

What Would MacGyver Do?



Harry Robinson
Microsoft
Principal SDET, Bing

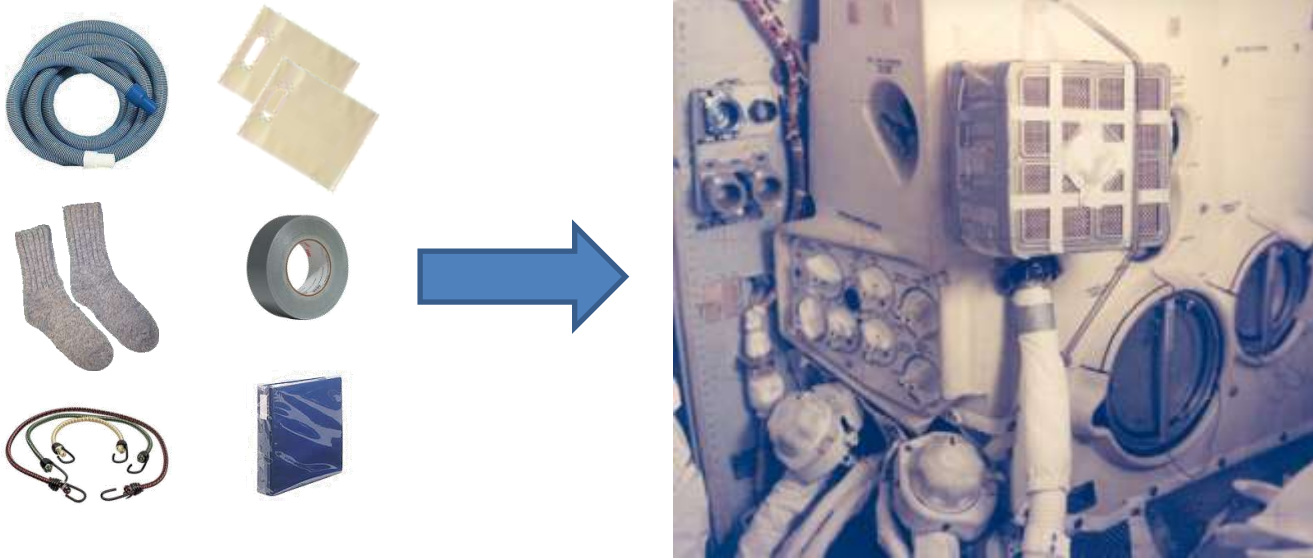


What Would Ed Smylie Do?



Harry Robinson
Microsoft
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April 14, 1970



“The contraption wasn't very handsome, but it worked.”

- James Lovell, Apollo 13

June 1, 2009

bing

EXPLORE

- Images
- Videos
- Shopping
- News
- Maps
- Travel

Get cash back
Deals on underwater camer...

The great escape
Plan your next vacation today

Popular now
Obama education speech · Laura Bush · Kim Clijsters · Tropical S...



bing!

Smart thumbs

Web Images Videos Shopping News Maps More MSN Hotmail Sign in United States Extras

bing dance

VIDEOS 1-20 of 6,280,002 results Safesearch strict (Change) Sort by: best match | most recent

DANCE
Images
Types of Dance
Dance Music
Dance Steps
History of Dance
Dance Lessons
Videos

LENGTH
short (< 5 min)
medium (5-20 min)
long (> 20 min)

