

14:30 - 15:00

TOM JENKINS

SHOW AND TELL:
COMMUNICATING NEW INTERACTIONS



Hello, good afternoon. I'm going to start off by showing you what was once a very new interaction.

video

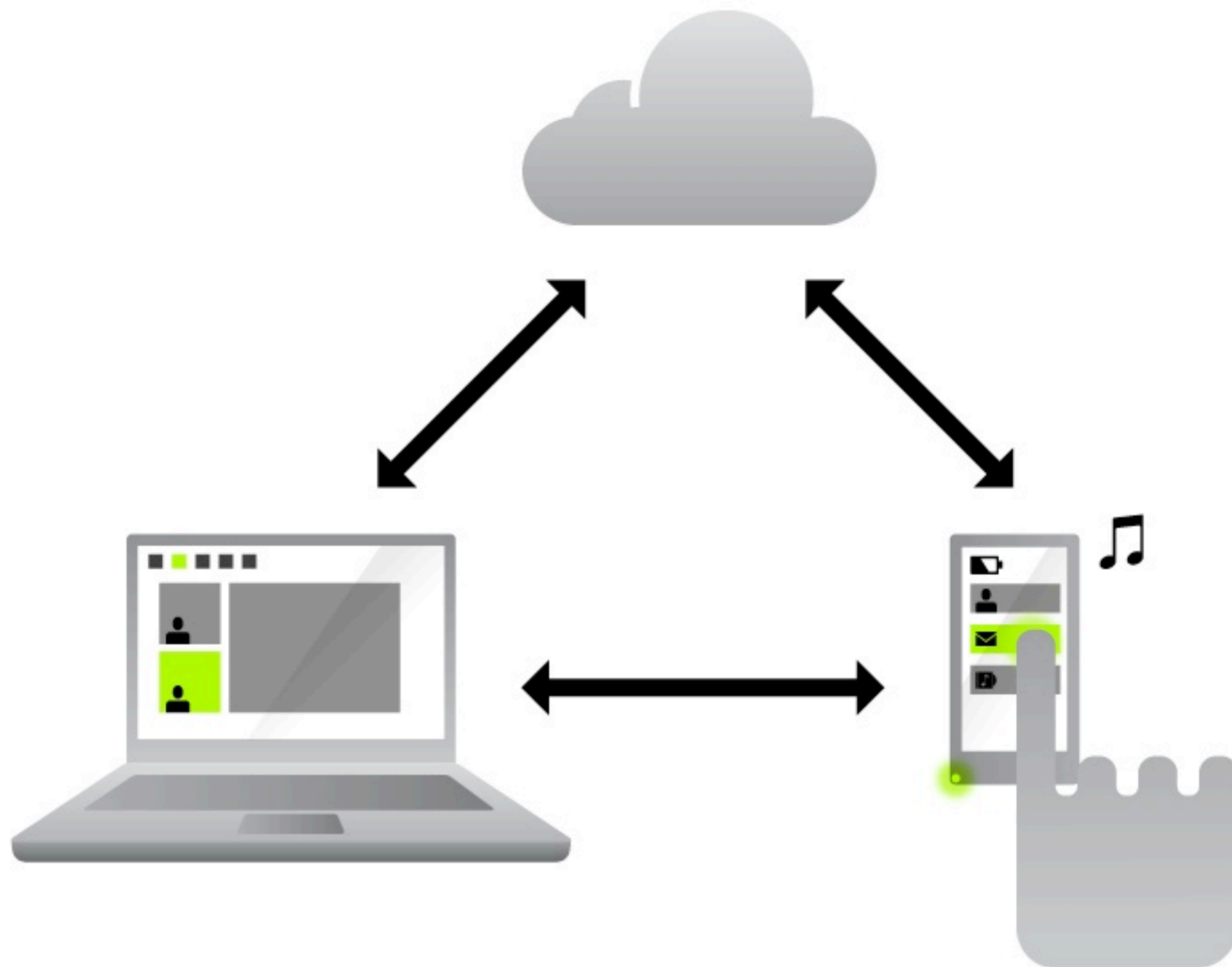


<http://www.youtube.com/watch?v=0u72xN-JKHo&feature=related>



That was one of the first Mackintosh ads aired on US television.
A follow up to the drama of Ridley Scott's famous Orwellian vision that went out a few months before.
This time they dedicated the ad entirely to a novel new interface, the mouse.

The advert as instruction manual is perhaps increasingly popular today, especially with the ease and reach of Youtube.
How are new interactions best communicated along their journey from research lab to design studio to living room?



Before I get going I'd like to briefly introduce what I do at Nokia.

I'm part of the Service and UI design team in Nokia Design.

We work on designs for services, devices, PC and web applications, hardware and software interfaces, sounds and UI graphics.

Often working on the earlier phases of UX research and design, connecting the dots across different parts of a very big organisation. So communicating our ideas effectively is very important for us.

Flipping my title 'show and tell' around I'm going to begin with 'tell', or...

Storytelling

Core Skills of Design

CHARLES EAMES WAS right about constraints; they are key to understanding design. Scientific disciplines rely on the ability of the practitioner to become expert in a narrow field, learning how to focus by excluding extraneous information and thus learning more and more about less and less. Here are five core skills of design:³

- 1 To synthesize a solution from all of the relevant constraints, understanding everything that will make a difference to the result
- 2 To frame, or reframe, the problem and objective
- 3 To create and envision alternatives
- 4 To select from those alternatives, knowing intuitively how to choose the best approach
- 5 To visualize and prototype the intended solution

I describe a process that includes this list at the end of the

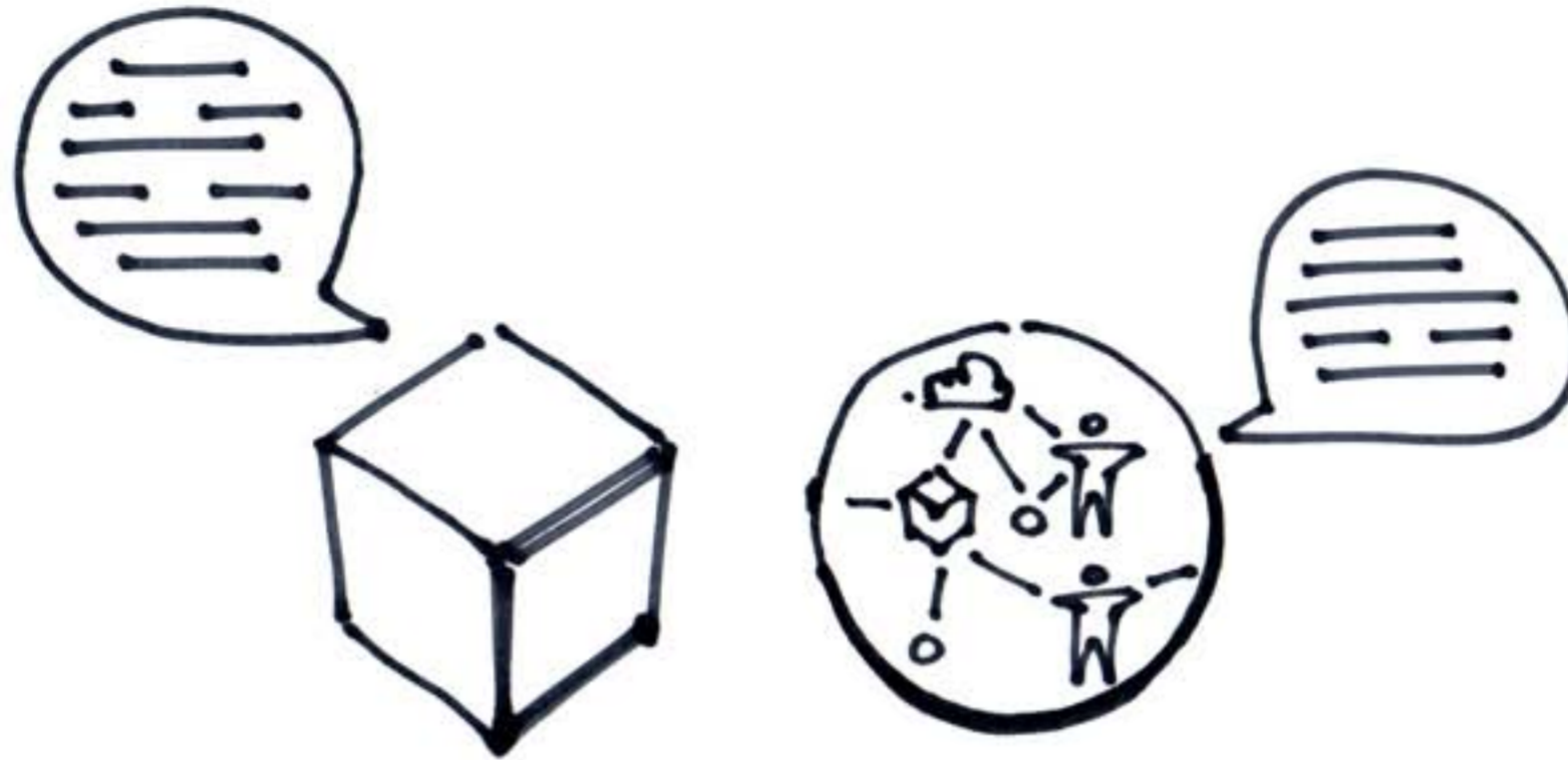
chapter. The five skills can be applied in the listed order, but the

From *Designing Interactions* by Bill Moggridge

This is a list of 5 core design skills from Chris Conley at the IIT Institute of Design, in Chicago.

No surprise that visualising and prototyping are the final skills here.

There is a fuzzy split between representing solutions and making them, between fiction and reality.



At different stages in a project, we tell stories about the things we design; about imagined artefacts, services and systems. Designers are not alone in this: advertisers tell stories about new products, and artists often weave narratives around the objects they create.



<http://www.youtube.com/user/NokiaDesign>

How do we as Interaction Designers tell stories about imagined futures?

We often illustrate our concepts in film and animation.

In motion we can show the dynamics of interfaces or services.

And, describe imagined contexts of use, bringing possible futures to life.

This is especially useful when we're presenting concepts beyond the capabilities of current technologies and platforms.

