

# Conversation

The alphabet and print technology fostered and encouraged a fragmenting process, a process of specialism and detachment. Electric technology fosters and encourages unification and involvement.

Marshall McLuhan,  
*The Medium Is the Message*

Developments in communication media have created a landscape of connected channels. This process has had irreversible effects on how media is experienced and also the way it is created. The hierarchy of the relationship between producer and consumer has shifted, transforming dictation into dialogue. In a networked world, the audience is much more active—able to provide instant response and opinion. This means that data revealing the effectiveness of a piece of communication is more available than ever before.

Social networking provides endless opportunities for audiences to register their opinions, and the backlash to an ill-thought-out creative decision can be instant and overwhelming. Brands need to be more accountable and carefully nurture public opinion. Our relationship with them has moved from reverence to reference, and anything they tell us is cross-referenced before being deemed credible.

While some designers are inhibited by this feedback, others have built it into their working process and engage with audiences proactively to continually adapt and perfect what they are producing. In the digital arena, new design methodologies have been developed that respond to the specific qualities of the medium. Iterative processes allow outcomes to evolve by using prototypes that are tested by users and improved at each stage from their input. The principles that drive these new approaches are also increasingly applied to the design of physical outcomes. As a result, production processes have become more agile, and open-ended collaborative making is now embraced as the creative industry standard.

## Collaboration

Successful contemporary design practice is moving away from a production-line approach to take advantage of the potential of collaborative making.



1. This painting by illustrator Nic Tual was created as part of a collaboration with interactive designers Sennep.

Designers and technologists must share know-how and experience to come to grips with the opportunities created by networked social media and that the best way to do this is through the collaborative making, not specifying.

William Owen, *Eye 64*

**SEARCH:** Mills ustwo YouTube; Moving Brands; Web 2.0; Sennep; studio culture; field generative design; BERG/ BERG Cloud; hack days; hack manifesto; Raspberry Pi; Open IDEO/ IDEO

The communication landscape we inhabit is made up of complex open networks. The model of the lone egocentric specialist is not suited to this environment. Mills, co-founder of ustwo (see pp. 89–91), illustrates this point: “There is no space for ego at ustwo. Here it’s about teamwork, and people can only work in teams. Digital design is about generosity and empathy.” Contemporary communication works across media in ever-changing contexts and employs a range of skills and disciplines. The success of companies like ustwo and Moving Brands (see pp. 23–25) is based on the recognition of the potential of the different qualities within a team coming together to solve problems, not in the form of a production line but through genuinely collaborative creative activity.

The creation of a vibrant studio culture is fundamental to this approach, and as Matt Rice, founding partner of Sennep points out, “The culture you establish in the studio is really important, and as our studio grows we think about it more and more. I think it starts by getting the right people. The people establish the culture. I’m not sure we can really say that the culture is engineered—it’s more that we just get on and enjoy talking to each other about the things we’re working on. . . . We all work facing one another around a big table—so we talk to each other. Everybody’s ideas are welcome, all of the time.”

Contemporary practice is often structured around a small core of permanent employees complemented by regular contributions from known freelancers. These freelancers work within a community of like-minded studios, and the connections will sometimes extend to collaborating on jobs where specialized skills are required. London-based digital studio Field has gained a reputation working alongside more traditional studios using coding to program generative design outcomes. They worked with Bibliothèque to create the Ollo logo (see pp. 16–17) and SomeOne to create the imagery for their Big Eyes identity (p. 33).

Another London studio, BERG, takes this idea of collaborative making a stage further by developing BERG Cloud. This is a development platform that makes the same technology, tools, and user interface that was used to deliver its own digital products available for other developers to use. According to CEO Matt Webb writing on the studio’s website, by putting this “operating system for connected products in a social space” they hope to create a space where “new product categories are born and new business models are enabled.” (A more detailed conversation with Webb about BERG Cloud is featured later in this chapter.)

### Hacking

BERG opens up the studio to the general public for “hack days” and “After School Clubs” and many technology companies also use this approach. Moving Brands, ustwo, and bigger names such as Dropbox and Google have identified the value of hacking in helping them explore new potentials for their technology. Moving Brands uses hacking as a way of trying out new ideas. In a recent project, they hacked the Kinect camera (the camera that provides motion tracking



2 & 3. Collaborative client workshops from Moving Brands.



4. Collaborative screen-based interaction by So Touch + Mindstorm.



**Our business is inherently multidisciplinary, inherently complex and inherently involves lots of people who are not from the design industry—so it is really important that to be part of this you need to understand and feel capable of operating in a team.**

Mat Heinl, CEO of Moving Brands

for the Xbox 360) to create a typeface that was based on gesture. There is even a “hackday manifesto” that can be found at <http://hackdaymanifesto.com/>.

