

Microsoft® Research

# Faculty Summit 2010

# Partner in Crime



# GPS in Aviation?

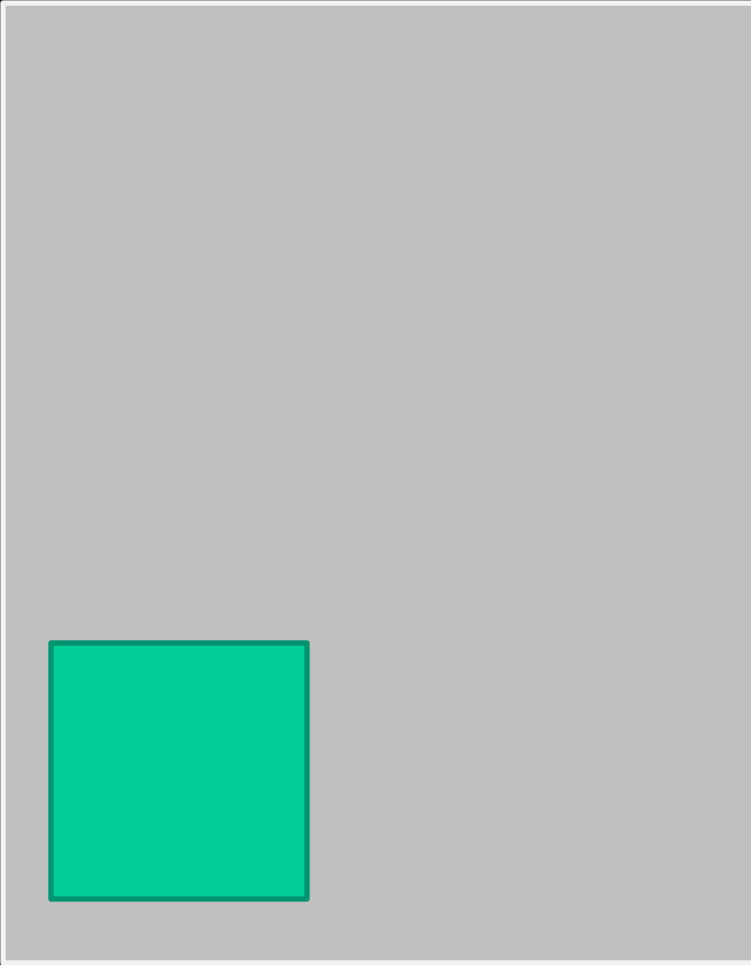


# Natural User Interfaces

# What are the Natural Gestures?

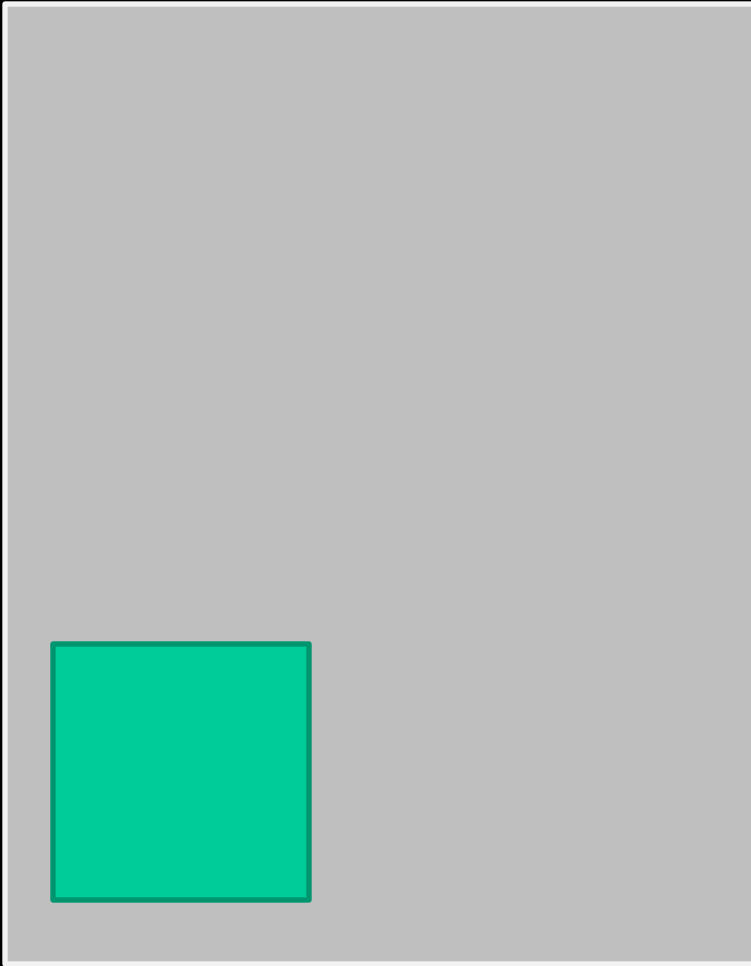
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Before