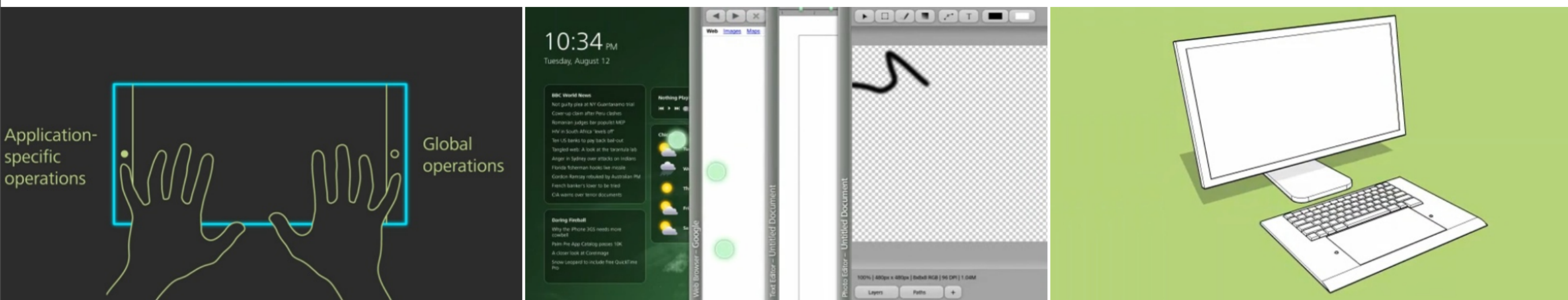
Here's a clip from a future vision video from Nokia Design in 2006.

video



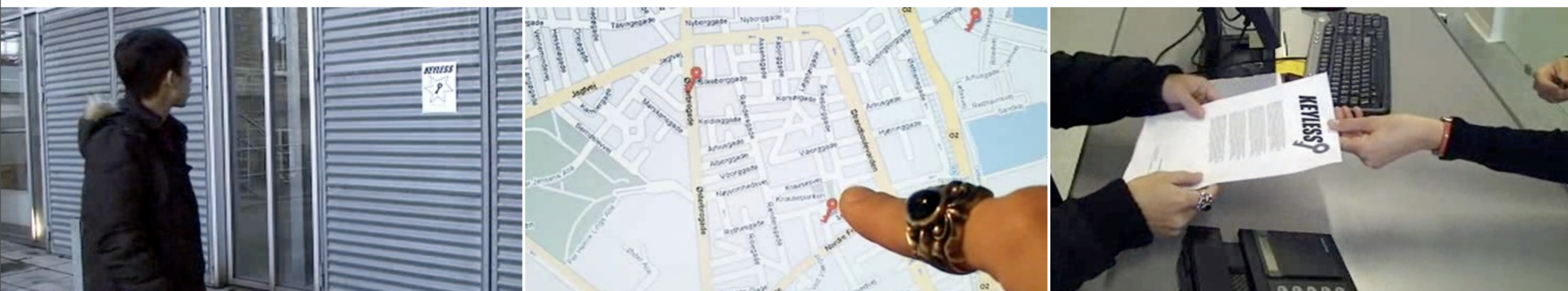
<http://www.youtube.com/user/NokiaDesign>

Devices...



10 GUI - gestural multitouch input concept - Clayton Miller - <http://10gui.com/>

to services



Keyless - service design video scenario - Marcin Ignac, CIID - <http://vimeo.com/2001338>

From visualising the mechanics of a new input device to acting out the everyday situations of a potential new service, videos are both compelling and adaptable.

They also don't need to have a big budget to tell a great story.

They leave as many questions open as they answer, often intentionally avoiding functional issues to concentrate on the experience. They're intended to inspire and stimulate discussion, to get support for further design and development.

However, they are essentially passive, linear narratives and can only go so far when designing new interfaces. If they get people talking, discussing what next, then they've succeeded.

Nokia Nseries

- Experience Carousel : The Door To Your Media
 - ▶|| play all
 - ▶|| Entering and navigating
 - ▶|| Launching media and returning to the EC
 - ▶|| Controlling media and entering media suites at different levels
- Active Search from the Homescreen
- Experience Carousel : Tile by Tile



At Nokia Design we often use onscreen mock-ups to represent new product interfaces, a hybrid of video, interactive prototype and document. We illustrate the whole device with inputs like keyboards, outputs like illumination and sound, and of course the device's screen UI. Some mock-ups, like this, have a choice of animated paths through the UI, others are more interactive, substituting mouse for finger. They're often very successful in communicating what a static document or the single path of a video cannot.

Mock-up may be out of context

Experientially

Technically

However, a mouse is a poor substitute for a finger, a hand, a pocket or a busy street... for experiencing a design in in-hand and in context. They may also promise on a dual-core laptop what cannot be achieved in the real hardware or software of a mobile device. These ways of communicating bring up 2 big considerations for design storytelling. Firstly, Audience...

Audience

- Design team
- Design peers
- User test participants
- Enthusiasts
- Developers
- Strategists/roadmappers
- Clients/sponsors
- Press
- Public...

When we tell any story we must consider who it's for.

What prior knowledge and experience do they have, what vocabulary do we share or not, what are their expectations.

For example, vision videos and animated mock-ups may get praise and buy-in from strategy managers, but may be criticised by developers working on the final product.



Secondly, fidelity

How much detail should we include, and at what point in a project?

Low-fidelity storytelling leaves more room for interpretation, it invites feedback, criticism, and alternative suggestions.

This is a set of scenarios created for a recent project with Nokia's Emerging Market Services.

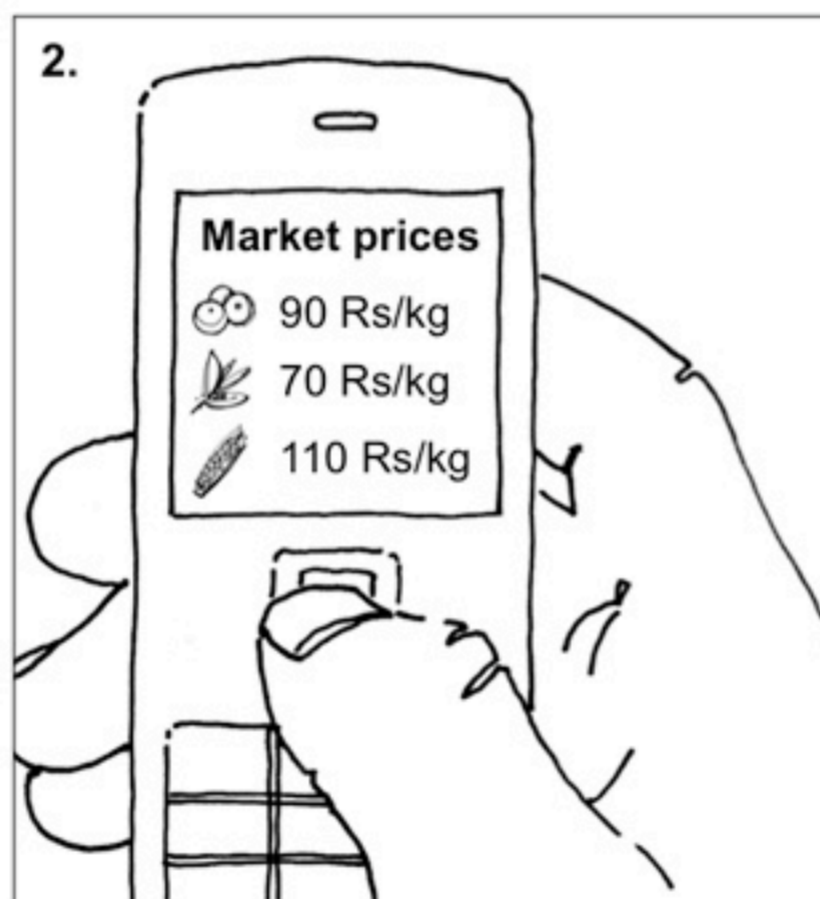
For field research in rural areas of Brazil, China, Indonesia, India, Egypt and Nigeria.

40 concepts were illustrated in simple 3 frame storyboards showing: problem, solution and outcome - a basic narrative curve.

AG4: Market Prices

I want to get the best price I can for my crop. Different market buyers offer different rates. I would have to visit many markets to find which has the best price.

You will receive a message on your mobile phone to tell you up to date crop prices at different local markets. You can then make an informed choice about who to sell to, and get the best price for your produce.



Each scenario was drawn with what we thought was the minimum detail needed to communicate the concept.

Focusing on the end user's experience of the service.

By and large these illustrations were very successful.

Getting participants to respond with their stories. About what would and wouldn't work for them, how they might use the services, what else they could do.

Occasionally however, details would distract the discussion completely.

A car in the background implying for some that the service was only for the rich. Or, clothing which is normal or acceptable in one country, was seen as out of the ordinary in another.

A lesson in the challenges of fidelity and a cross-cultural audience.

When we're looking for greater input on our ideas, how much can we leave out without losing meaning?

On the other end of the spectrum are high-fidelity design stories.



...the suspension of disbelief.

Industrial designer Richard Seymour has described design as the suspension of disbelief.



Models of consumer electronics are often so close to the weight, finish, and sometimes even mechanics of a manufactured object, that people are often mistaken for thinking the only reason the screen is black is that the batteries are dead. They're an almost perfect illusion, usually created to validate a finished design or convince stakeholders or clients to put a product into production.



Tools like 3D CAD allow designers make detailed visualisations with far more resolution, and far quicker than they could with pre-digital techniques.



For many designers they're also be a quick way to explore early designs.
Architects and designers often sketchify their 3D models before sharing them.
Keeping discussions and decision making more open.

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 The easiest way to an high end user experience!
 Fast wireframe creating and remote website usability testing lead to an improved conversion!

Cuts development costs, saves time, is 100% flexible and starts at 30 € per month.

Sing up for a **FREE** 31 days trial
 or try the **PREVIEW** without registration

Guided Tour

Many web agencies, usability consultants and software vendors create and test their screen mockups und gui prototypes online and thereby improve and accelerate their development processes!

Logo 1 Logo 2 Logo 3 Logo 4 Logo 5 Logo 6

Jörn Hartwig
 Senior Consultant & CEO

Max Ahrens
 Productmanager

"The usage of the screen mockup tool pidoco° supports the communication with customers and end users. That made all stakeholders happy!"

"By using the wireframe tool pidoco° we accelerated the development process by an order of magnitude and we are able to get important feedback by testing our website"

Video 1 Video 1 Video 1 Video 1

Create online GUI prototypes Click through wireframes Get feedback, conduct website usability tests Improve screen mockups and wireframes

Usability Software Recent News

The path to an optimal 2009-08-16: The pidoco°

The new online wireframe building and testing tool, Picodo, allows you to do the same for UIs.
 To encourage user study participants to suggest what they would change.

 So what makes a story compelling or memorable?

Sticky stories

Simple

Unexpected

Concrete

Credible

Emotional

For commentators and authors Malcolm Gladwell, and Chip and Dan Heath it something called 'stickiness'.

For them a sticky story is:

Simple

Unexpected

Concrete

Credible

and Emotional



Sketch-a-move - Anab Jain and Louise Klinker - RCA, 2005 - <http://www.anab.in/yearone/sketchamove/sketch.html>

Here's a very sticky design story.