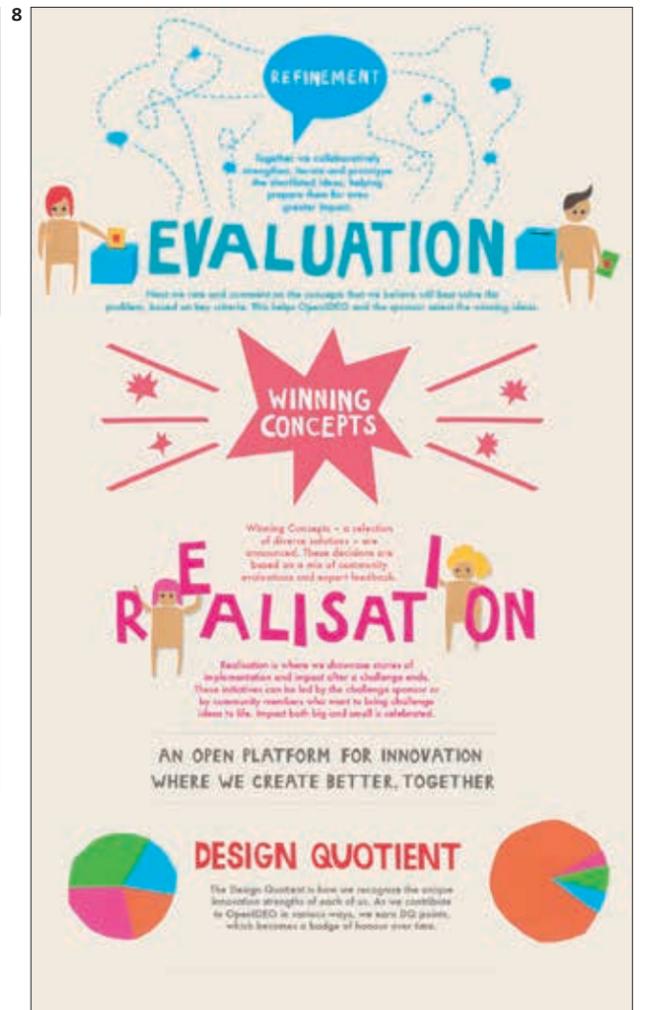
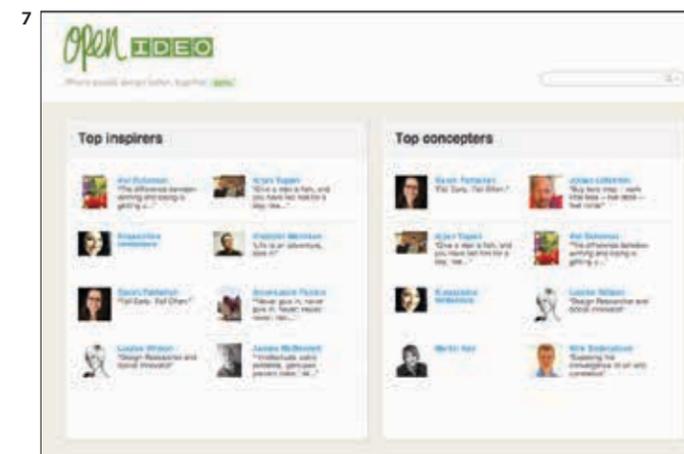
Hacking has become a lo-fi science movement promoting the do-it-yourself adaptation of technology in an attempt to make it work better. More and more people are interested in trying to get technology to do new things, and hack events provide a way of sharing and developing skills and ideas. Academics in the University of Cambridge’s Computer Laboratory have even invented a computer that is designed to promote hacking in schools—the Raspberry Pi. This single-board credit-card sized computer was created to adapt and subvert its technology to a wide variety of unseen uses. Costing between £20 and £30, it is priced to encourage use by young children and those wanting to experiment with computer technology on a budget.

**Open IDEO**

Award-winning global design firm IDEO has developed a reputation for what it calls a “human-centered, design-based” approach to innovation, and collaborative making has always been at the core of this approach. To add an ethical dimension to its design business, it has developed Open IDEO—according to the website, it is an “open innovation” platform that uses a global community of collaborators to “solve big challenges for social good.”

Members of the public are invited to take part in a variety of challenges; which are regularly posted at OpenIDEO.com. These challenges are then taken through three development phases—inspiration, conceiving, and evaluation. Members of the OpenIDEO

community sign up to take part in this process and can contribute in a variety of different ways—from posting inspirational observations and photos and sketches of ideas to business models and snippets of code. Sometimes contributors provide a comment that enables an idea to move forward, while at other times they might submit their own project proposal. Between each development phase, IDEO helps shape the journey by framing the challenge, prototyping, and facilitating the discussion. Eventually a number of concepts are chosen by the community to take forward and are presented on the website as raw material to be put into practice by funded interest groups or corporate partners.



5. Collaborative prototype development at interaction design studio Sennep.

6–8. Pages from the OpenIDEO website:

6. An OpenIDEO challenge.

7. Collaborator profiles.

8. Stages in the OpenIDEO design process.

Part of what we do is make tools that will allow us and other people to experiment individually.