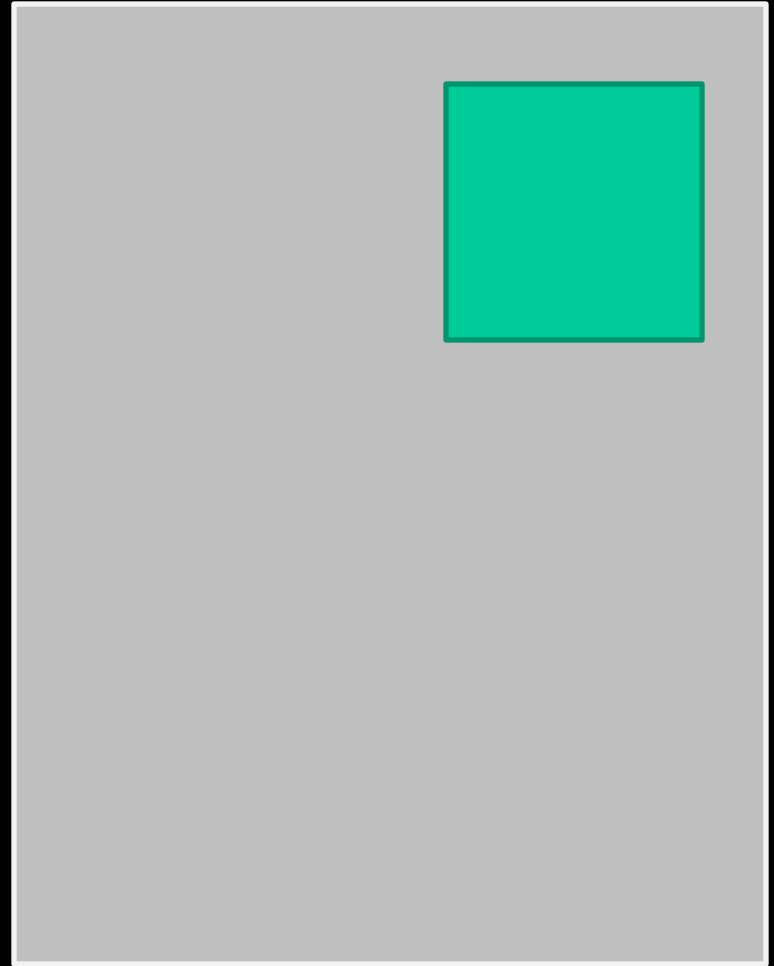


# What are the Natural Gestures?

Before



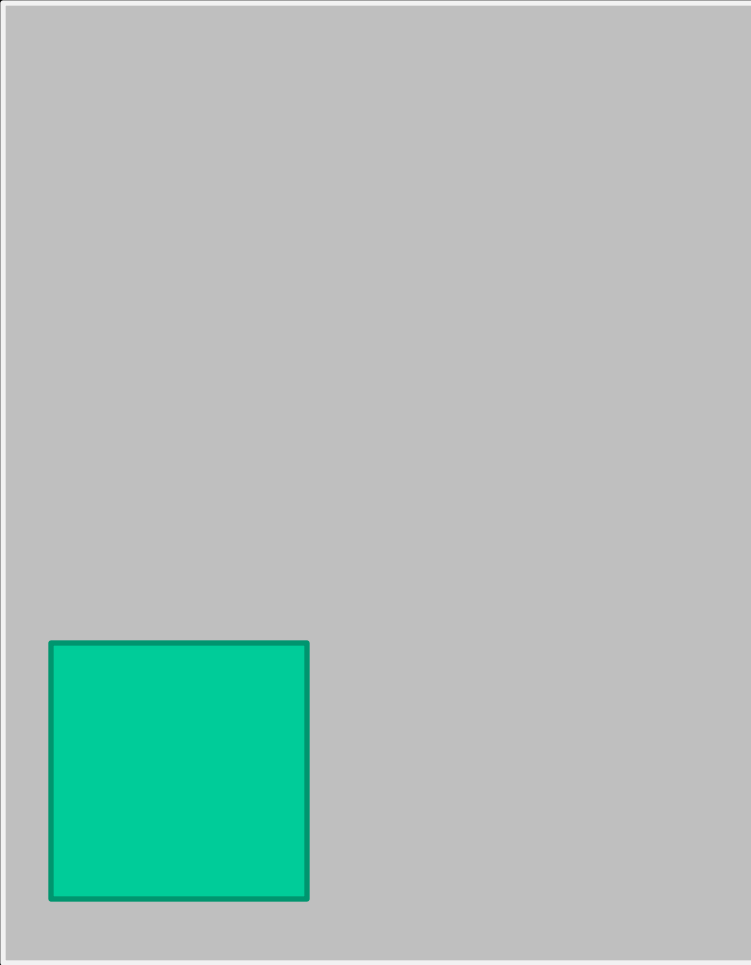
After