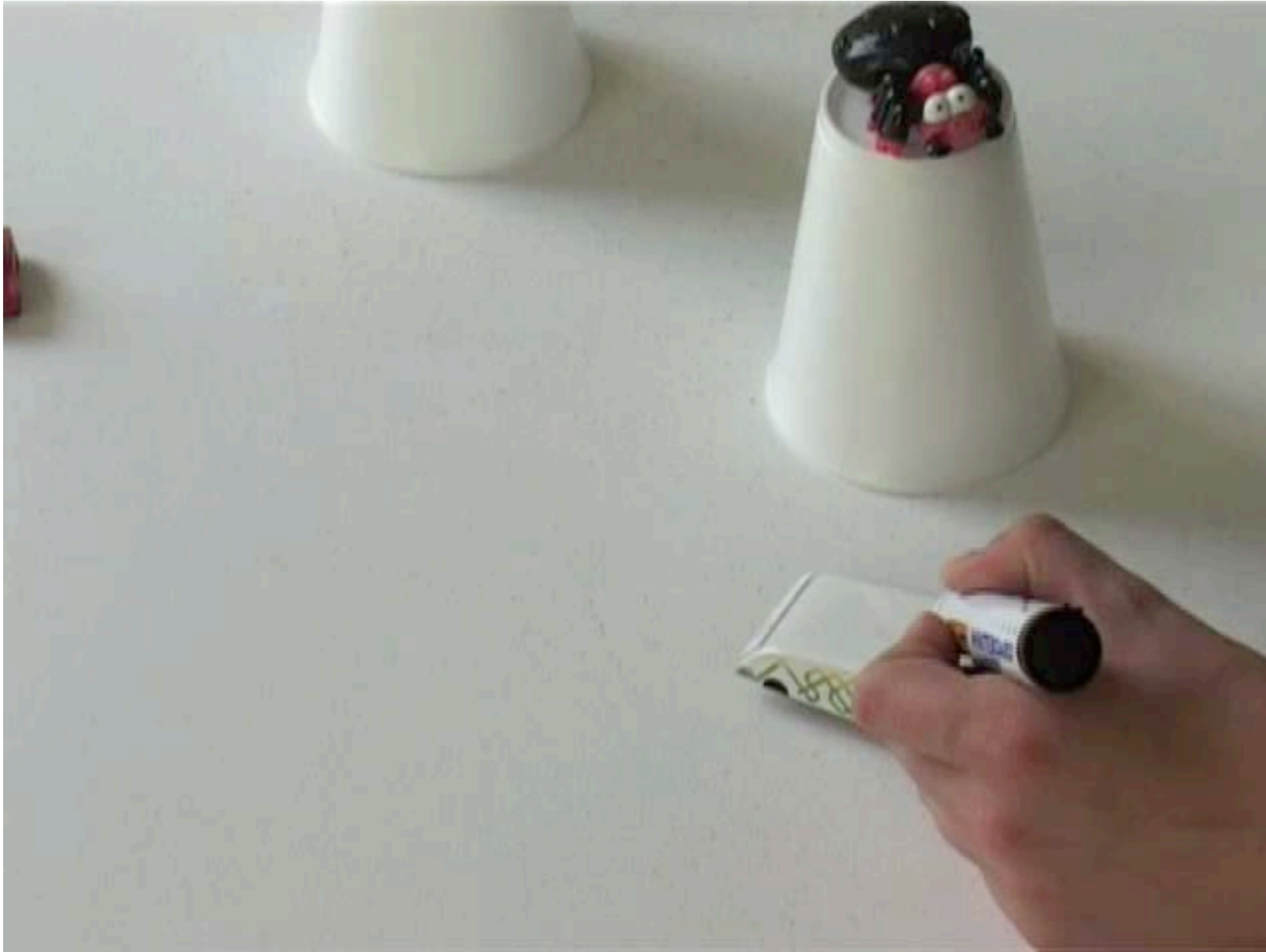
This is a project made by friends of mine Anab Jain and Louise Klinker, created during our studies at the Royal College of Art in London.

The concept is simple.

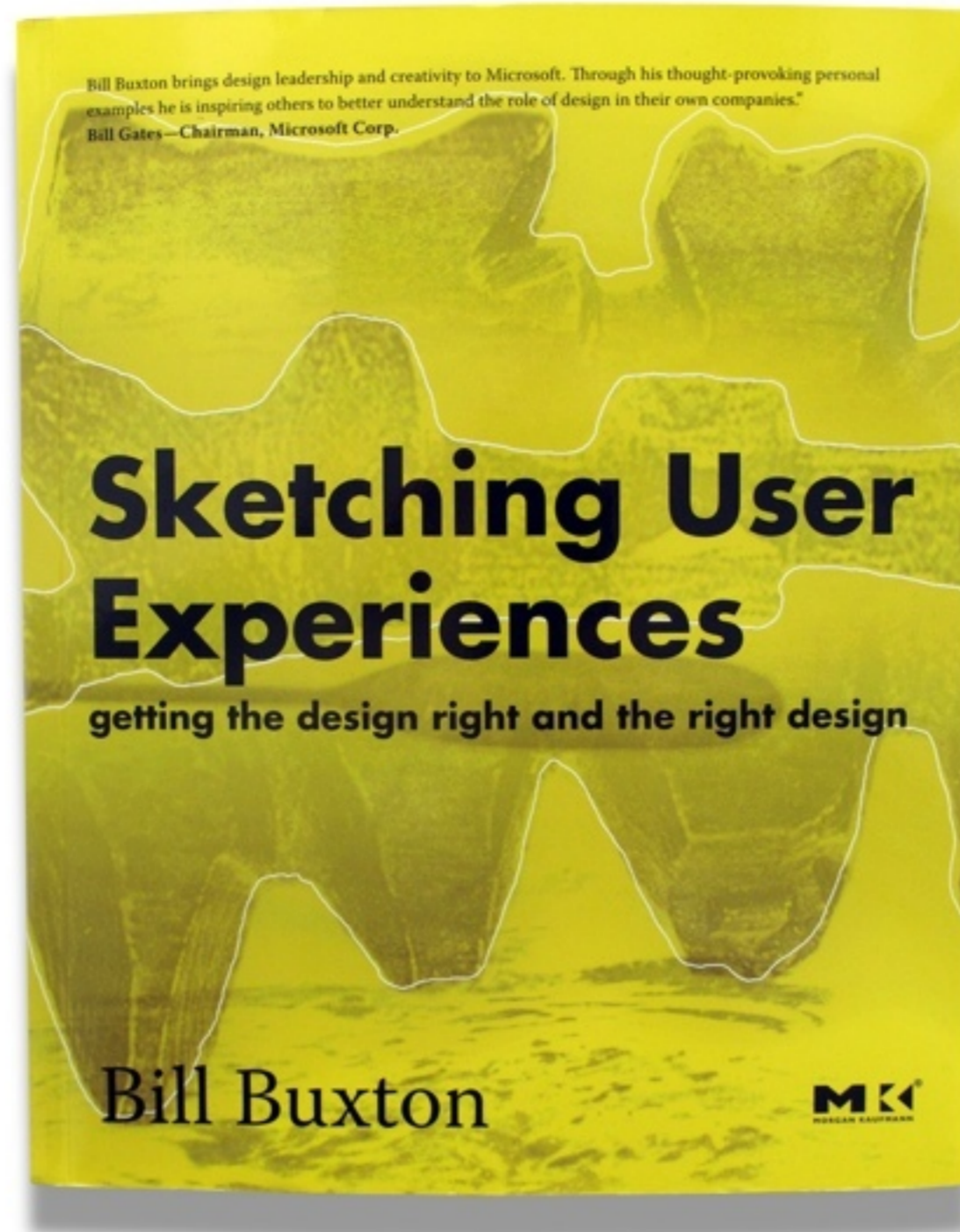
A path is drawn on top of the toy car.

The car then drives the same shape, replaying the child's drawing on a bigger scale.

video



Sketch-a-move - Anab Jain and Louise Klinker - RCA, 2005 - <http://www.anab.in/yearone/sketchamove/sketch.html>



It's a wonderful piece of sticky design storytelling
Not only did it go on to feature in Bill Buxton's book, Sketching User Experiences, as an example of 'sketching in video'...



Figure 118: Drawing on the Car Roof
 The path that the car would go would be determined by the pattern drawn by a child on the roof. In this case, the car would follow a serpentine path, as determined by the squiggly line made with the marker on the top. Photo here and in the previous three spreads: Sketch-a-Move, Interaction Design Project by Anab Jain and Louise Klinker



Figure 119: Replica Toy Car
 This toy is an accurate 1:32 scale model of the real car. Contrast this with the car shown in Figure 118. One would never mistake it for the real thing; it is clearly a mock-up.

Sketch-A-Move

One of the greatest pains to human nature is the pain of a new idea.
 — Walter Bagehot

The previous two examples were important because they helped augment our ability to focus attention on the person and the context of interaction, rather than just the system or product. Our next example continues down that path and is interesting in that there is no computer or high technology (other than a video camera) involved at all.

The example comes from two students at the Royal College of Art in London, Anab Jain and Louise Victoria Klinker. It is one of the nicest examples of video-based sketching that I have ever seen. Their project is called *Sketch-a-Move*, and it was done in 2004, during the first year of their MA studies in Interaction Design.

Sketch-a-Move explores a new way of playing with toy cars. The novel spin that they put on the play was the idea that the child could determine the path the car would take by drawing on its roof (a variation on picture-driven animation that I am sure even Baecker never imagined). This is illustrated in Figure 118 and the previous three spreads. In the figure, the person playing with the car has drawn a squiggly line, which indicates that the car should follow a serpentine path.

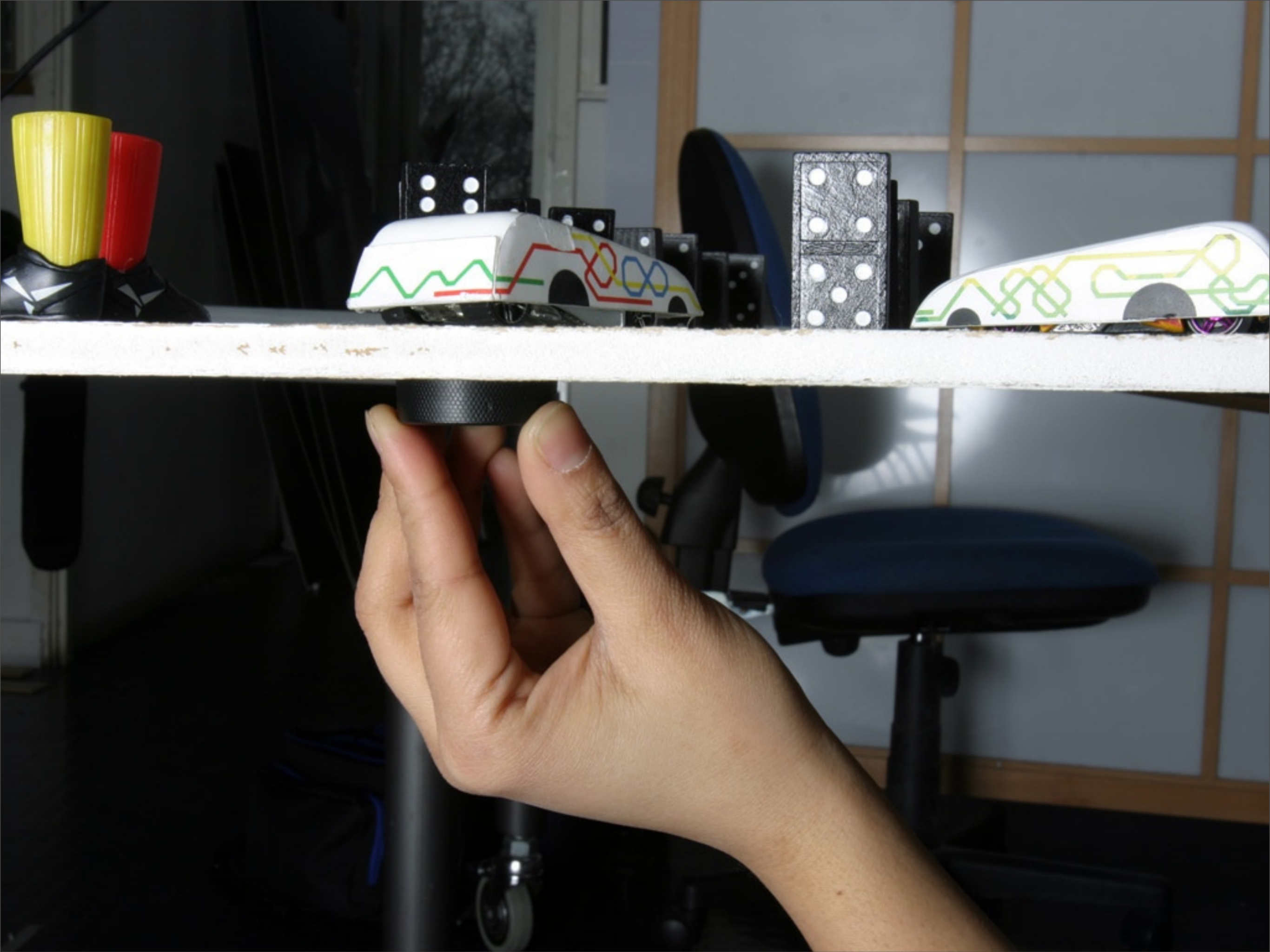
On the other hand, the child could have just drawn a straight line along the roof. In this case, the car would go straight-forward or backward, depending on which direction the line was drawn. Of course, there were (and are) no toy cars that actually work this way. So Anab and Louise had to make a video to explain their concept. Most of the accompanying images are extracted from it.