SCREEN TYPE
standard
widescreen

'God Is Life'
FOX News 3:33
5 hours ago

People In Greensboro
Get Fit With New...
USA Today 0:42
14 hours ago

Omarion and Felicia -
Dance Contest...
MySpace 6:49

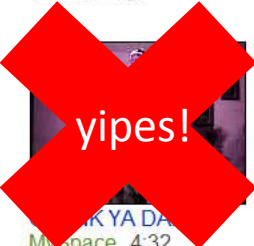
garth brooks - the
dance
MySpace 4:04

Voicemail - Lets
Dance
MySpace 4:56

LINK YA DA
MySpace 4:32

Diversity - Dance Act -
Britains Got...
YouTube 7:01

Wedding Party Dance
Metacafe 6:15

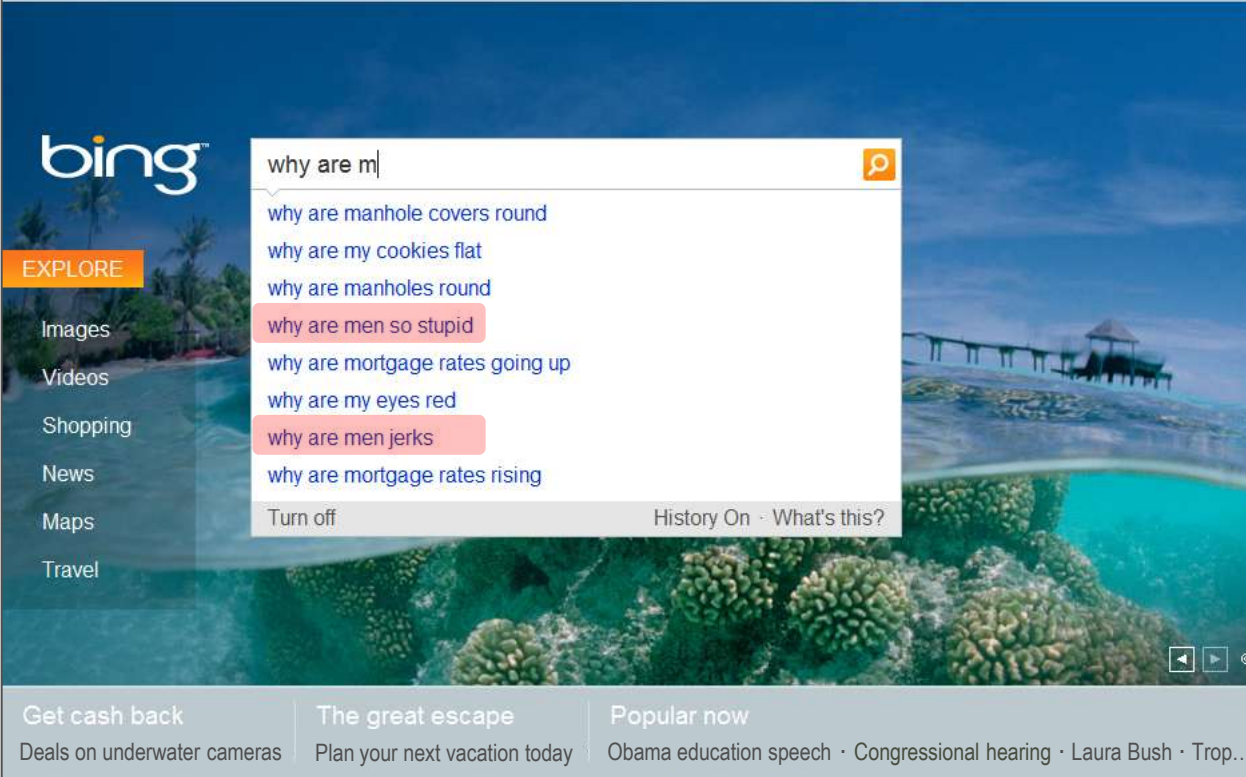


Popular now

The image shows a screenshot of the Bing homepage. The background is a vibrant, split-view image of a tropical beach. The top half shows a clear blue sky, a long wooden pier extending into the turquoise ocean, and a small hut on the pier. The bottom half shows an underwater view of a coral reef with various types of coral and fish. In the top left corner, the Bing logo is displayed. To its right is a white search bar with a magnifying glass icon. Below the search bar is a vertical menu with the word 'EXPLORE' in an orange box, followed by links for 'Images', 'Videos', 'Shopping', 'News', 'Maps', and 'Travel'. At the bottom of the page, there is a grey bar with three sections: 'Get cash back' with the subtext 'Deals on underwater cameras', 'The great escape' with 'Plan your next vacation today', and 'Popular now' with search suggestions: 'Obama education speech · <lacky phrase here> · Laura Bush · Tropica...'. Navigation arrows and a copyright symbol are visible in the bottom right corner of the main image area.