## In Conversation

with Matt Webb, CEO and founding partner, BERG London

**Influential London-based product and design consultancy BERG has worked with major global names such as Apple, Google, Intel, Twitter, and the BBC. It is probably best known for the creation of its web responsive printing device Little Printer. One of BERG's aims is to move beyond isolating screen-based interfaces and create web-based products that enable more social interaction. Its consultants believe we are now in a position to develop an "Internet of things" that would enable physical products to be more social and more alive.**

[bergcloud.com](http://bergcloud.com)



In our interview, CEO Matt Webb talks about how when they began in 2006, he and BERG co-founder Jack Schulze were interested in technology that existed in a social space, in how technology can humanize, but when they began to try to create the physical technology to enable these ideas, their development process was too slow and laborious. As Webb points out, "If it's slow and difficult, it means that you can't experiment, you can't get your hands dirty, you can't feel the grain of the material in your fingers."

To overcome this, they developed BERG Cloud to help speed up the process and provide some "scaffolding" that they could build from. What they created acts as both a development platform and the operating system for their products. It has the potential to act as a "nervous system for connected products," and they envision its potential beyond their own use. Webb observes, "If it was scratching an itch for us and it was scratching an itch for our clients, then it could also scratch an itch for other people." As a result BERG Cloud was created as an open platform, "so open that creators of new products will just naturally use it as a prototyping tool."

It was crucial to the success of BERG Cloud that new users could feel comfortable on the platform, so the consultants at BERG asked, "How do you end up in a place where people are familiar, happy, inventive, and sharing? . . . How do you get to the place where you have the chance to transmit the culture of BERG Cloud?" The consultants see the mechanisms to enable the transmission of this culture are as important as the technical support they offer. Webb talks about "project Dutch," the idea that as a group of people get involved in a project they start to develop a language that only they understand. He observed that learning to use this specialized language becomes fundamental to being part of the project. To be involved in BERG Cloud you need to learn a little "project Dutch," and BERG has created mechanisms that will allow you to do this.

The ability that language has to unlock or obscure understanding is something Webb refers to often. At certain points in a project he feels that it is important not to try to describe something through language but to value an unspoken understanding. "I have this idea that it's good to be able to experiment and get your hands dirty and learn material without having to say it out loud. Your language always comes from your past, and if you're inventing, that's something that is going to exist in the future—so almost by definition we won't have language to describe it yet." The act of describing something using words can hinder a deeper understanding.

Webb still feels that there is a need for solitary, head-down investigation—especially when learning to work with a new medium like the iPad or connected devices. "These things are cracked at two in the morning with coffee and cigarettes. In most cases real discovery, real insight happens at an individual level." Once the insights have been gained, then the individual might develop the vocabulary to articulate them. This is where project Dutch kicks in, followed by a point where outsiders can be brought on board to push discoveries forward or apply them to a context.

It is only through discovering it for yourself that you can really understand "the grain of a medium." This is why BERG often creates tools that enable clients or collaborators to make discoveries for themselves. BERG breaks client projects down into three stages:

### 1. Materials exploration.

This is a place for individual discovery and getting to know the grain of the medium.

### 2. Production, design development.

This is broken down into two-week sprints, with core corrections made along the way.

### 3. Tuning in communication.

This is a period at the end of the project that enables the team to work out how to introduce it to other people.

Interestingly, on client projects Webb points out that they are not always able to plan for further iteration. Increasingly however, they are developing BERG Cloud along with their own products, and in this area of their business they plan a continuous evolution—both for digital and physical products.

“One of the things we are doing with BERG Cloud, Little Printer, and connected products is discovering that physical things are no longer finished.” Just like digital products, they develop through use. For example, “When we brought out Little Printer, we saw it has a mini newspaper; then somebody created a publication called *monster of the week* and we received a picture of one of the monsters colored in by a child and pinned on a fridge. We realized in that moment that kids loved Little Printer, and this discovery has informed its future development in a massive way. Since then, we have gone about redoing it for families. Its behavior has changed. If you look at Little Printer now, it’s not in the newspaper delivery business—it’s lots of things and one of those things is a fax for kids.”

### Case Study: Little Printer

**Little Printer is a product of now. It is a “product,” a tangible thing, but is also a “product” in the sense of a consequence of contemporary culture. It humbly and accessibly exemplifies how physical and digital have merged to become one, to become hybrid objects, to demonstrate how objects might become networked, and how domestic objects might behave.**

“Little Printer, A Portrait in the Nude,” *Domus 965*, Dan Hill interview with Jack Shulze

Put very simply, Little Printer is a web connected, responsive printing device. It was developed using BERG Cloud, and anyone can create publications for it using its API (application programming interface). BERG calls the pieces of software that produce content that can be printed on Little Printer “publications.” A good way to understand how publications work with Little Printer is to think about how apps work with an iPhone or iPad.