I want to spend some time talking about this video, since it epitomizes so much of what I consider best practice.

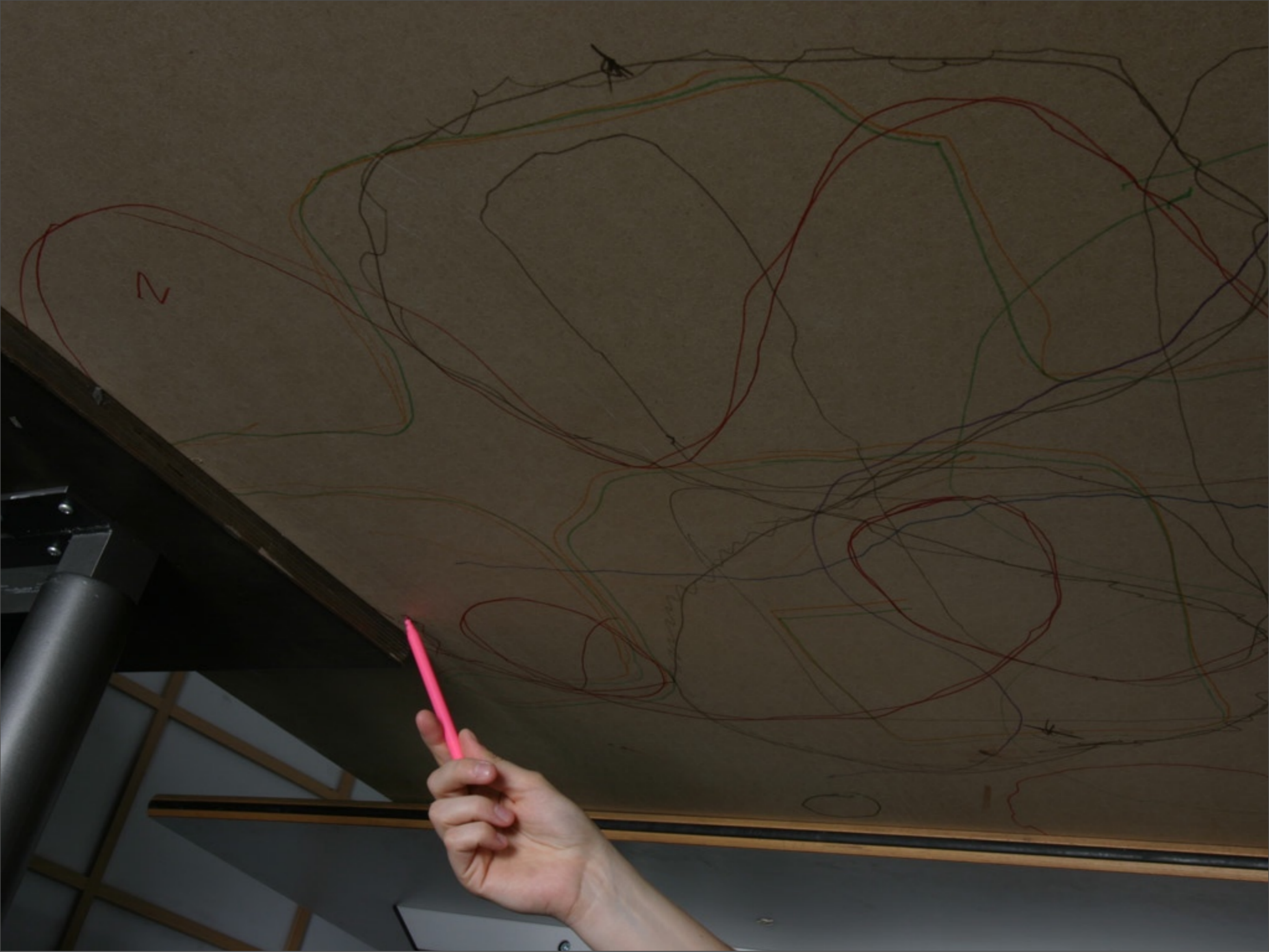
First, look at Figure 118 again. In particular, look at the car that is being drawn on, rather than what is being drawn. Notice that it is just a rough caricature of a toy car, rather than the real thing. For example, contrast it to the commercially available toy car shown in Figure 119. There is no comparison. One is clearly a product, and the other is just as clearly rendered in the visual vocabulary of a sketch. What is important to realize is that this is no accident.

Sketch-a-Move was sponsored by Mattel. Anab and Louise could have used real Hotwheels toy cars in making their video. But they didn't. This was not only a conscious and explicit decision, it was the right decision. Why? To answer, we just need to go back to our original list of characteristics of a sketch. Doing so will remind us that:

...it also created a lot of discussion online about whether the video was 'real'.
 Did they make it or fake it?



In fact, they used magnets to pull the cars around...



...following routes drawn on the underside of a table.

Anab and Louise successfully suspended disbelief, by concentrating on the imaginary games that a child might play using the toy. And, by finding a way to quickly create a sense of reality, that many wanted to believe.



Matthias Kranz, 2006 - HCI Lab, Ludwig-Maximilians-University, Munich - <http://www.hcilab.org/matthias/>

They even inspired a group of HCI researchers at LMU in Munich to prototype the concept a few months later.

Storytelling can be a hugely successful way of communicating new interactions
Moving designs a step closer to becoming a reality.
Once we have a working prototype like this we can...

Show how it works

...go beyond storytelling and show people how an interface works.

video



Doug Engelbart - Joint Computer Conference - 1968 - <http://www.youtube.com/watch?v=X4kp9Ciy1nE>

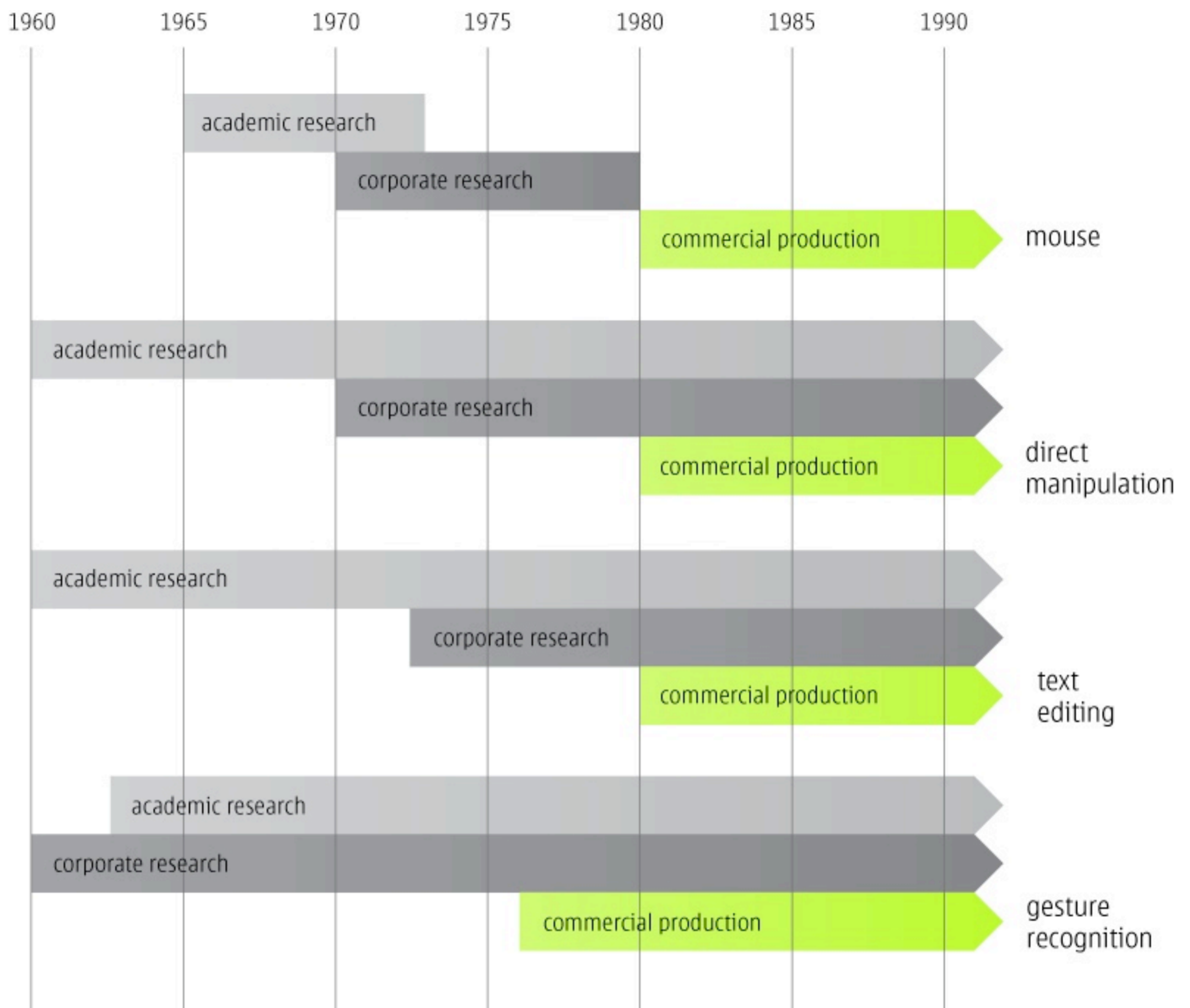


Doug Engelbart - Joint Computer Conference - 1968 - <http://www.youtube.com/watch?v=X4kp9Ciy1nE>

A clip from Doug Engelbart's real-time demonstration of the NLS system at the Joint Computer Conference in 1968.

The moment that, amongst other things, the graphic user interface and the mouse became embedded in the consciousness of the computer science and HCI communities.

At the time many experts had not even imagined this way of interacting. But, after this demonstration they left convinced.