Autosuggest

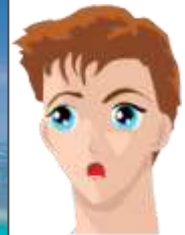


The image shows a screenshot of the Bing homepage. The background is a vibrant underwater scene with coral reefs and a pier extending into the water. The Bing logo is in the top left corner. A search bar is positioned in the upper middle, containing the text "why are m". Below the search bar, a dropdown menu displays several suggestions, each with a pink highlight:

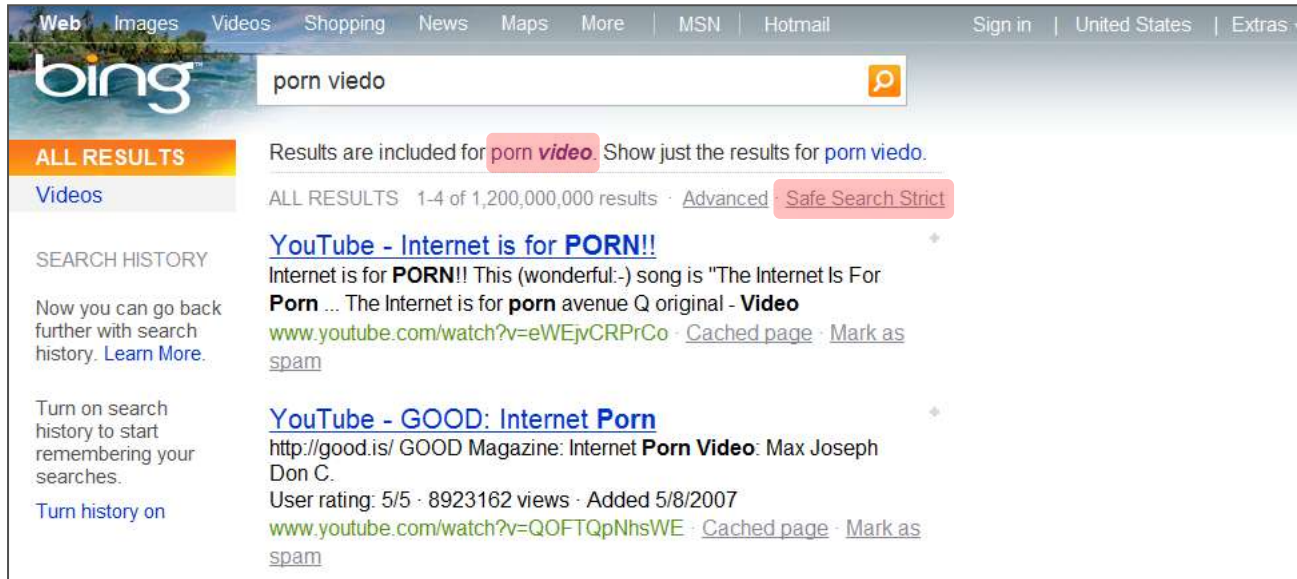
- why are manhole covers round
- why are my cookies flat
- why are manholes round
- why are men so stupid
- why are mortgage rates going up
- why are my eyes red
- why are men jerks
- why are mortgage rates rising

At the bottom of the dropdown menu, there are two options: "Turn off" and "History On · What's this?". On the left side of the page, there is a vertical navigation menu with the heading "EXPLORE" and the following categories: Images, Videos, Shopping, News, Maps, and Travel. At the bottom of the page, there are three promotional banners:

- Get cash back**: Deals on underwater cameras
- The great escape**: Plan your next vacation today
- Popular now**: Obama education speech · Congressional hearing · Laura Bush · Trop...