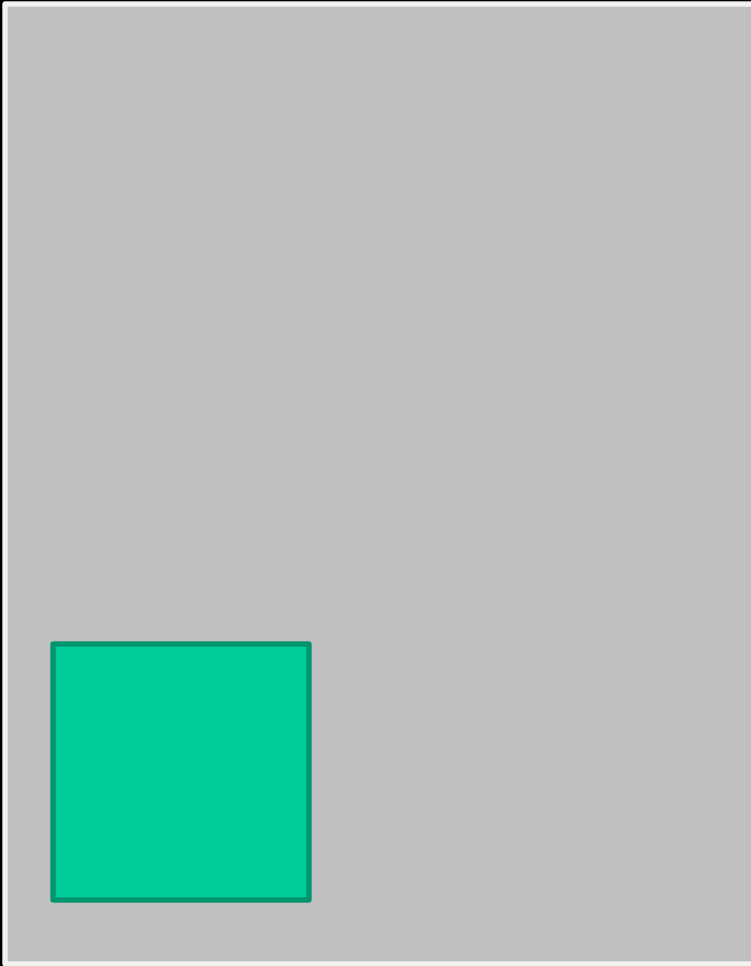
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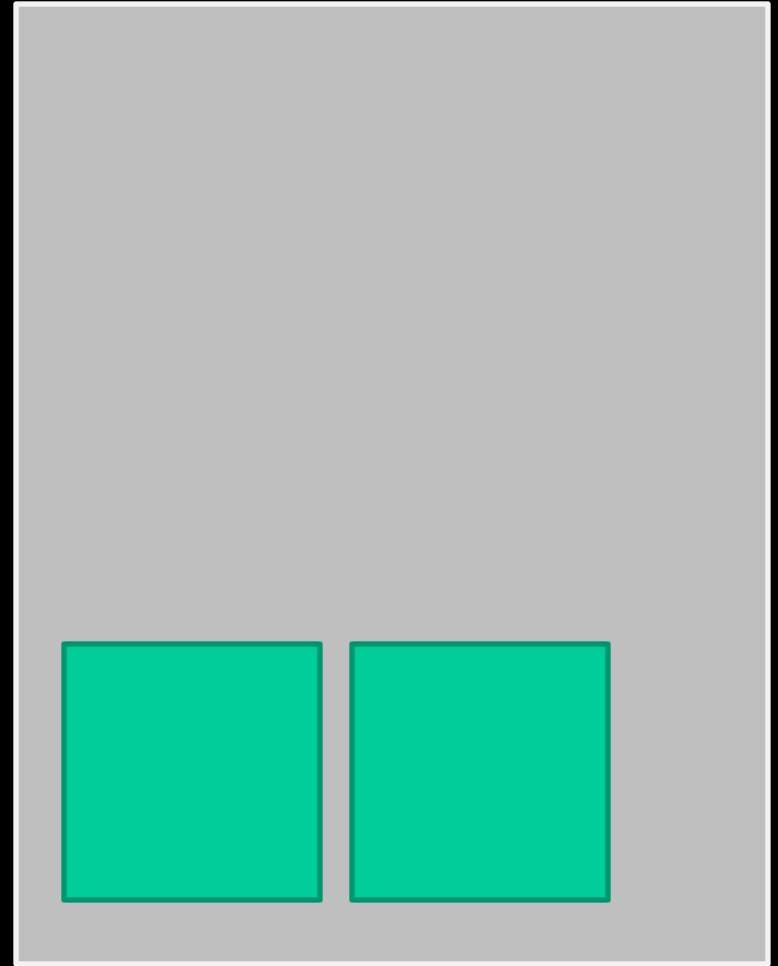