BERG is keen to create a community of people publishing to Little Printer. As it says on the website, “We wanted to open up

publication to the kind of person who can cope with installing WordPress on their shared server, but who doesn’t have the time or inclination to learn to code.”

They also run hack days and after-school clubs where they can help potential collaborators work with their API at first hand. According to BERG, these events “help us with the development of our own API, and it’s exciting for us to see people getting involved and getting their hands dirty with code and design.”

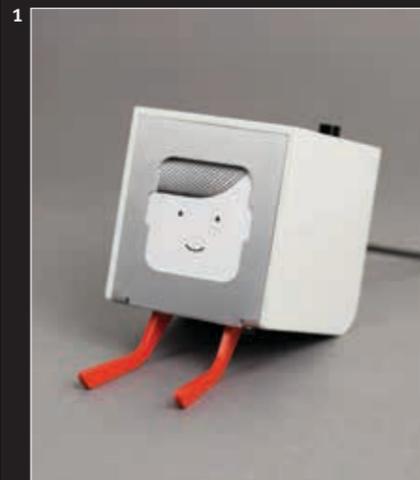
[littleprinter.com](http://littleprinter.com)

### Little Draw

Ruckus is two recent graduates of Central Saint Martens, London: Anisha Peplinski and Cally Gatehouse. Soon after graduation, they attended a Hackney House Creative Day and heard BERG’s talk about Little Printer. Soon after, the two women started a conversation with BERG via Twitter and started to work on ideas for a Little Printer publication. “I wanted to do something that made proper use of the medium, not something that just enabled you to print your last five Instagram photographs.” They created a pitch and sent it to BERG, who replied saying that they loved the idea and wanted Peplinski and Gatehouse to move forward with it. After a bit of initial coding, Peplinski

and Gatehouse then went along to one of BERG’s After School Clubs, where they received firsthand advice that helped them produce some test prints and perfect their publication so that it connected to the BERG Cloud. After approval from BERG, Ruckus’s publication was made available for download to the mobile devices that connect to Little Printer. Little Draw is a weekly drawing game delivered by Little Printer for children aged four and up. Little Draw has been a runaway success, and Ruckus now commissions illustrators to create imagery for it.

[littledraw.co.uk](http://littledraw.co.uk)



1. The Little Printer is, in effect, a till receipt printer that has been ingeniously repurposed.

2. Little Printer enables you to add “Publications” using your smartphone.

3 & 4. Publications provide everything from a daily puzzle to an update on your running progress.

5. A drawing challenge from the Little Draw publication.



## Iteration

New ways of communicating have brought with them new ways of working—ways of working that might not have defined beginning and end points.

**If you're making a physical product the development cycle is much longer—you spend more time perfecting and developing the product before you release it. But in the digital sphere, the development cycle is very different. You have to see people interacting with your product and then you incrementally improve it as you go along.**

Hashema Bajwa, CEO, NYC digital production studio DE-DE

In the days when designers were mainly focused on the creation of physical artifacts, it was necessary to work through a linear process that was gradually perfected toward a final, permanent outcome. The growth of digital design has brought with it a new creative process. The nature of digital technology means that design outcomes are continually perfected and adapted to account for new uses, new users, and new purposes.

A linear process is well suited for the creation of broadcast-based communication. However, today digital communication channels enable conversation. As a result, a more complex process of development is required. Digital communication does not have the permanence of analog forms. Outcomes change and are adapted by both the creator and the user. The working process for creating this sort of communication often does not have defined beginning and end points. Outcomes are in a constant state of flux. Here, iterative processes with a series of outcomes that are adapted and evolved take advantage of opportunities to make and remake.

