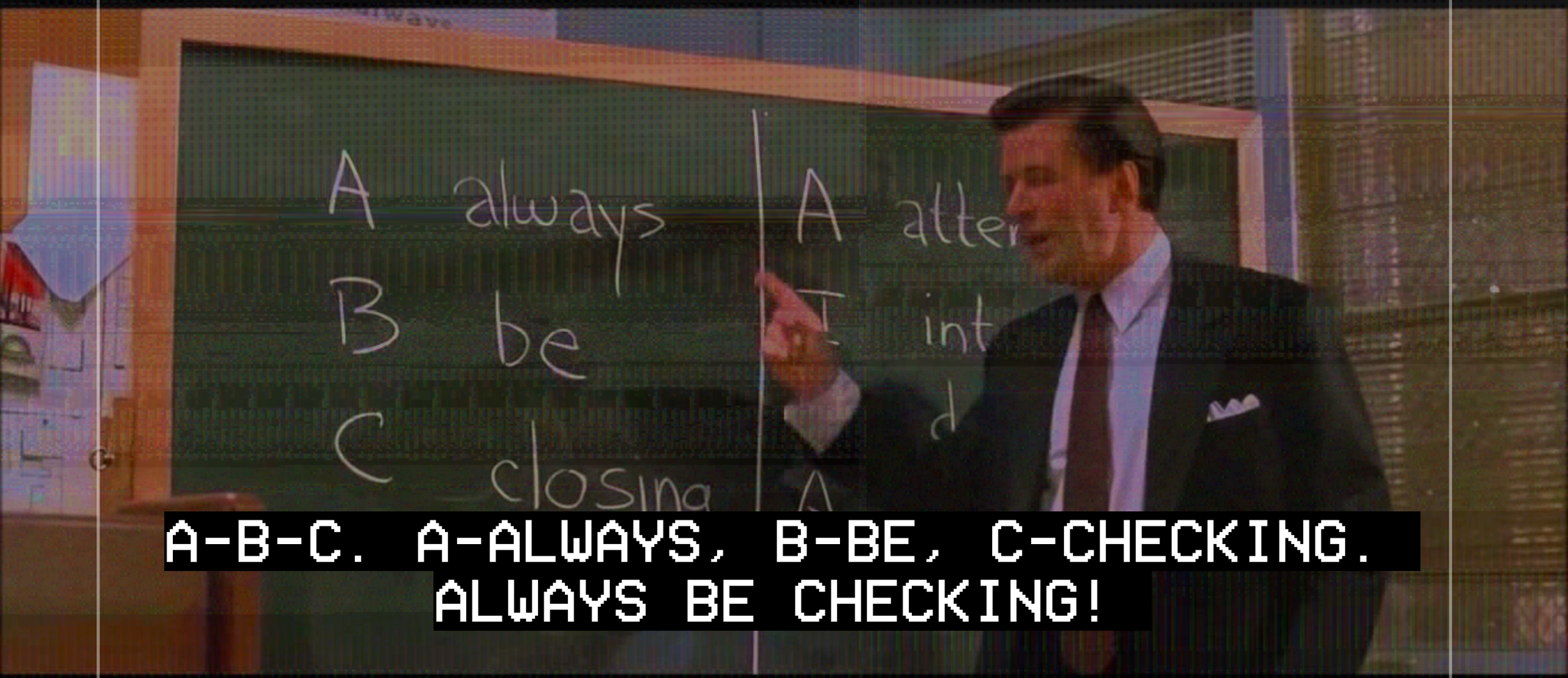
46%

01:13:42:21

simple_bot.avi

PLAY

--:--



SLP 0:00:00

SIMPLE MONITOR

月夜のあいこん♪

12 項目、240.5 MB 空き

フォルダ 1

海辺の月（昼り）

氷山の月

untitled

```
function findItem(url, productName) {
  console.log('looking up item');
    return new Promise(resolve => {
        const options = {
            url: testURL,
            method: 'get',
            headers: {
                'User-Agent': userAgent
            }
        };

        request(options, (err, res, body) => {
            if (err) {
                return console.log(err);
            }
            parseString(body, function(err, result) {
                if (err) {
                    return console.log(err);
                }
                console.log('connected successfully, looking up items');
                const products = result.urlset.url;
                const product = products[0]['image:image'][0]
                resolve(_.filter(products, { 'image:image': [{ 'image:title': [ testProduct ]}]}));
            });
        });
    }
}
```