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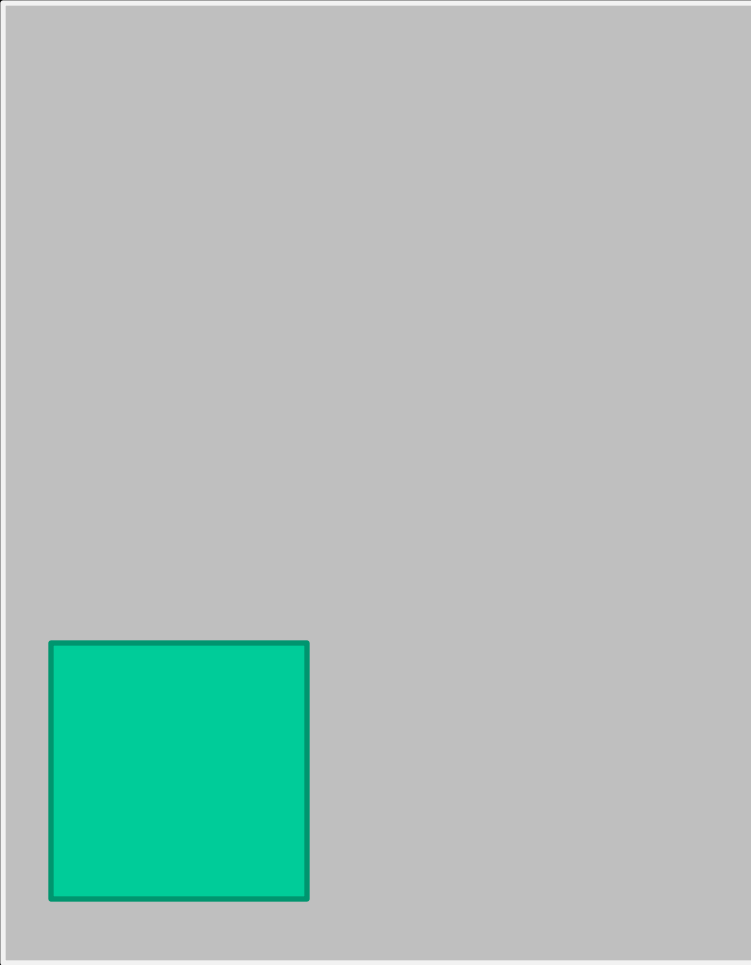


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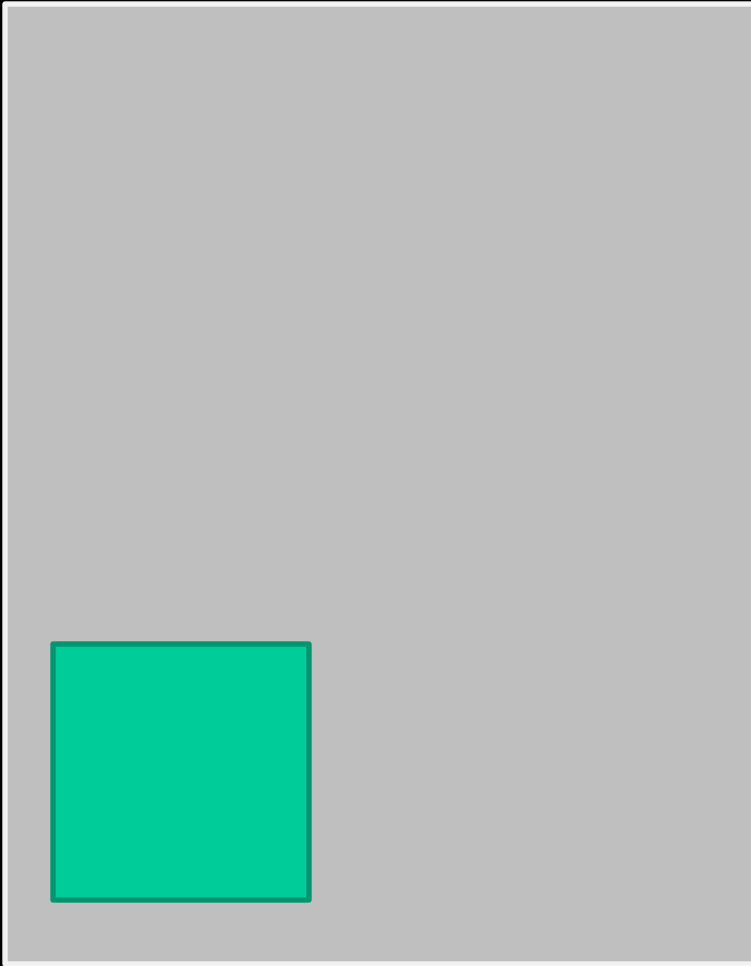
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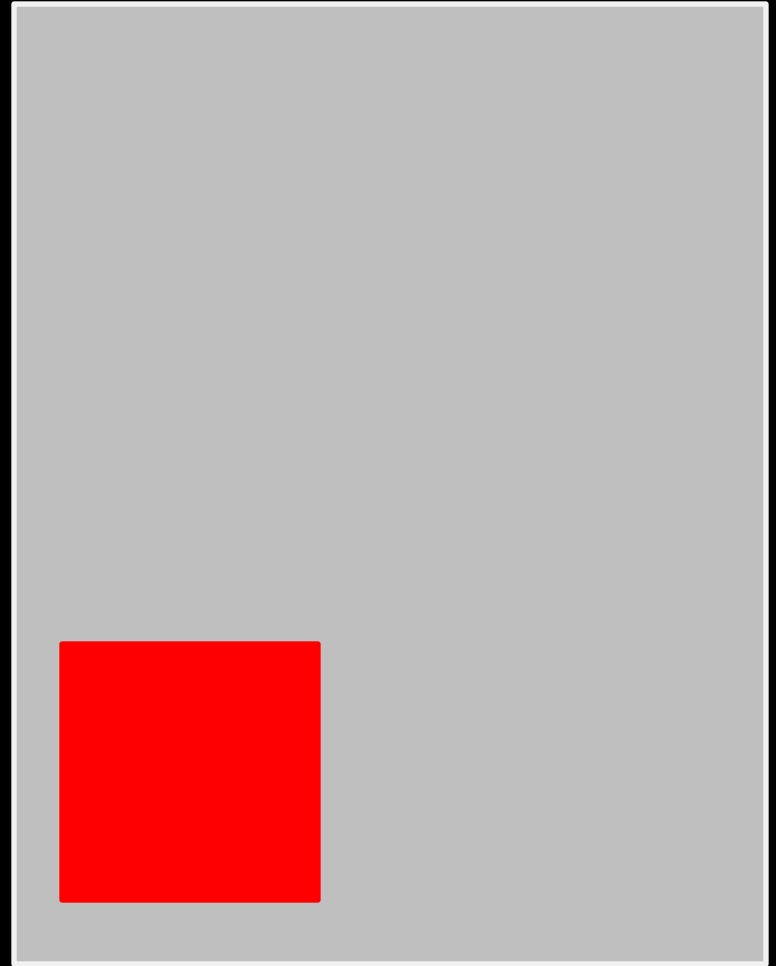