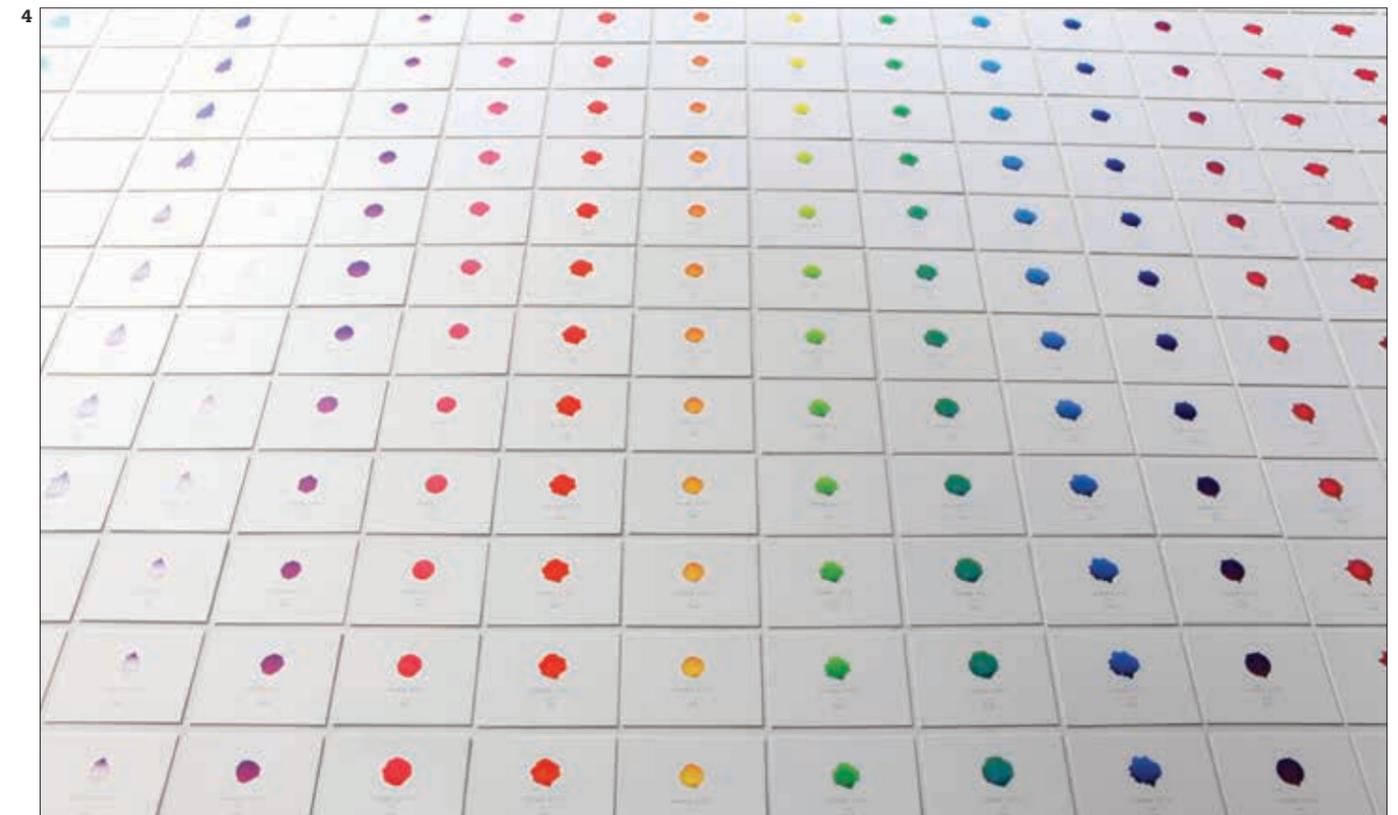
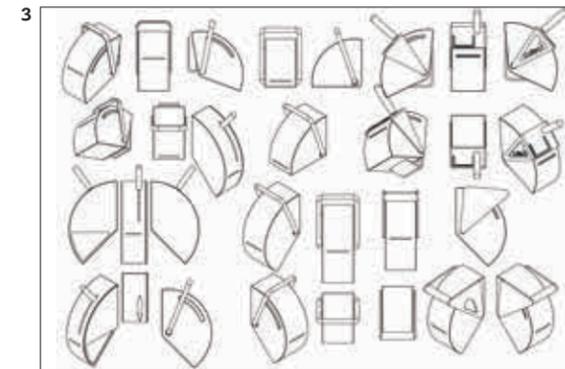
Digital design outcomes continue to evolve even after publication. A recent development in digital production proposes the creation of what is called “a minimum viable product” or MVP, created as quickly as possible and released into the market to be perfected through user feedback. Further versions can then be shaped in response to audience recommendations.

Recently, this digitally native attitude of iteration and outcome evolution has begun to influence design in the

**I've always welcomed the ever-evolving nature of digital design. The idea that you would print something that is finished and you're be stuck with makes me very nervous. The thing with digital is that even at the last minute you can make it better. . . . Actually even after its launch you can make it better. You can improve it as you use it and as you see other people using it. I feel much more comfortable with this way of working.**  
Matt Rice, founding partner, Sennep

physical world. More agile and sophisticated production processes enable analog products to adapt and evolve through use. The new design attitude is user centered, and contemporary designers are motivated by the desire to create things that people genuinely want to engage with. As Matt Rice points out, “Iteration is really just building small things, looking at them, trying them out, and seeing what happens. It's about getting a response from people and, in light of that response, adapting what you do. On the one hand, there is a strategic way of thinking about developing something but also on the other hand, there is an emotional, intuitive feeling of creating stuff that people respond to.”

These principles are benefitting all areas of creative practice. It makes sense across all disciplines to be open to new ways of doing things, prepared to constantly evaluate what you do, to respond to evidence, and to make the changes that are necessary. Within new digital companies such as ustwo, these principles are also applied to the organization and management of the business. Often having grown very quickly, these companies are agile and responsive, employing new and exciting systems to manage people and motivate their employees. They are made to feel included in the business because it responds to their needs in positive and dynamic ways. In the brave new world of tech, recruiting the right talent is a major challenge; as a result, user-centered design is often created by employee-centered businesses.