Spell correction



The screenshot shows a Bing search interface. At the top, there are navigation links for Web, Images, Videos, Shopping, News, Maps, More, MSN, and Hotmail. The search bar contains the text "porn viedo". Below the search bar, the results are displayed. The first result is "YouTube - Internet is for PORN!!" with a description: "Internet is for PORN!! This (wonderful:-) song is 'The Internet Is For Porn ... The Internet is for porn avenue Q original - Video'". The second result is "YouTube - GOOD: Internet Porn" with a description: "http://good.is/ GOOD Magazine: Internet Porn Video: Max Joseph Don C. User rating: 5/5 - 8923162 views - Added 5/8/2007".

Web Images Videos Shopping News Maps More MSN Hotmail Sign in United States Extras

bing™ porn viedo

ALL RESULTS Results are included for **porn video**. Show just the results for **porn viedo**.

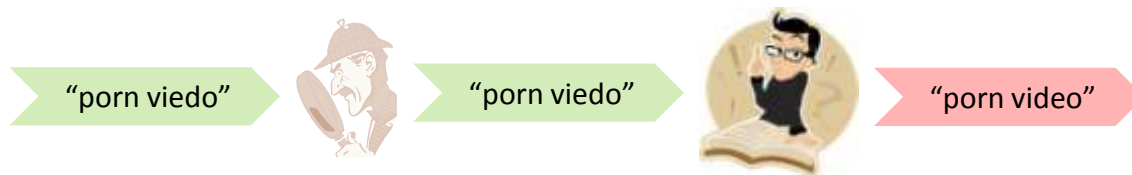
Videos ALL RESULTS 1-4 of 1,200,000,000 results · [Advanced](#) [Safe Search Strict](#)

SEARCH HISTORY
Now you can go back further with search history. [Learn More](#).

Turn on search history to start remembering your searches.
[Turn history on](#)

[YouTube - Internet is for PORN!!](#)
Internet is for **PORN!!** This (wonderful:-) song is "The Internet Is For **Porn ...** The Internet is for **porn** avenue Q original - **Video**
www.youtube.com/watch?v=eWEjvCRPrCo · [Cached page](#) · [Mark as spam](#)

[YouTube - GOOD: Internet Porn](#)
<http://good.is/> GOOD Magazine: Internet **Porn Video**: Max Joseph Don C.
User rating: 5/5 · 8923162 views · Added 5/8/2007
www.youtube.com/watch?v=QOFTQpNhsWE · [Cached page](#) · [Mark as spam](#)



Images/Shopping

The image shows a screenshot of the Bing Shopping interface. At the top, there are navigation links for Web, Images, Videos, Shopping, News, Maps, More, MSN, and Hotmail. The search bar contains the text "<innocuous phrase>". Below the search bar, there are tabs for ALL RESULTS, Reference, and Shopping (which is highlighted). The Shopping section shows "1-15 of 440 results" and sorting options: "best match", "best user ratings", and "price". A large red box with the word "CENSORED" in white capital letters covers the main content area. To the right, there is a "Bing cashback" section with a dollar sign icon and the text "search, shop, save". Below this are three links: "Your cashback account", "How cashback works", and "Shop cashback stores". On the left side, there are filters for "SHOW" (with "cashback only" selected) and "CATEGORY" (with "Music", "Books & Magazines", "Movies", and "Home Furnishings" listed).



We considered the usual options

- Testers
- Automation scripts
- A huge test lab
- Relevance judges
- Bug bashes

... as well as some not-so-usual options

- Fuzzers
- Crowdsourcing
- Logged user queries

Welcome to the monkey trap

“The trap consists of a hollowed-out coconut chained to a stake. The coconut has some rice inside which can be grabbed through a small hole. The hole is big enough so that the monkey's hand can go in, but too small for his fist with rice in it to come out. The monkey reaches in and is suddenly trapped ...