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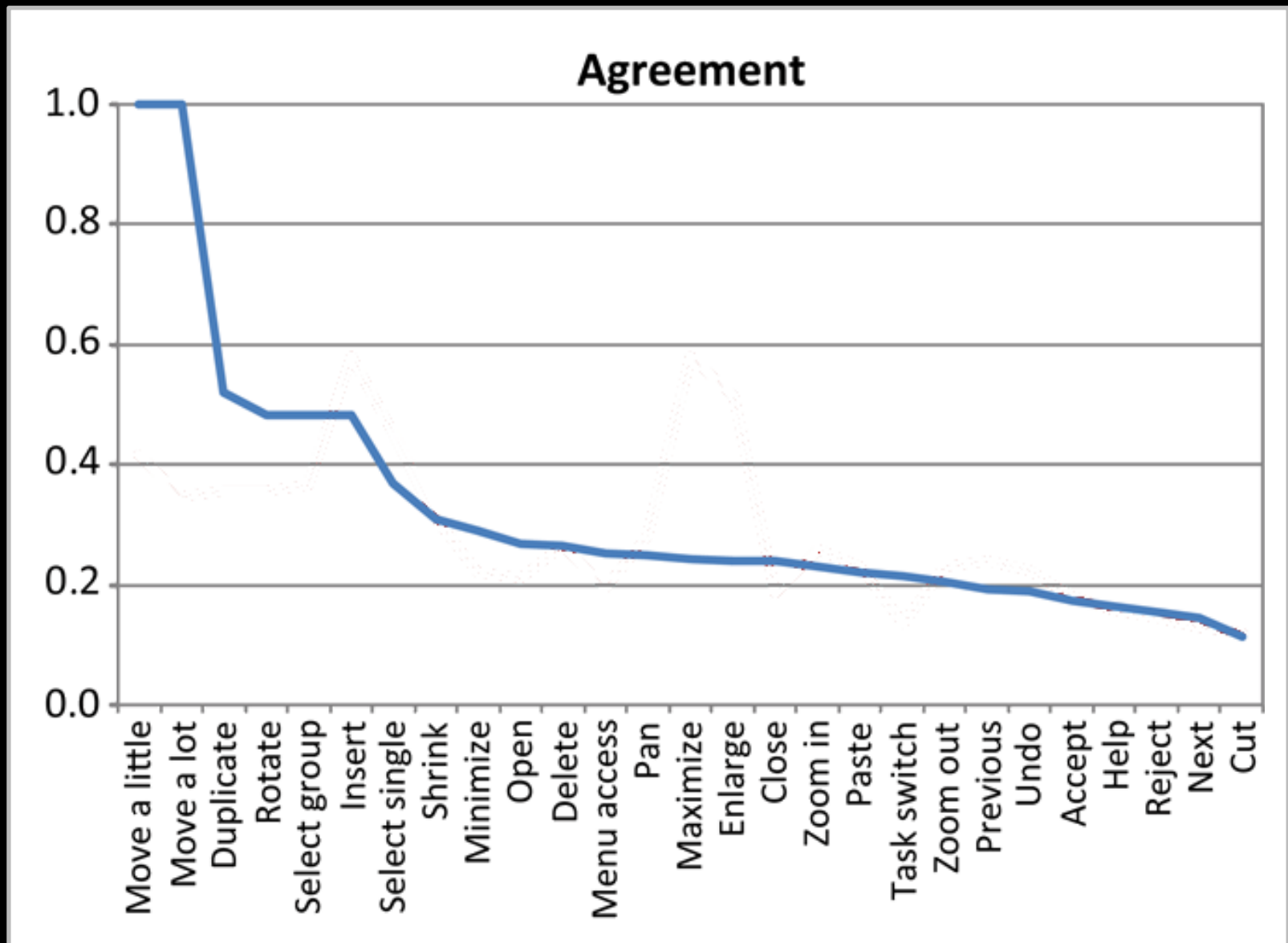
Before