1 & 2. Visual icon development sheets from Moving Brands.

3. Prototyping drawings from the Compass Lounge project by Kin.

4. Some of the 365 logo iterations created by Kin for the Third City PR company.



**SEARCH:** Hashem Bajwa; digital products DE-DE; ustwo Mills; Matt Rice Sennep; iterative development/ design process; minimum viable product; digital production

# Prototyping

This is a key principle of the iterative design process.



Go as far as you can with paper—the crudeness of the medium makes you focus on what is really important, and that is the movement and interaction.

Neil MacFarland, creative director, ustwo



**SEARCH:** Gypsy PPP; prototyping; rapid prototyping; X-code; iOS development; Quartz Composer; Moving Brands prototyping; Neil MacFarland ustwo; Sennep Seeds; prototyping apps; Pop App; Field Test App; Rando; ustwo JFDi; Whale Trail ustwo; Mills You Tube channel

Iterative design processes require the creation of prototypes that can be tested, adapted and developed. Each prototype is a step to perfecting an outcome. Digital design studios in particular engage in a process of making and testing in order to assess suitability and functionality. The prototypes they use to do this are often quick and dirty, created to test and move on. This “build mentality” provides a competitive advantage by enabling a client to experience how something works rather than simply being told.

Prototypes can also be used as a tool of strategic planning because they allow for the testing of ideas and principles in real time. The speed and economics of digital production mean that instead of hypothesizing about something, you can just build it.

Outside of client-led projects, prototyping has a research-and-development function (R&D). It is a way of exploring what is possible as well as building skills and technical know-how. Sennep regularly creates in-house projects designed to test out and demonstrate technical expertise. They call these Sennep “Seeds” and document them on a website of the same name (<http://seeds.sennep.com>). Founding partner Matt Rice explains that these projects also have benefits for recruitment. “We want to give out the message that we are consistently doing interesting things with new technology. This is good for PR, but it also really helps us to engage with the development community and get the attention of the exciting developers. Getting good developers is really, really important to us.”

Moving Brands has a similar approach to R&D and runs a series of studio projects aimed at developing skills related to pieces of new technology. These projects have enabled Moving Brands to explore the use of technologies such as the Kinect camera, 3D printing, generative manufacture, and augmented reality using outcomes such as a 3D gestural typeface, a scarf created from user-generated pictograms, laser-cut electronic lanterns, and a book with living content. As Mat Heintz says, “We approach innovation from a prototyping perspective—if we want to try something out, we make it.” (see pp. 105–107 for more about Moving Brands R&D projects).

1. Motion mapping from an interactive 3D music video for the band Duologue created by Moving Brands.

2. Kinect cameras like this one (which comes free with every Nintendo Xbox 360) have recently become a key component in the prototyping process for the design of interactive experiences.

## Prototyping a Simple App

Design specialist and ustwo legend Gyppy talks through how to prototype an app.

### 1. Paper prototyping

First you need to create paper-based mock-ups of what you want the app to look like and do. This means sketching, folding and sticking elements together. Neil MacFarland, the creative director of the ustwo games team, always encourages his team to take their idea as far as possible on paper.

*Test and discuss.*

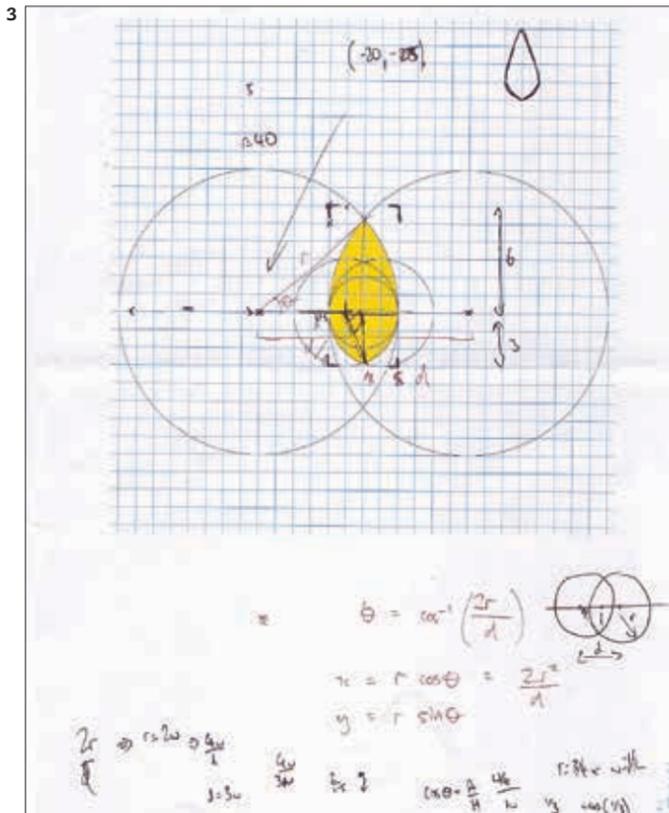
### 2. Visualize screens

When you are happy, you can design your screens—this means creating visuals in Photoshop. These visuals will define an overall look and feel in terms of color, typography, and graphic devices.