... what general advice would you give the poor monkey?



Well, he should ... see if things he thought were important really were important and, well, stop yanking and just stare at the coconut for a while.

Before long he should get a nibble from a little fact wondering if he is interested in it.”

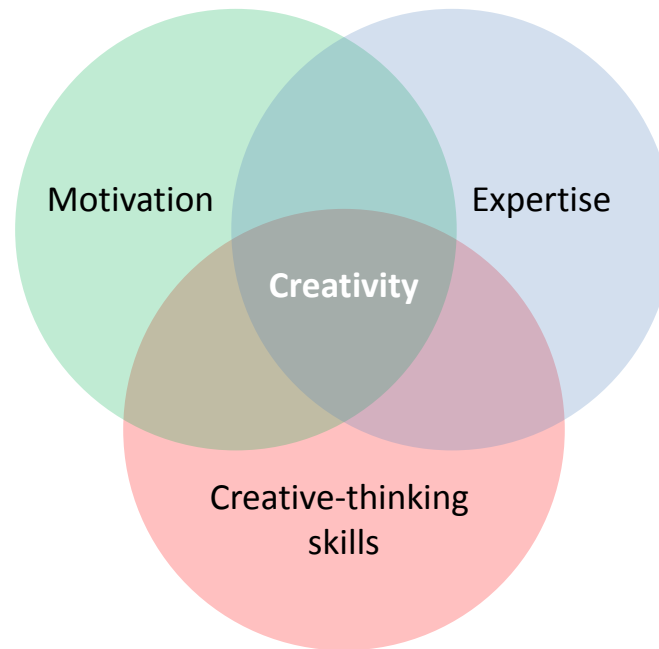
-Robert Pirsig

Zen and the Art of Motorcycle Maintenance

When something's broken, the easiest thing is to throw it away, forget about it. But if you just step back and take a look at what you've got, you find a totally different way for it to work.

- Angus MacGyver

Components of creativity



“Creative thinking ... refers to how people approach problems and solutions – their capacity to put existing ideas together in new combinations.”

- Teresa Amabile

Motivating creativity in organizations

Motivation



InformationWeek
THE BUSINESS VALUE OF TECHNOLOGY

Bing Porn Draws Flak

Microsoft is taking heat for search engine tool that displays full-motion adult content.

By [Paul McDougall](#)
InformationWeek
June 8, 2009 10:22 AM



THE ECONOMIC TIMES

Home News Markets Personal Finance **Infotech** Jobs

Hardware Software Internet ITeS

Porn glitch in Microsoft Bing

3 Jun 2009, 1059 hrs IST, ANI



FOX NEWS Fair & Balanced
.com

Microsoft's New Search Engine Puts Porn in Motion

Tuesday, June 02, 2009
FOX NEWS
By Joseph Abrams

Expertise

- Lawyers
- Project managers
- Domain experts
- Feature testers
- Senior testers
- Automation specialists



Conceptual blocks

“... mental walls that block the problem-solver from correctly perceiving a problem or conceiving its solution.”

- James L. Adams

Conceptual Blockbusting

Perceptual

- Stereotyping
- Difficulty isolating the problem
- Delimiting the problem too closely
- Saturation

Cultural

- Taboos
- Humor (lack of)
- Reason vs intuition
- Tradition vs change

Emotional

- Fear of risk
- No appetite for chaos
- Judging rather than generating ideas
- Inability to incubate
- Complacency

Environmental

- Supportive team
- Supportive management
- Incorporating feedback
- Hidden agendas

Voices in our heads: automation

“Automated tests represent the automation of a manual process.”

– **Harold F. Tipton, Micki Krause**

“The most important benefit of automated testing over conventional manual testing is the minimization of costs over repeated tests.”

– **Markus Helfen, Michael Lauer**

“We have found that it is essential for tests to execute very quickly; our target is under 30 seconds for the typical test run.”