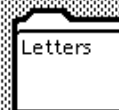
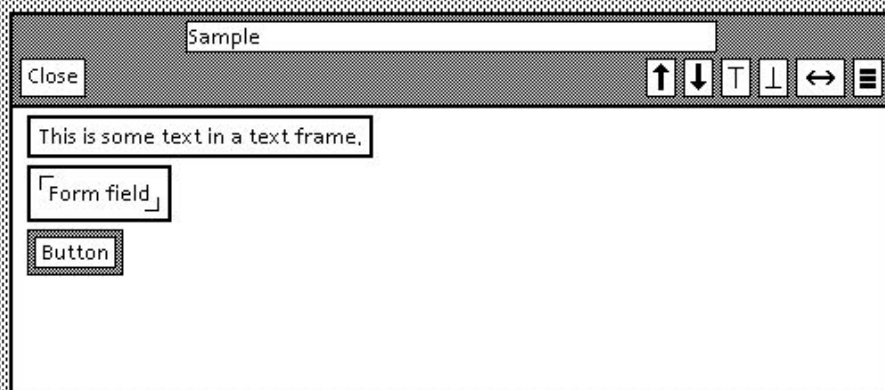
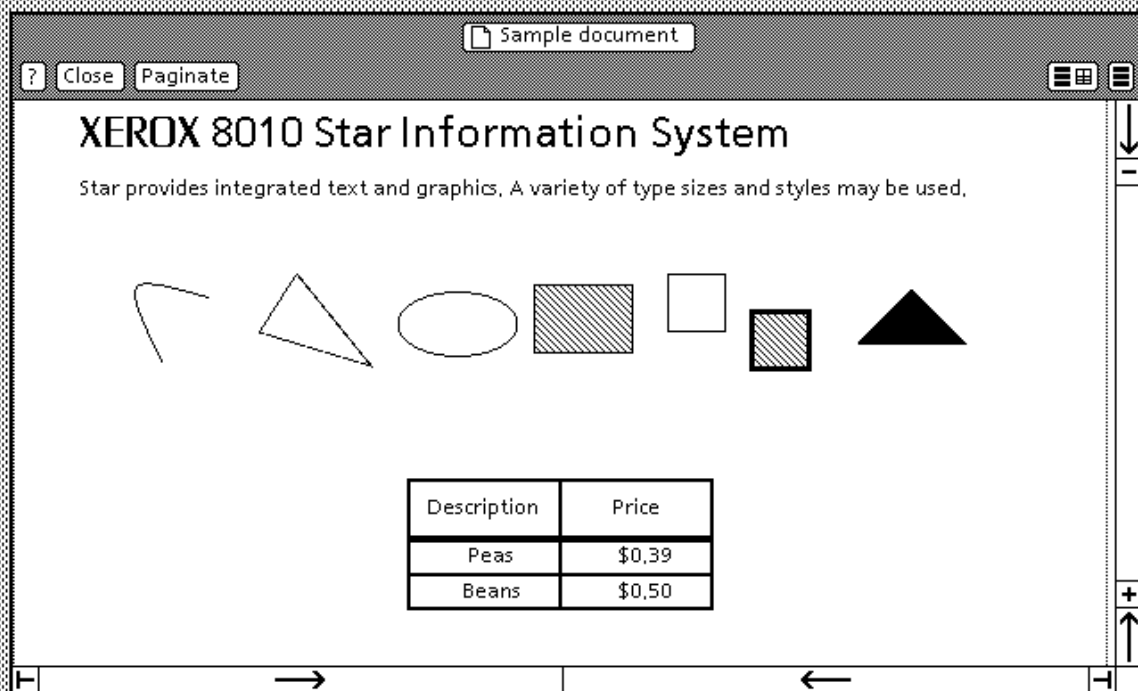


After



# What are the Natural Gestures?











Sky  
Mall





New input methods require reassessment of conventions





# Natural User Interface

# Natural User Interface

The NUI design starts with clear and simple principles that define a successful natural user interface:



Suspension of disbelief



# THE NITPICKER'S GUIDE FOR NEXT GENERATION TREKKERS VOLUME II

THE  
NITPICKING  
CONTINUES!  
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The NUI design starts with clear and simple principles that define a successful natural user interface:

Each user interface is authentically digital, creating a new world that requires users to suspend disbelief and that does not simply mimic the real world.



Content is the interface

Slashdot Stories (10) - Windows Internet Explorer

http://slashdot.org/

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Google Search

bing

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Slashdot Stories (10)

# Slashdot

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## Technology: Boeing, BAE Systems Show Off New Unmanned Planes

Posted by [Soulskill](#) on Monday July 12, @02:29PM from the sneaky-and-expensive dept.

gilgsn writes

The hydrogen-powered [Phantom Eye unmanned airborne system](#), a demonstrator that will stay aloft at 65,000 feet for up to four days, was unveiled by Boeing today. 'Phantom Eye is powered by two 2.3-liter, four-cylinder engines that provide 150 horsepower each. It has a 150-foot wingspan, will cruise at approximately 150 knots and can carry up to a 450-pound payload.' Across the pond, [BAE Systems showed off Taranis](#), a UAV that will test the possibility of



Slashdot Stories (10)

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# Slashdot

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## Your Rights Online: Long-Term Liability For One-Time Security Breaches?

Posted by [Soulskill](#) on Monday July 12, @01:46PM from the neverending-can-of-worms dept.