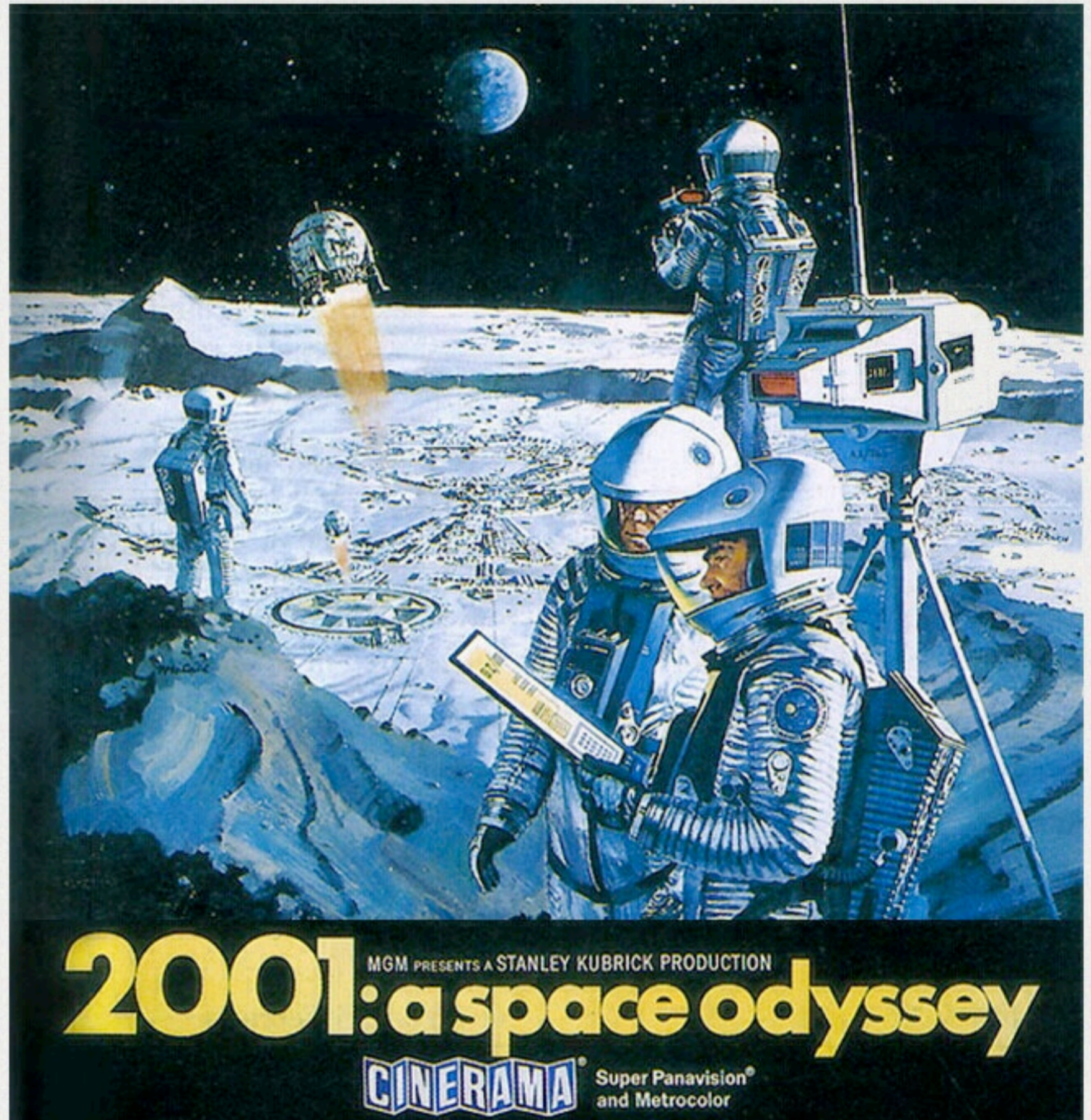
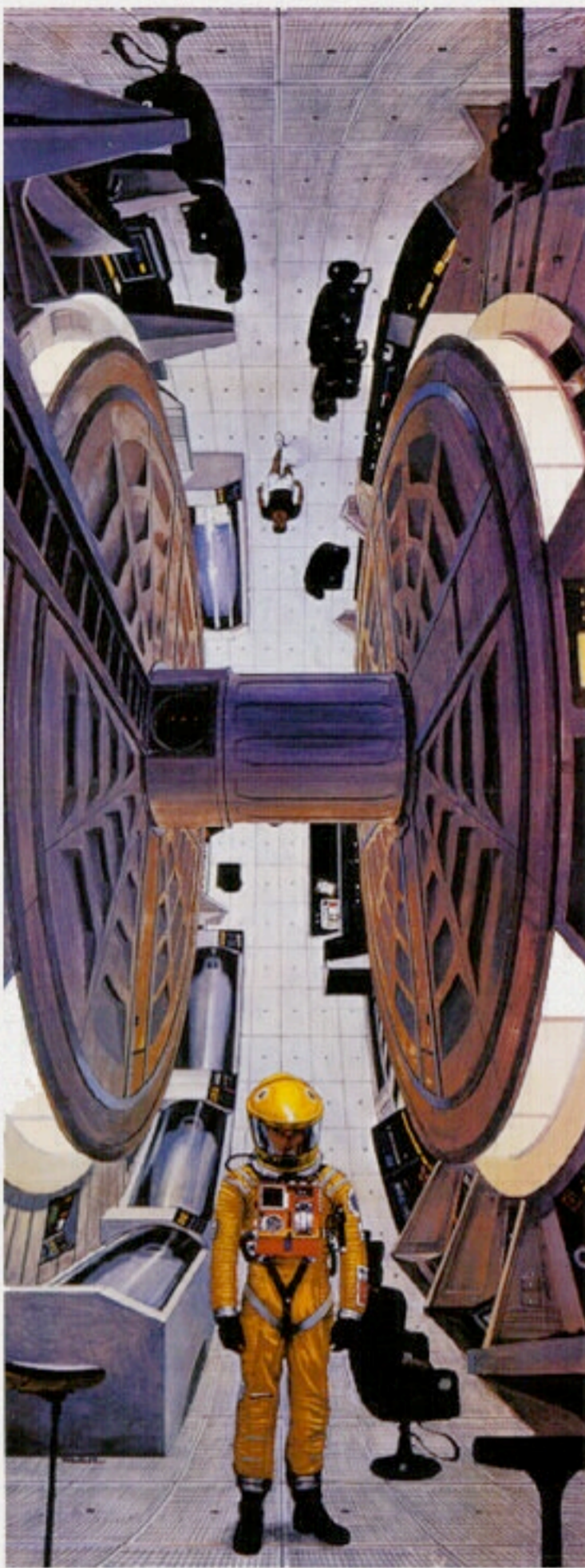


Dates from *Sketching User Experience* by Bill Buxton

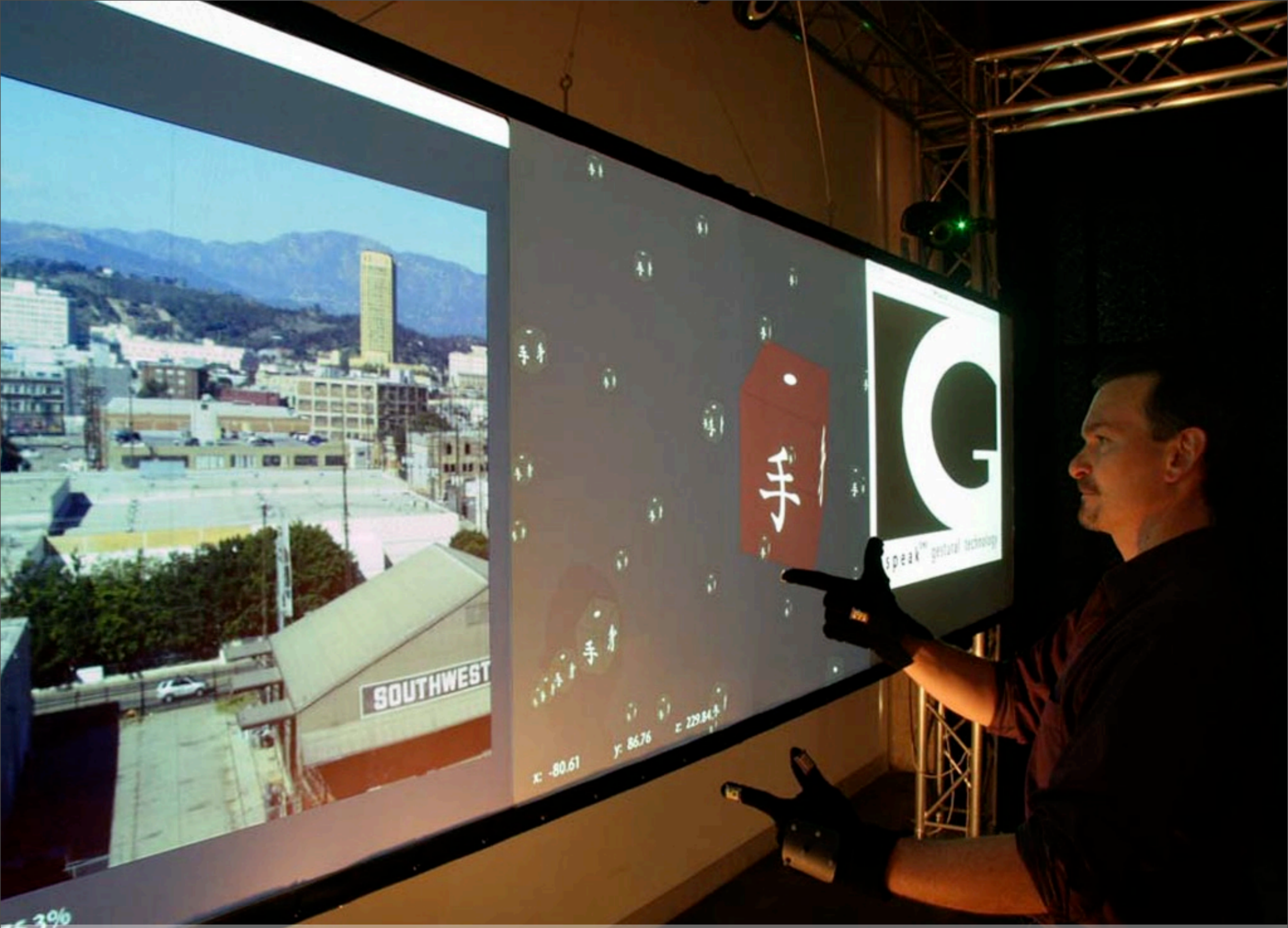
It took nearly 15 years before these interfaces made it into offices and later homes. From lab to enthusiast to office to home or street it often takes decades even for successful new technologies to be adopted into everyday life. Along the way they will be shaped by how effectively they have been communicated, and to who.

An epic drama of adventure and exploration

... taking you half a billion miles from Earth... Further from home than any man in history. Destination: Jupiter



The technologists at MIT have a close relationship with science fiction writers and film makers.
Marvin Minsky, the Co-founder of the MIT Artificial Intelligence Lab was an advisor for 2001: A Space Odyssey.