Canvas: Color Sequence in Senderos color
Color Sequence
00:14:51:05
46%
01:13:42:21
simple_monitor.avi goes here

MAKE IT BETTER
MAKE IT BETTER
MAKE IT BETTER
MAKE IT BETTER
MAKE IT BETTER
MAKE IT B



Home

Welcome to HyperCard

Home

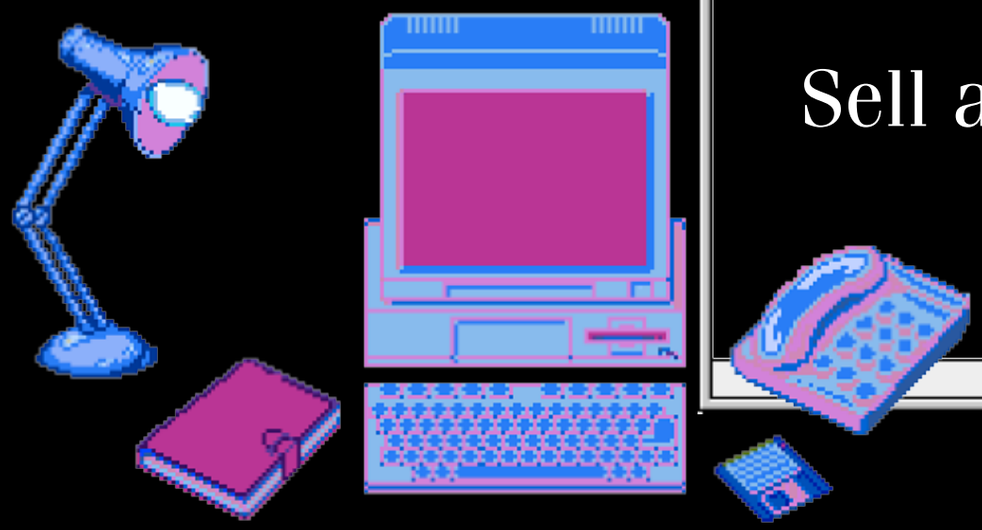
Control Panels

32 items, 62.6 MB available

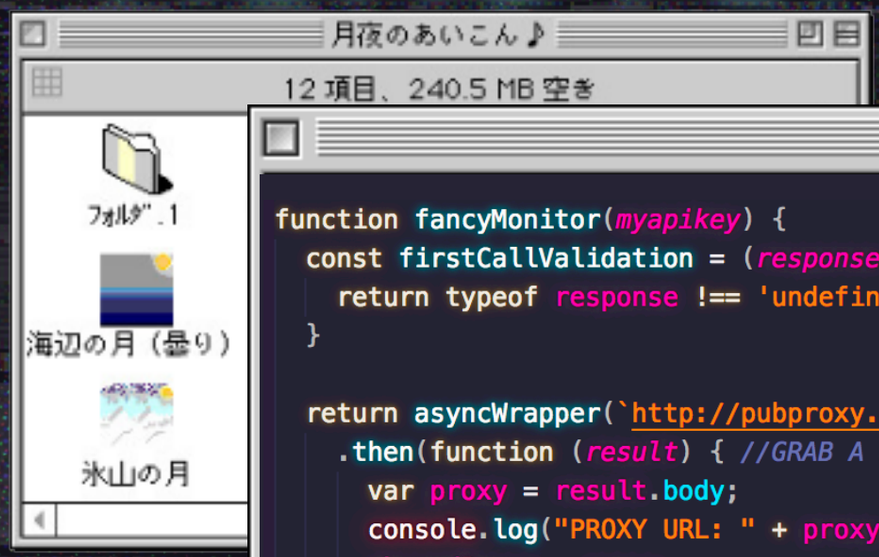
Run all those requests through ~~a proxy~~ rotating proxy.