### 3. Prototype links

Then think about how these screens might interact with each other. For very basic interaction, you could create a Keynote, PowerPoint, or PDF presentation to do this. There are also a number of prototyping apps available online such as Pop App or Field Test App (<https://itunes.apple.com/gb/app/pop-prototyping-on-paper/id555647796?mt=8>). New tools are being developed all of the time.

*Again, test and discuss.*



### 4. Cut up for coding

You will then need to separate your designs into different layers to enable each element of interaction to work separately.

### 5. Link and animate

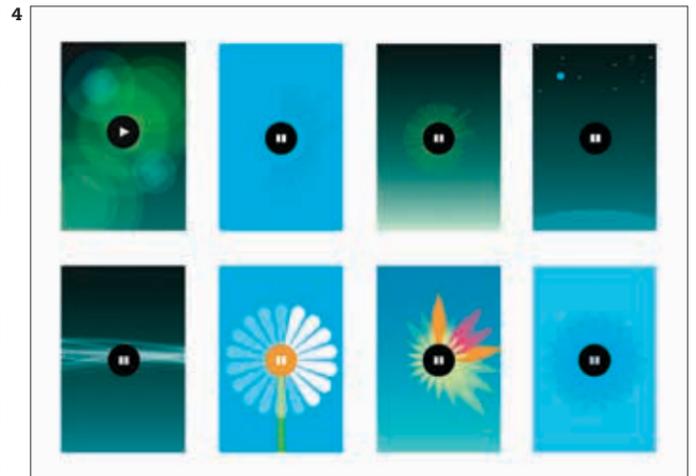
The separate elements involved in the design can then be linked and animated in something like Xcode—the iOS development environment. This is free to download from the Apple website (<https://developer.apple.com/xcode/>) and there is a similar platform available for Android. Depending on how involved the interaction is, you may or may not need to write code at this stage. A working prototype may be achieved by simply changing settings in Xcode or Quartz Composer.

### 6. User test

At this point you should have something that you can user test or possibly even present to a client.

### 7. Code

To take your prototype beyond this stage and make the software run correctly and smoothly will involve writing code. But there are lots of online forums and tutorials to help you do this. <https://developer.apple.com/resources/> is a good starting point here. Alternatively, you could do what Gyppy does and give it to a developer.



3 & 4. Examples of prototyping and development drawings from BERG.

**Case Study: Rando by ustwo**  
*From an interview with Jack Maxwell, visual designer, ustwo*

Rando is an app “where serendipity rules the day and users send and receive random photos to and from random people all over the world.” Its development process also explores the potential of live iterative prototyping. The project was developed by Malmö-based developer Kenny Lovrin and visual designer Jack Maxwell in downtime

between client briefs. It demonstrates the importance to technology-led agencies of creating research and development opportunities that will enable the discovery of new processes and working methods.

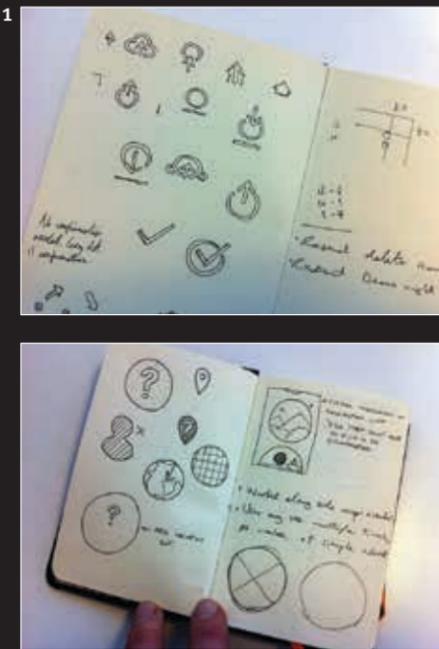
**Stage 1: Interaction design**

At a company like ustwo, interaction designers normally provide wireframes that describe the required interaction diagrammatically for visual designers to work on.

1. For Rando the interaction was fairly simple, so visual designer Jack Maxwell handled this part of the process himself.