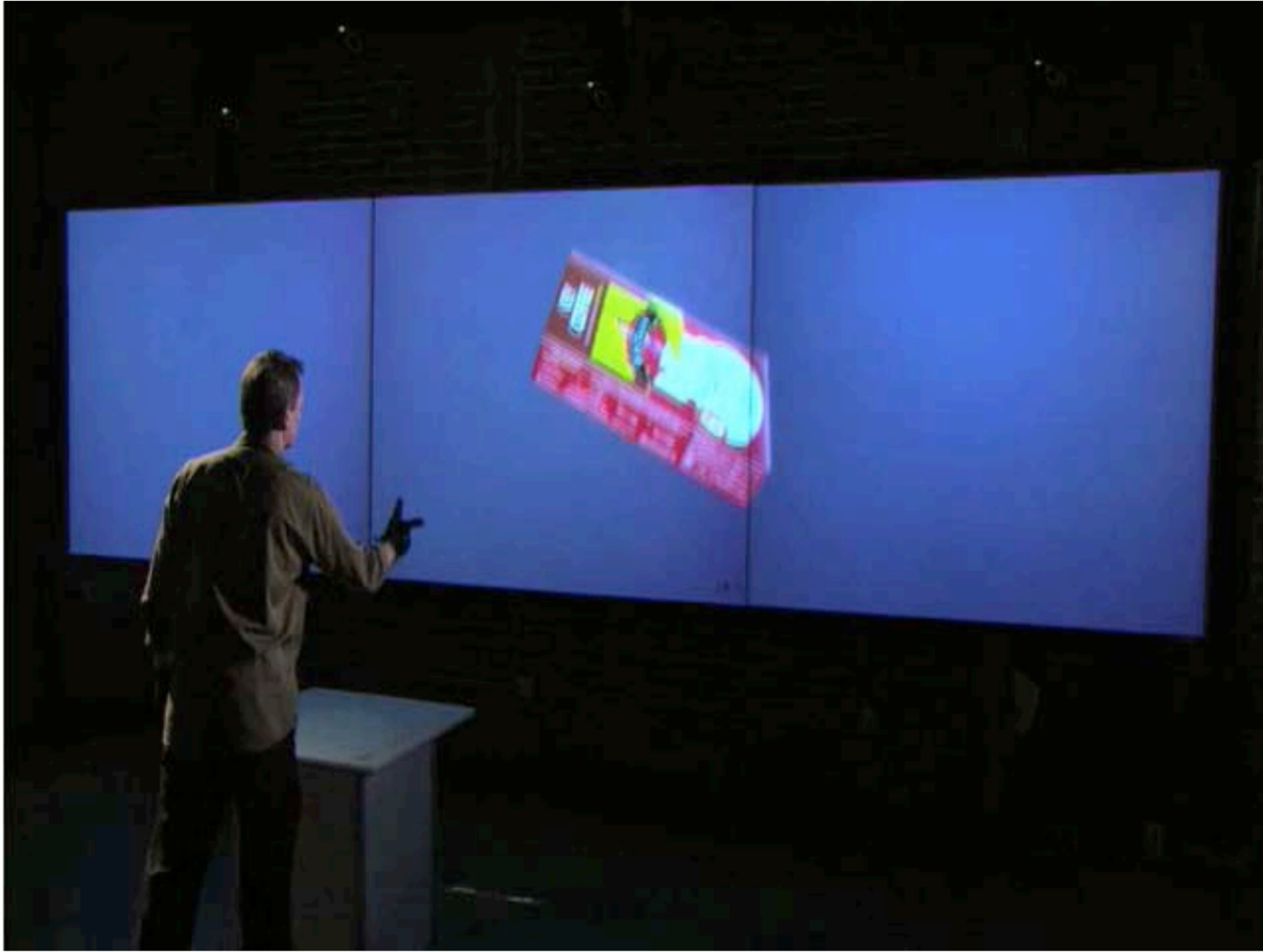


75.3%

<http://www.flickr.com/photos/75724192@N00/63176087/>

And, John Underkoffler of the MIT Tangible Media Lab was Science and Technology Advisor for the film *Minority Report*. Later going on to get funding for his company Oblong, and its G-speak spatial operating system, in part due to the film's success. This chain of events caught the imagination of corporate decision makers and the general public. Perhaps speeding up the adoption of the related gestural interfaces that we use today.

video



Understanding Interfaces

Past experience

Related knowledge

Metaphor

Observation

Demonstration

Instruction

Try

Play

Film and other popular media are highly influential in forming our understanding of new technologies.

In part, setting the expectations people have when they point, click, tap or tilt for the first time.

TV ads and online videos are now commonly used as instruction manuals in motion. Why read when you can watch.

We also observe other people using new UIs, or get them to show us how it's done.



<http://www.flickr.com/photos/nycarthur/37050264/>

Mobile phones are a very public and visible technology.
Not long ago, they were an strange new sight on our streets.
As their adoption has spread new interactions and social behaviours have become common place.

How to make friends by Telephone



Visualize the person you call

Speak TO the person at the other end of the line - - not TO the telephone - - then you're more apt to be pleasant and understanding.



Say "Thank You", "You're Welcome"

... I LIKE TO TALK TO THAT FIRM - THE EMPLOYEES ARE ALWAYS COURTEOUS



Put yourself in the other fellow's shoes by practicing the little courtesies. Observe the niceties of conversation and develop a telephone personality that will enrich all your telephone contacts.

Be attentive

The person to whom you are talking will appreciate your listening attentively. You would not interrupt in a face-to-face conversation and the same applies to a telephone conversation.



There is no sweeter name than another person that of his own name. Be it whenever appropriate.



Answer

If you don't answer your phone promptly, the person calling may decide no one is home and hang up. Immediate attention to the ring prevents the call and gets the conversation off on the right foot.

<http://contactsheet.org/junk/telephone4.html>

It's fascinating to look at explicit descriptions of how behaviours we now take for granted were once described.

This printed guide 'How to make friends by telephone' from the 1940s suggests you try to "Speak to the person at the other end of the phone line – not to the telephone..." itself.



<http://www.janchipchase.com/blog/archives/2006/12/shareduse.html>

However, what's become everyday for us, may not be for others.
Mobile phones are often the first digital interfaces that people encounter, especially in developing countries.

Jan Chipchase, a Design Researcher with Nokia, has studied the importance of 'mediated use' in these regions. Illiterate, or device illiterate users often learn how to make and receive calls with help from friends and family. Memorising short sequences of button presses. Of course, this doesn't mean we shouldn't try to make our UIs more usable for these individuals. It does highlight the importance of social context. Often neglected in traditional usability validations, which assume there is a one-to-one relationship between a person and a computer or device.

How can we design and make interactions that are easier or more enjoyable to demonstrate?



Rafael Lozano-Hemmer, *Body Movies* (2001) Rotterdam - <http://www.lozano-hemmer.com/english/images.htm>

Good interactive art installations can create a social loop of: observe, play, observe, play... as people pass through the space, watch others interacting and then have a go themselves.

Installations like this from Rafael Lozano-Hemmer, in Rotterdam, turn us into momentary performers to both friends and strangers.

Our shadows becoming both a control and a canvas for video projections.

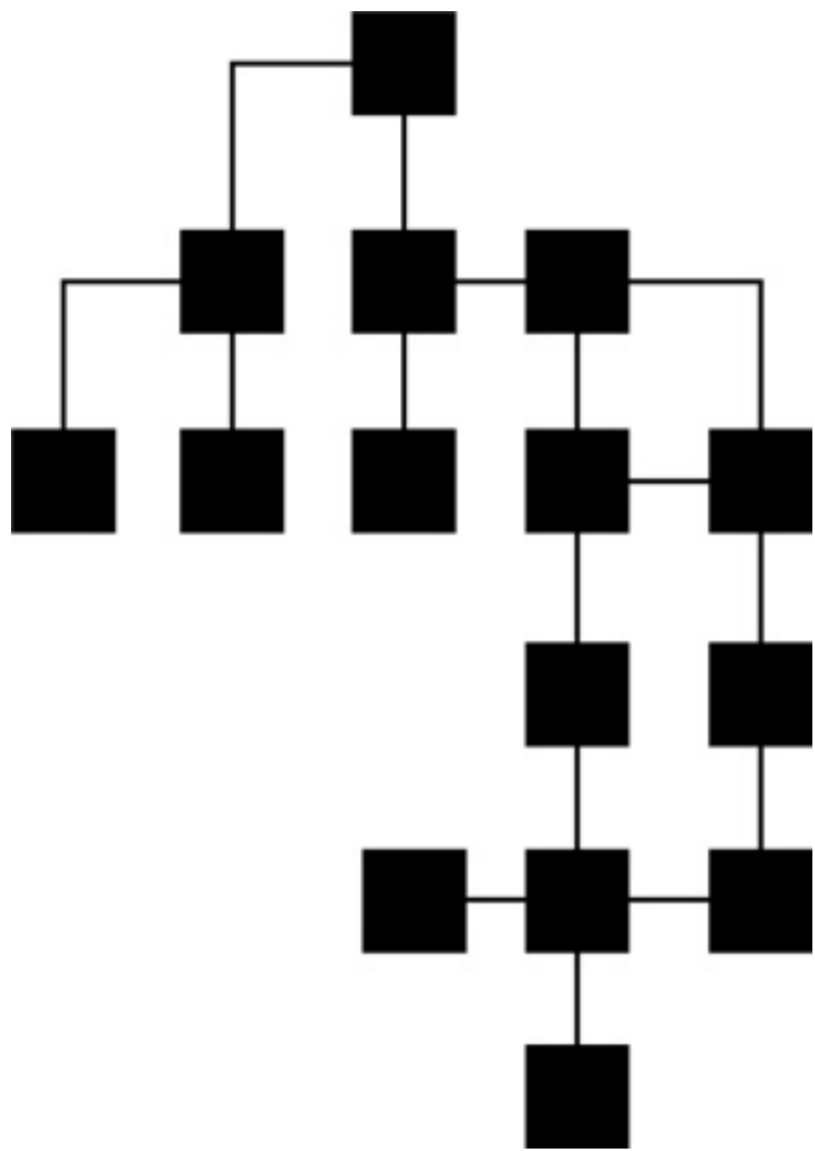


<http://www.flickr.com/photos/oreillygmt/2940667211/>

When we try to use something for the first time a sense of play is very helpful.
UIs that encourage this may be easier or certainly more fun to learn.
A playful sensibility is migrating from games to other interfaces.
Exploring the dynamics of new interactions can be a visceral, enjoyable experience.