– **Shaun Smith, Gerard Mezaros**

The less you know sometimes, the better. – Angus MacGyver

Voices in our heads: new bugs

“I have never been convinced that finding ‘new’ bugs is a realistic expectation for test automation.”
– **I.M. Testy**

“After you have run your automated tests for the first time, you are done finding new bugs. Never again will you find a new issue.”
– **Steve Rowe**

“Running automated test scripts can not be used to find new bugs in the software ...”
– **Cordell Vail**

Voices in our heads: test oracles

“Oracle: A mechanism to produce the predicted outcomes to compare with the actual outcomes of the software under test.”
– **BS 7925-1**

“A test oracle is a mechanism for predicting the expected results.”
- **Andreas Spillner; Tilo Linz; Hans Schaefer**

“In real testing the outcome is predicted and documented before the test is run.”
– **Boris Beizer**

Challenge assumptions

- Is it necessary to predict the outcome of a test?
- Must an automated test behave like a human?
- Can random inputs be used well?
- Does a test program really need to run quickly?
- How do humans judge if a result is correct?
- How efficient must a test program be?
- Why can't a test program be used for exploratory testing?

Never laugh at what you don't know. – Angus MacGyver

Blockbusting

- Challenge assumptions
- Investigate the problem
- Question all constraints
- Look at object attributes
- Brainstorm ideas
- Who else has done something like this?
- Imagine you have unlimited resources ...

Imagination is the most important thing the human mind has. – Angus MacGyver

Part 1: Break the problem up



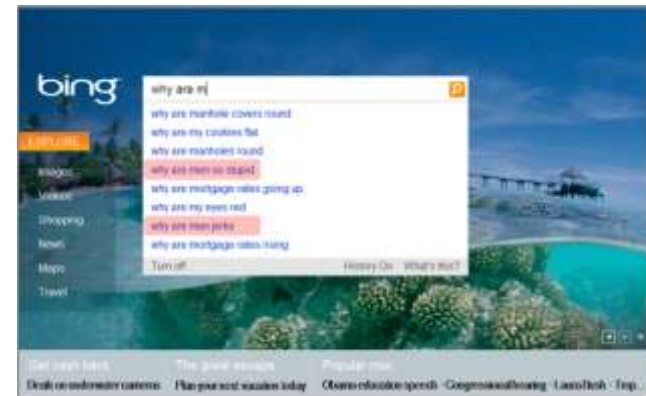
Part 2: Smart thumbs/Popular now

- Smart thumbs:
 - Create explicit domain
- Popular now:
 - Validate upon data entry



Part 3: Autosuggest

- Bug bash?
- Generate and check?
 - Input from
 - Log data
 - Exhaustive combinations
 - Check with
 - Homemade utility
 - PoliCheck
- Simple solution: Check source file



Part 4: Spell correction

- Generate and check
 - Input from
 - Log data
 - Mutated combinations
 - Check with
 - Homemade utility
 - PoliCheck



Part 5: Images/Shopping

- Generate and check
 - Input from
 - Log data
 - Exhaustive combinations
 - Check with
 - PoliCheck
 - Homemade utilities
 - Automation (people + machines)



If you don't have the right equipment for the job, you just have to make it yourself.

– Angus MacGyver

What should *you* do?

- Approach test as an engineering problem
- Study up on
 - Test approaches
 - Your product
 - Available tools
 - Creative problem-solving
- Testing books: Beizer, Binder, Jorgensen
- Papers: Test generation, heuristic oracles, combinatorics

Always carry around a knapsack to pick up things you find along the way. – Angus MacGyver

April 19, 2005



Ed Smylie accepts the first **Great Moments in Engineering** award on behalf of NASA's Crew Systems Division who improvised an air filter that kept astronauts alive on the ill-fated mission 35 years ago.

Any problem can be solved with a little ingenuity. – Angus MacGyver



The most important tool for survival isn't duct tape or a Swiss Army Knife, it's your wits. Always keep them about you.
– Angus MacGyver