Post the monitor results to a chat

Sell access to that chat for $$$



MONITOR FOR PROFIT



untitled

```
function fancyMonitor(myapikey) {
  const firstCallValidation = (response) => {
    return typeof response !== 'undefined' && result.statusCode == 200 && result.body.includes("http://") == false;
  }

  return asyncWrapper(`http://pubproxy.com/api/proxy?api=${myapikey}&type=http&country=us&format=txt&https=true&pos
    .then(function (result) { //GRAB A RANDOM, WORKING PROXY
      var proxy = result.body;
      console.log("PROXY URL: " + proxy)
      sharedProxy = proxy;
      return findItem(testURL, testProduct, proxy, userAgent) //MONITOR THE XML SITEMAP
    })
    .then(function (result) { //SEND A MESSAGE TO DISCORD TO COLLECT $$$
      if (result.length) {
        const hook = new Discord.WebhookClient(webhook__id, webhook__token);
        hook.send('Product Found', result);
      }
      return fancyMonitor(apiKey) //IF IT FAILS, TRY AGAIN
    });
}
```

Canvas: Color Sequence in Senderos color

Color Sequence

00:14:51:05

46%

01:13:42:21

monitor_bot.avi

Canvas: Color Sequence in Senderos color

Color Sequence

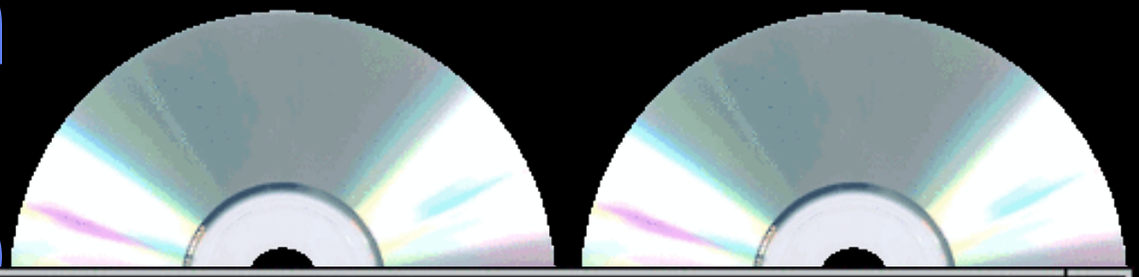
00:14:51:05

46%

01:13:42:21

complicated_bot.avi

MAKE IT BETTER
MAKE IT BETTER
MAKE IT BETTER
MAKE IT
MAKE IT



File Edit View Text Pick Options Help

Monitor multiple sites, strike many outlets, not just one.

Purchase “verified” accounts in bulk.

If it can be a variable, it should be.

Cluster deploys increase chances.

about:blank - Microsoft Internet Explorer

Archivo Edición Ver Favoritos Herramientas Ayuda

Atrás Búsqueda Favoritos Historial

Dirección Ir Víncul

The Economist

Making a profit
from hypebeasts



Internet

PLAY

--:--

IF THERES
A MARKET
THERE'S A PROFIT

SLP 0:00:00

Our (own) Economy

- Account Economy - verified accounts come in packs of 500-10,000 run out of China

- Cook Groups - buy friends who always seem to have the information, the right configs, the right stack overflow links, and a monitoring bot.

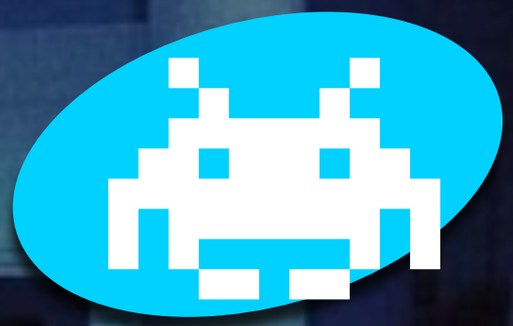
- Purchasing Scripts - Prettily wrapped request with a fancy GUI

Investment Opportunities!



Buy-Bot

- *Fun, flirty, and $1500*
- *Can resell for profit to redditors*
- *Does it all!*
- *Dedicated support network*
- *Fancy UI made with Twitter Bootstrap!*