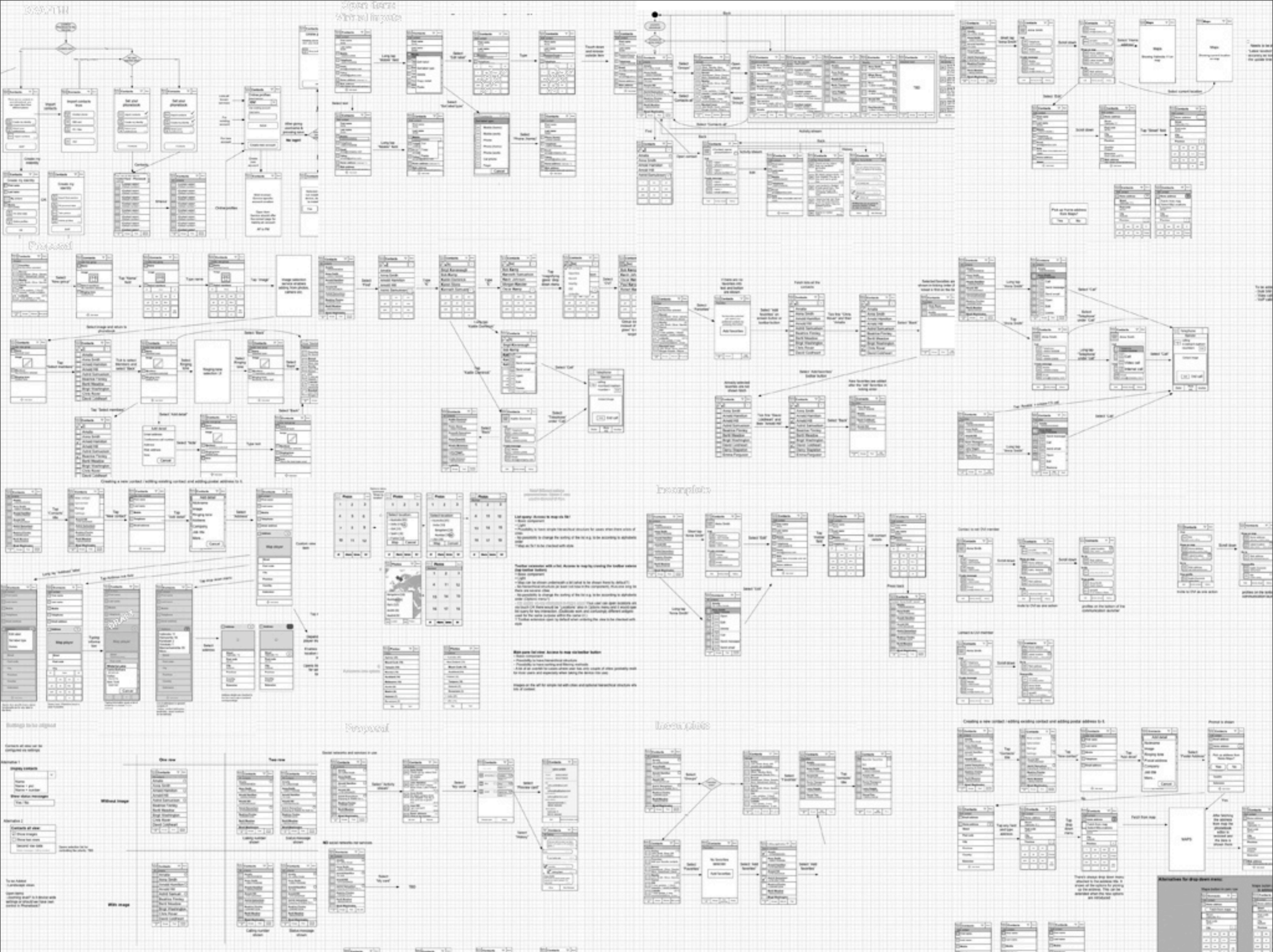
If we want to have the chance to take advantage of demonstration, observation and play with our design concepts we must prototype or make them.

Make it

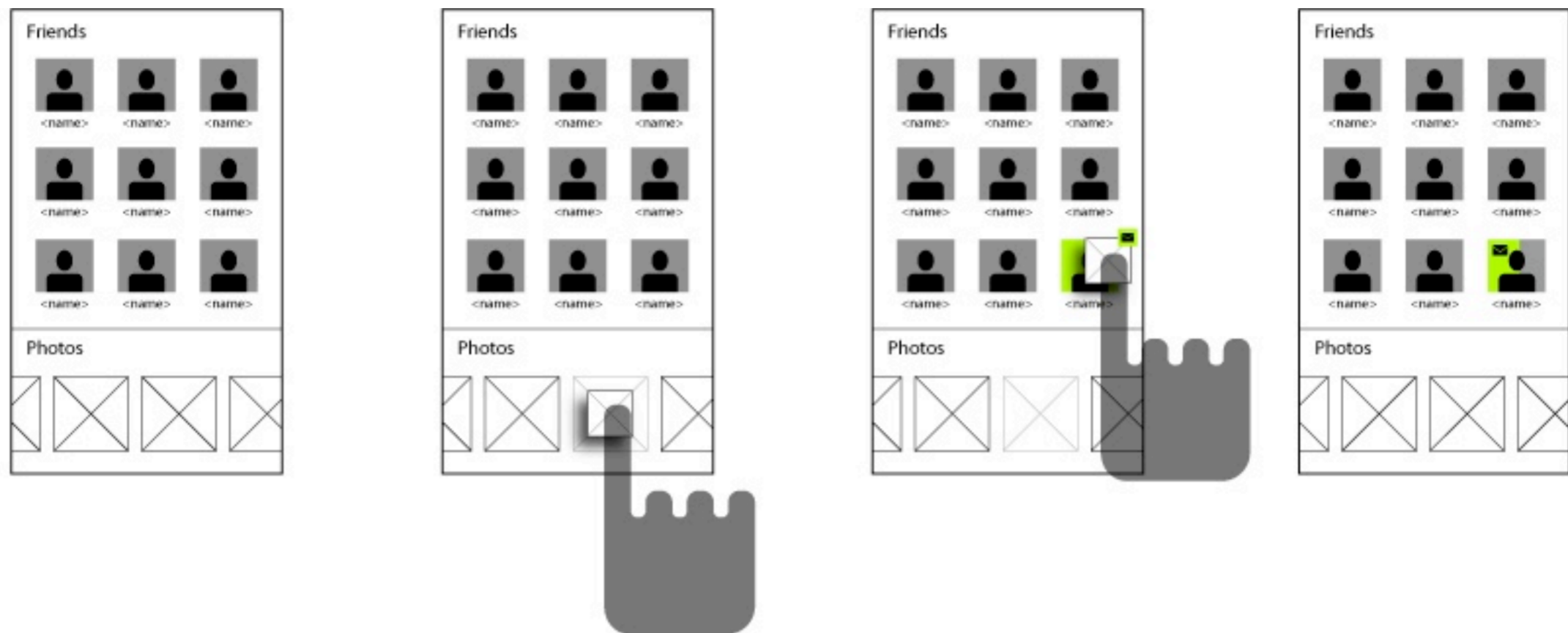


reaTable - <http://www.flickr.com/photos/sunxez/2294266815/>

Interfaces are getting more dynamic.
We're moving from navigation between static states to fuzzier gradients of dynamic control, feedback and interconnected data.



This challenges how we document and deliver our designs.
 To create and share a specification we must have a well established set of conventions, patterns and components to work with.
 However, for some projects these common building blocks may not yet exist.
 You may be designing them or expanding on them.
 With specifications, we aim to remove ambiguity, to rigidly define what will later be made.
 But we may not be able to anticipate what works until we've tried it.



Keyframes

&

Microstates: invitation, activation, updates, constraints, timing

Read more at http://www.adaptivepath.com/blog/wp-content/uploads/2006/11/ap_beyond_wireframes.pdf

To accommodate more dynamic interactions, wireframes are being expanded to include illustrations of keyframes or microstates.

But, with ever more degrees of freedom we cannot anticipate or represent every path or outcome in a UI.

This becomes even more complex when we add the remote influence of service data updating things behind the scenes.

When faced with these challenges we benefit from a different way of working.

The development of prototypes throughout a project allows interactions to be actively experienced, and iterated with a growing understanding of what really works and what doesn't.



In my design team we're putting an ever greater emphasis on prototyping. Experiencing mobile UI concepts in-hand and in context as early as possible. Giving us a greater opportunity to explore new interactions for platforms and devices that don't yet exist. These prototypes have also become a very compelling way to communicate our design ideas within Nokia. We can show rather than tell.



This starts early on in a project, when we're expanding a body of ideas. Working fast with basic experience prototypes or sketches, within the design team and in early user studies. For a recent project on gestural interactions we acted out ideas with props and captured them in short film clips, making a video sketchbook of ideas in motion. We ran similar exercises in early workshops and user studies, and in different public and private contexts of use. Asking questions like: how might you check the time, silence your phone, or find your location using a gesture?



We're exploring ways to rapidly prototype different UI concepts. From paper prototypes to tools like this.

Zombie is a prototyping platform that takes over mobile devices.

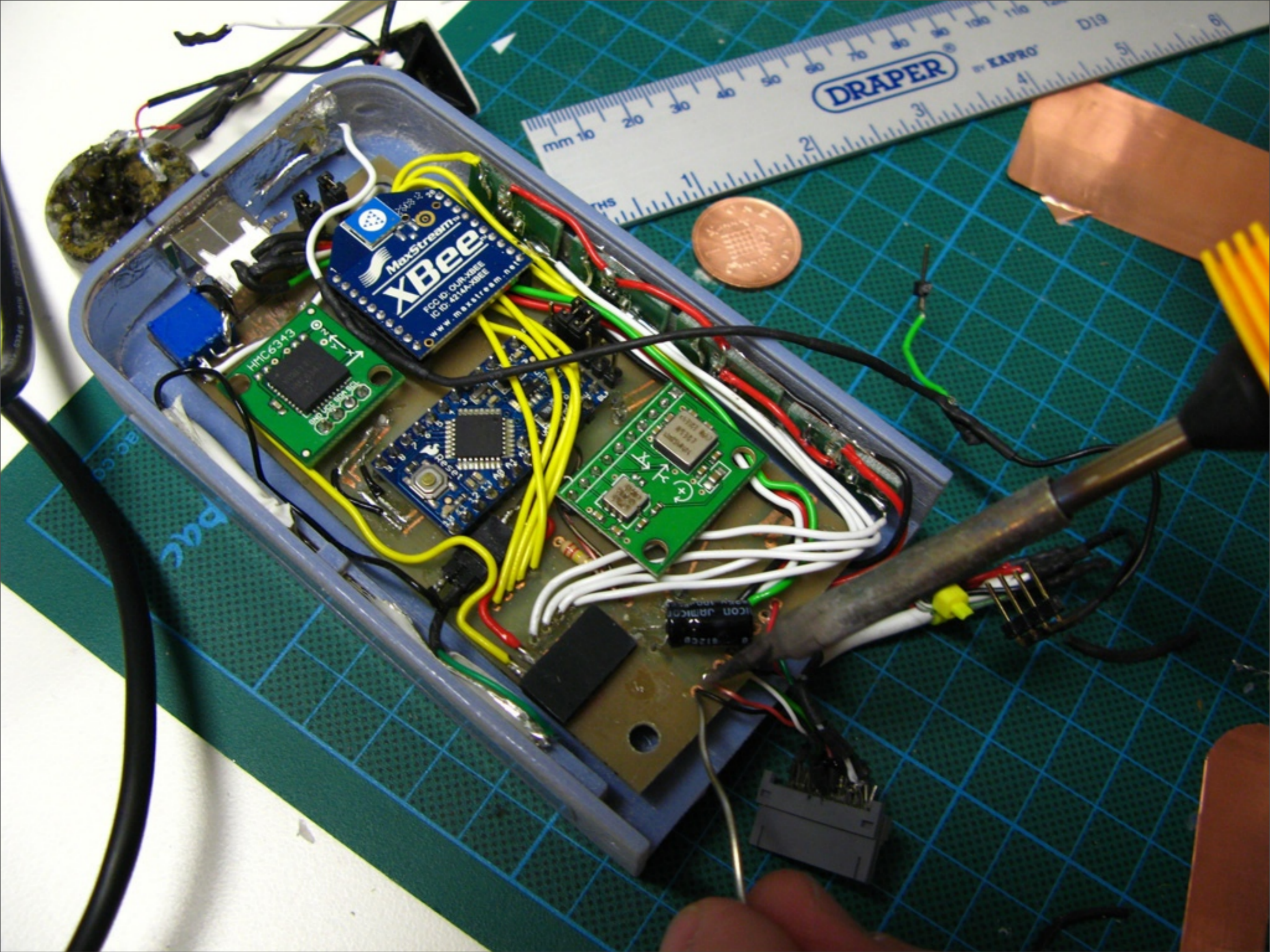
Inputs are sent to a PC over WiFi, the PC acts as the handset's brain, sending back to the device updated graphics, sounds and other outputs.