An anonymous reader writes

"Not a month goes by where we don't hear about a theft of some organization's laptop containing sensitive personal information, not to mention the even more frequent — but often kept secret — breaches into company networks and databases. It is definitely true that you should be responsible for the security of your information when you handle it, but what happens [when the theft of your information is not your fault?](#) You have handed over this information to a company or organization and trusted them to keep it secure, but they failed. They might notify you of the breach or theft, and they might even set up a credit monitoring



The NUI design starts with clear and simple principles that define a successful natural user interface:

Each user interface is authentically digital, creating a new world that requires users to suspend disbelief and that does not simply mimic the real world.

The user interface makes content the interface, providing intuitive affordances and clear feedback to enable users to interact with the world.





MARIO  
001200

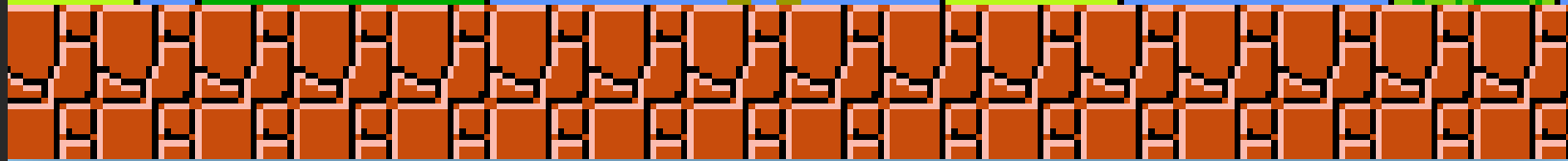
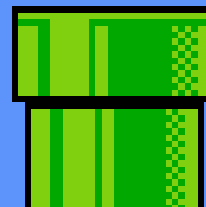
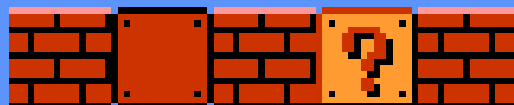
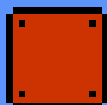
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WORLD  
1-1

TIME  
366



1000



The NUI design starts with clear and simple principles that define a successful natural user interface:

Each user interface is authentically digital, creating a new world that requires users to suspend disbelief and that does not simply mimic the real world.

The user interface makes content the interface, providing intuitive affordances and clear feedback to enable users to interact with the world.

Learning is an inherently positive experience, use it to enable your user experience, do not limit this experience to concepts that all users know already.