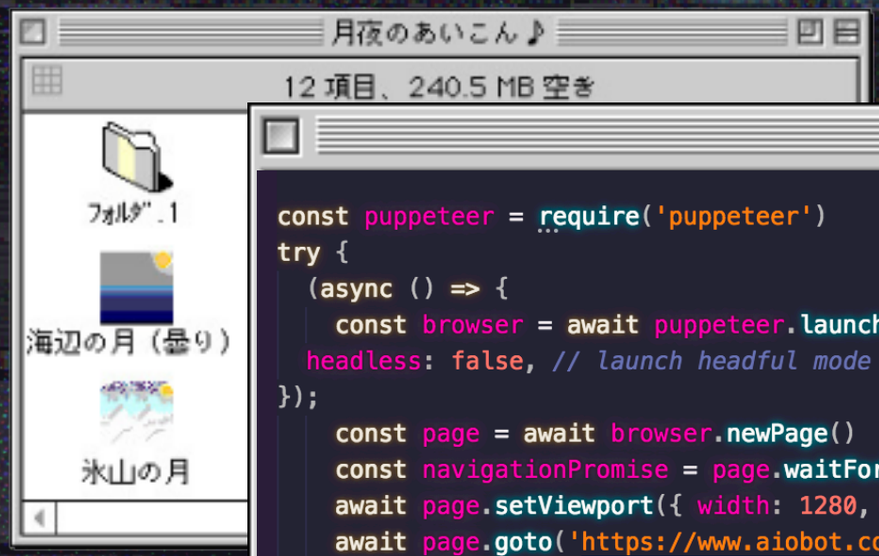


Monitor-Bot

- *Subscriptions start at $15*
- *Comes 3 real friends*
- *Compatible with Buy-Bot*
- *Dedicated support network*
- *Stack overflow links provided*


PLAY
--:--
RESELLERS
DO
RESELLING
BEST
SLP 0:00:00

BOT BOTS



untitled

```
const puppeteer = require('puppeteer')
try {
  (async () => {
    const browser = await puppeteer.launch({
  headless: false, // launch headful mode
});
    const page = await browser.newPage()
    const navigationPromise = page.waitForNavigation({ timeout: 60000, waitUntil: 'domcontentloaded' })
    await page.setViewport({ width: 1280, height: 800 })
    await page.goto('https://www.aiobot.com/product/aio-bot/', { timeout: 60000, waitUntil: 'domcontentloaded' })
    await page.$eval('form.cart', form => form.submit());
    await navigationPromise
    await page.goto('https://www.aiobot.com/checkout/', { timeout: 60000, waitUntil: 'networkidle2' })
    await page.$eval('input#billing_first_name', el => el.value = firstName)
    await page.$eval('input#billing_last_name', el => el.value = lastName)
    await page.$eval('input#billing_email', el => el.value = email)
    await page.click('input#payment_method_paypal')
    await page.waitFor(2000)
    await page.click('input#terms')
  })()
} catch (err) {
  console.error(err)
}
```

Canvas: Color Sequence in Senderos color

Color Sequence

00:14:51:05

46%

01:13:42:21

bot_bot.avi

about:blank - Microsoft Internet Explorer

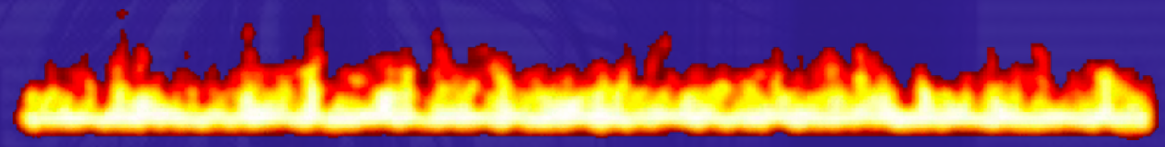
Archivo Edición Ver Favoritos Herramientas Ayuda

Atrás Búsqueda Favoritos Historial

Dirección Ir Vínculos

Future Bot

And why we need to get
LOL totally randOm



Listo Internet

Login

Volume Control

Network Connection

OK

Start

Error

We Care about (your) money.

- Resellers are not good consumers, often make more profit than the company does.
- Resellers crowding drops means that real consumers stop purchasing.
- Human's perceive "fairness" and if a company isn't fair, then why give them money?

Blacklisting?

- ☹ Bot Traffic Mimicks human traffic, so you'll end up blacklisting consumers
- ☹ Accounts are purchased and dumped regularly
- ☹ Since bots are deployed in clusters and behind proxies, IPs will change each purchase (or each request)
- ☹ Blacklisting means creating a useless database.

MAKE IT WORSE
MAKE IT WORSE
MAKE IT WORSE
MAKE IT WORSE
MAKE IT

File Edit View Text Pick Options Help

False Listings confuse bots and consumers

In person sales just mean in person resellers

Lottery based means bots buy lotto tickets instead

Making the Web Unpredictable Again

- Adding entropy into your system does not mean introducing unreliability
- Measured unpredictability can make many tasks more difficult
- Let's encrypt our process, not just our passwords.


PLAY
--:--
THIS AIN'T
A SCENE
IT'S AN
ARMS RACE
SLP 0:00:00