All the logic is on the PC and can be created in environments designers know like Flash or Javascript.

This allows us to explore designs quickly, and beyond those enabled by existing mobile platforms.



With Zombie we have the flexibility to interface many different devices. Also, depending on the project, we may not need to build logic into our application at all. It's sometimes enough to trigger a response Wizard-of-Oz style from the PC.



For the gestural interactions project we needed to expand the device's inputs. Tim Brooke and Henry Holland the creators of Zombie, developed a casing to wrap around a handset, containing a series of sensors interfaced by off-the-shelf technologies like Arduinos.



Here's the prototype in action, exploring gestures for silencing a ringing phone. You can see the sensor data displayed on the left of the laptop screen, and the phone UI being sent back to the device on the right.



This was then used in further user studies.

Helping us to understand what gestures would be most appropriate, natural or fun for different people and in different situations.

Zombie is however limited to the coverage of a WiFi connection, getting some of these prototypes out into the field (or street) is the next challenge.

Beyond screens

Auditory interfaces

Augmented reality

Gestural interfaces

Touch interfaces

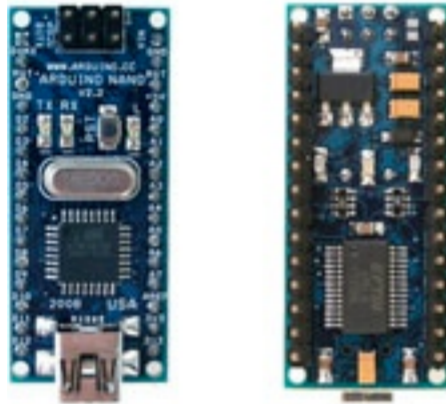
Near field communication

Interactive environments

Embedded computing...

As interfaces move beyond the screen with developments like these, such prototyping techniques become essential.

Make:
makezine.com



antenna[®]
MASAMICHI UDAGAWA + SIGI MOESLINGER



All of Us

IDEO LABS

t! Tinker.it!
technology & design

United Visual Artists.

LUCKYBITE

DIGIT

Hardware prototyping is moving from engineering groups and university labs to design studios.
Hacking culture is thriving in publications like Make magazine, and the tools to do-it-yourself are getting more adaptable and accessible.

At the same time the software tools of mobile platforms are evolving. Allowing us as designers to work more dynamically, and prototype our designs in native code.

At Nokia, developments in Flash, WebRuntime, Qt and QML are bringing development tools into the designer's realm.

Even for someone of my very modest technical know how.

This is also opening up for us closer collaborations with development teams.

But, where does all this leave documentation?

Documentation

Annotate

Record decisions

Traceable

Accountable...

While for some projects specifications are showing their limits, good documentation has many advantages.

Documents can be easily annotated.

They may also record the decisions taken during a project.

They make a process traceable and decision makers accountable.

If we need to handover a prototype for further development by another team, accompanying documentation may be needed.

How can we capture further information in or around our prototypes without unnecessary duplication of effort? Within shared Wikis for example.

Circles



Target
Based on generic RFID tags.



Target
Based on Nokia 5140 Field Force Solution.



Container
Based on generic RFID tags.



“a visual link between information and physical objects or space”

Wireless



Wireless card
Based on generic Mifare reader graphics.



Wireless target
Based on generic security card reader.



Wireless dot
Based on generic RFID readers.



Squiggle
Based on Nokia 3220 NFC shell. Copyright Nokia.



Wireless 1
A wireless dot.



Wireless 2
A wireless dot.



Tiny wireless
Smallest, simplest possible wireless icon.

Arrows



Recycle
Based on enhanced NFC system, copyright Inside Contactless.



Arrow in circle
Based on generic RFID reader.



Dot point
Indicating point of contact.



OTT arrows
Based on ERG Transit Systems payment, Dubai.



Dot matrix arrows
Indicating a point of contact.



Abstracted arrows
Indicates point of contact, and feels like 'data'.



Marks the spot
Simplest combination of arrows and point of contact.

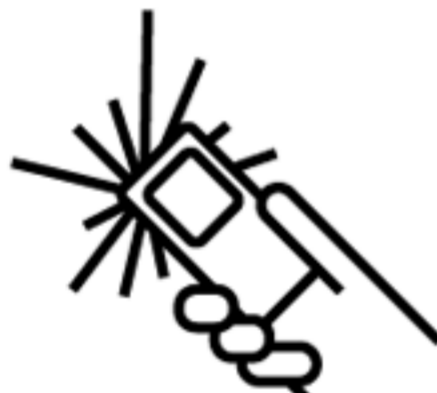


Spiky
An object surrounded with indications of function and content.

Mobile



Mobile on tag
Indicating placement of mobile (unfortunately at the wrong end of the phone).



Smash your phone
Indicating placement of mobile, and simple action/reaction.



Old mobile on tag
Indicating placement of mobile.



Phone beaming
Based on Japanese vending machines, not 'touchy' enough.



Little phone action
A phone activating an action or reaction.

<http://www.nearfield.org/2007/05/a-graphic-language-for-rfid>

As we explore new interactions, new metaphors, conventions and patterns emerge. The language of interaction evolves.

This is a series of names and symbols for interactions with NFC, or near field communication technologies.

Like the RFID chips now being embedded in many bank cards, mobile phones and travel cards.

They're part of Timo Arnall's research at the Oslo School of Architecture & Design.

In his words they explore a “visual link between information and physical objects or space”.

New ways to represent emerging interactions gives us the shorthand to be able to communicate functions, behaviours and states quickly, and to build on them with further designs.

Storytelling

Show

Make

There's no single ideal way to communicate new interactions.
But prototyping experiences as best we can may both lead to better designs and a more involved audience.

“Language is convincing,
Seeing is believing,
Touching is reality”

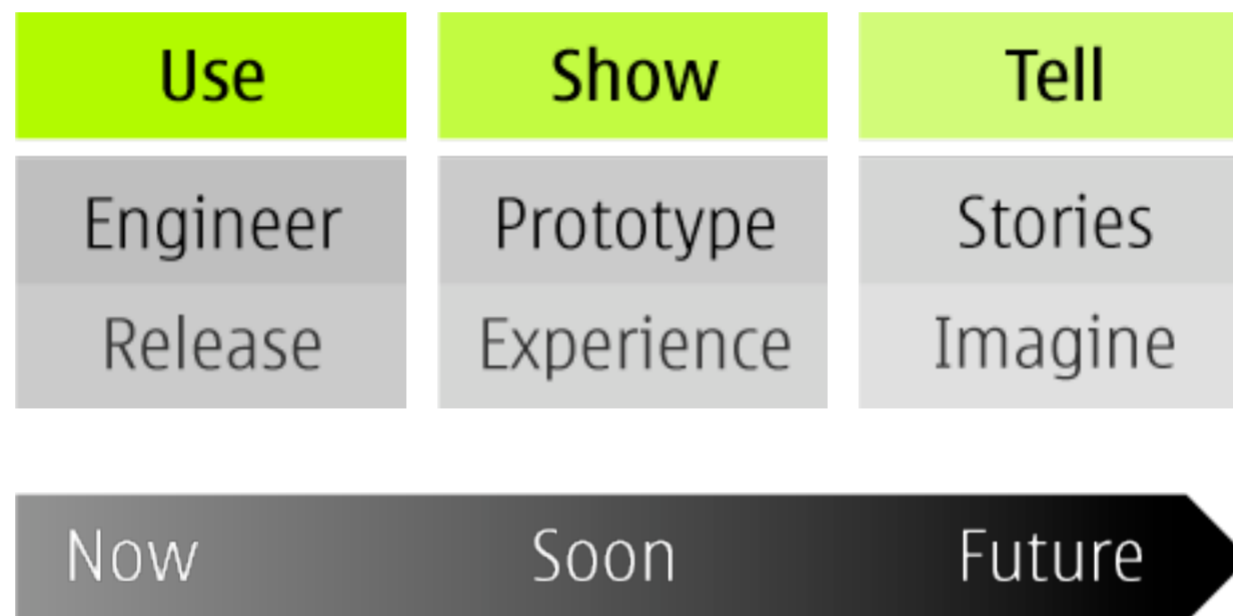
Alan Kay

Alan Kay said “Language is convincing, Seeing is believing, Touching is reality”.
Before we’re able to experience something in person we may be in the dark as to whether we are on the right track.

Project Timeline

Tell	Show	Use
Stories	Prototype	Engineer
Imagine	Experience	Release

Most projects develop from design storytelling in the early phases to prototyping and then realising designs.

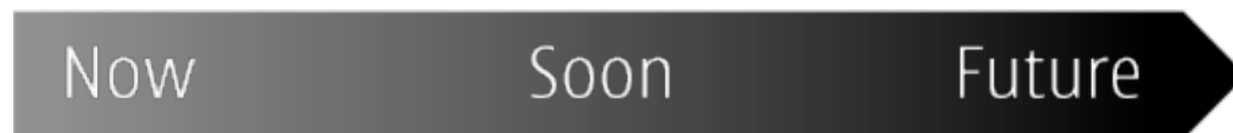


However, the further into the future we're designing for the less opportunity we may have to make and show our ideas. We may need to concentrate on telling a good story, opening up discussions or inspiring further development.

Time
Money
Expertise



Use	Show	Tell
Engineer	Prototype	Stories
Release	Experience	Imagine



Now

Soon

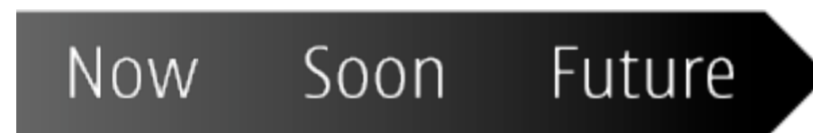
Future

What we're able to make is, of course, also influenced by the time, money and technical expertise we have for a project.

Time
Money
Expertise



Use	Show	Tell
Engineer	Prototype	Stories
Release	Experience	Imagine



As technologies become more accessible, more hackable, these axis shift.
Even the tools for hardware prototyping are becoming cheaper, more usable and available to interaction designers.

This compression of time, cost and effort may mean things could be brought to market quicker.
Rapid interactive product development may start catching up with the web for speed and agility.
This challenges us as designers to take a more central role in projects and to work in new ways.
Working on projects from strategy right through to development.
Where does this leave the role of the designer in relationship to business or engineering, maybe it's positive to blur these boundaries?
We certainly have more tools to design and communicate in ways that best suit each project.

Prototype early and often

Explore different ways to make experiences

If possible try things out in context

Encourage a sense of play in designing and designs

By prototyping early and often we can design better things, and be able to express our designs in more compelling ways.
In experiences that can be demonstrated, and given to others to try out; to play with and be delighted by.

To end with a couple of questions:

Would more prototyping or a different way of prototyping help your projects?

And, if so is there a faster, cheaper or easier way you can go about it?

Thank you

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All the opinions expressed in this presentation are my own and do not necessarily represent the official view of Nokia