o chill playlist

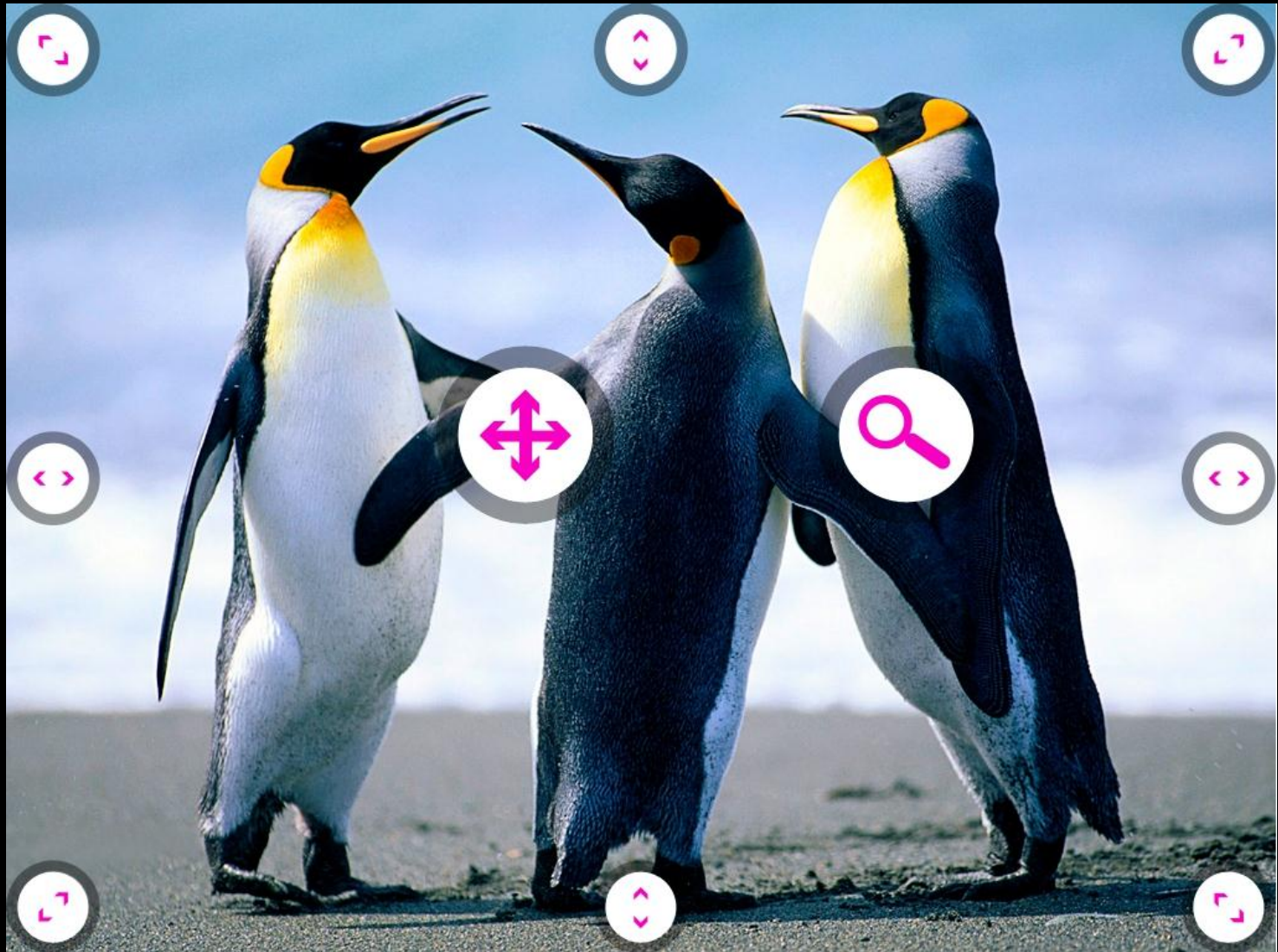


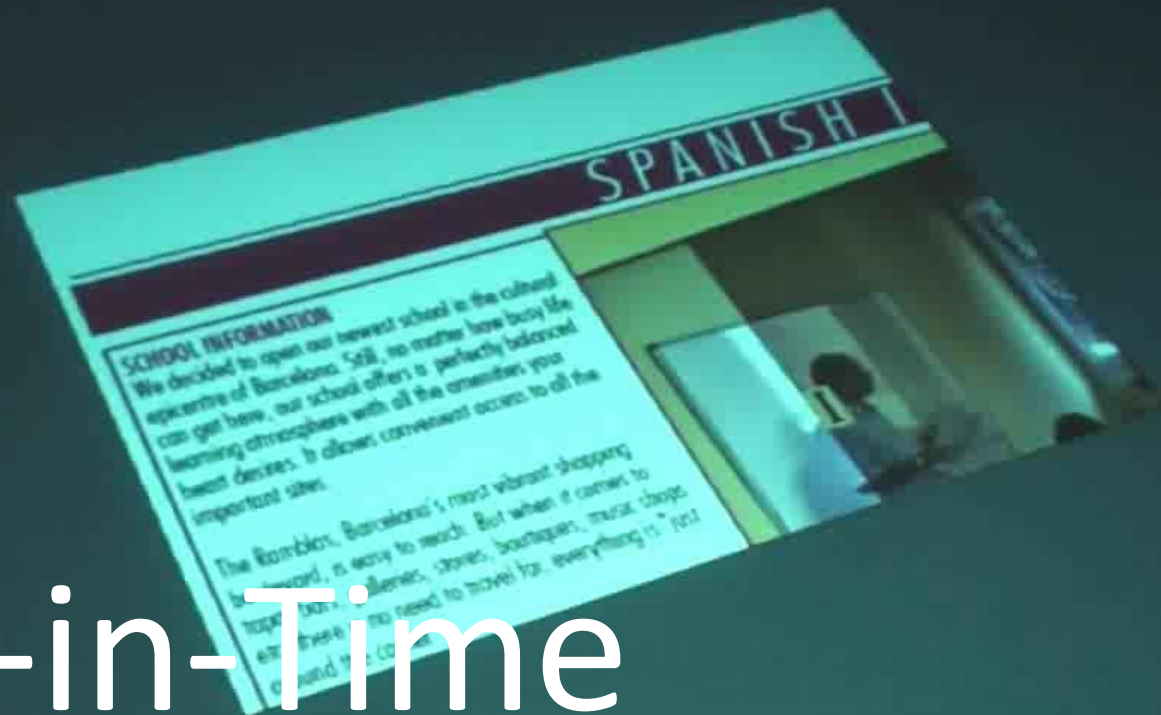
01 Horn Intro	02 The World At Large	03 Float On	04 Ocean Breathes Salty	05 Dig Your Grave	06 Bury Me With It	07 Dance Hall [Explicit]
08 Bukowski [Explicit]	09 This Devil's Workday	10 The View [Explicit]	11 Satin In A Coffin	12 Blame It On The Tetons	13 Here Now	14 Black Cadillacs [Explicit]
15 One Chance	16 The Good Times [Explicit]	17 Black Magic Woman	18 Black Sunshine [Explicit]	19 Evenflow	20 Kool Thang	21 La Grange
22 Anarchy in the U.K.	23 Before I Forget					



o chill playlist







Just-in-Time  
Chrome

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Each user interface is authentically digital, creating a new world that requires users to suspend disbelief and that does not simply mimic the real world.

The user interface makes content the interface, providing intuitive affordances and clear feedback to enable users to interact with the world.

Learning is an inherently positive experience, use it to enable your user experience, do not limit this experience to concepts that all users know already.

The user interface considers context, including the right metaphors, visual indications, feedback, and input and output methods for each context.

The NUI design starts with clear and simple principles that define a successful natural user interface:

- Is authentically digital
- Supports suspension of disbelief
- Content is the interface (maximizes content)
- Provides affordances
- Provides clear feedback
- Requires learning, makes it fun
- Appropriate to context (I/O device, metaphor, task)

# Natural User Interface



# Reality-Based Interaction

# Natural User Interface

# BRAVE NUI WORLD

DESIGNING NATURAL  
USER INTERFACES  
FOR TOUCH AND GESTURE

DANIEL WIGDOR  
DENNIS WIXON

**MK**  
MORGAN KAUFMANN