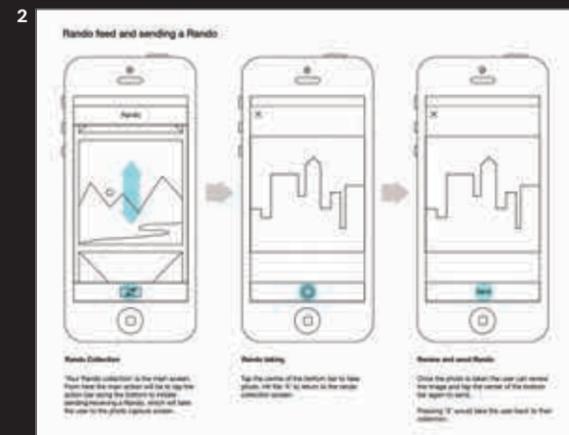
Working quickly in his notebook and on-screen, Maxwell generated ideas for the app’s desired functionality.

2. Simple wireframes were then worked up in Illustrator and InDesign. They included text, images, icons, buttons, positioning, and how a user flows from one screen to another.



When we pitch for a job, we do not visualize as some agencies do. We build something that works for a client to play with. This is a very important factor in their decision-making. From this point it is a much shorter step for us to create a finished outcome.

*Gypsy, design specialist, ustwo*



**Stage 2: Visual design**

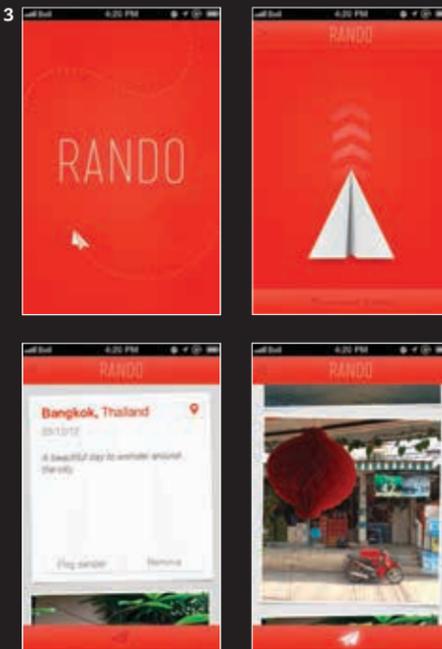
Visual designers put together the visual assets for a piece of interaction design and will often come from graphic design or illustration backgrounds.

Working from the wireframes, Maxwell developed four routes, exploring visual metaphors for what the app does.

3. He looked at a paper airplane metaphor to

represent the act of sending the photograph.

4. Another route developed the voyeuristic idea of looking through a peephole into the lives of others. When initial trials were placed on the wall of the studio feedback from both the senior team and other ustwo employees was that this was the route to follow.



**Stage 3: Working with a developer**

5. After the approval of the visual designs, Maxwell created all of the project assets in Photoshop. These included interface, different screens, buttons, and press states. These designs were then cut up in Photoshop, exported as PNG files, and sent over to the developer in Malmö. Since the development of the retina display size, all artwork must be

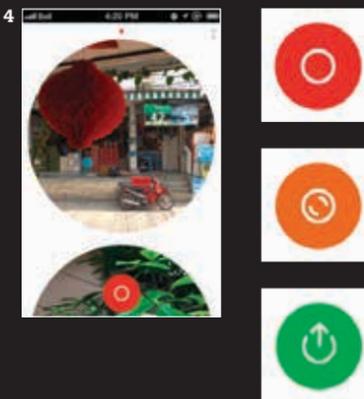
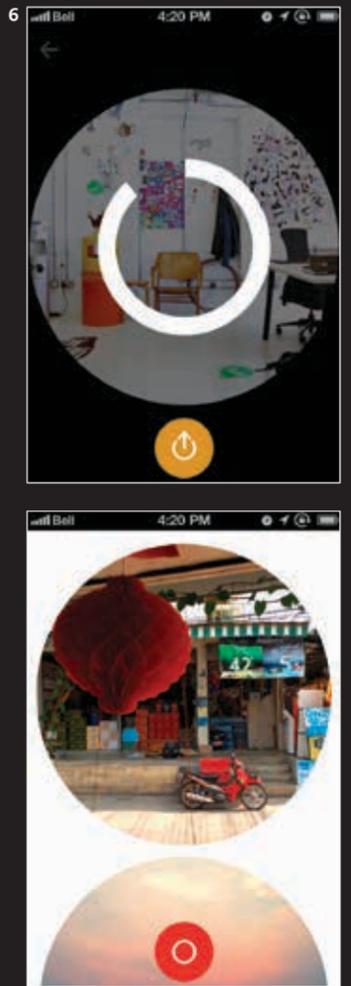


**Stage 4: Release and iterative development**

6. An interactive prototype was then developed for discussion between Maxwell, the developer, and the senior team. Once everything was agreed, the app was released through the App Store and the process of iterative development began. Feedback was gathered through Twitter, the ustwo

blog, the Apple Store reviews, and friends and associates, enabling Maxwell and the developer to further improve the project.

Since its release in March 2013, Rando has been a worldwide hit and according to its website is “probably [ustwo’s] most successful app release ever.”



Our style is that we do not have a style. We are about the user. We find out what the user needs because we want to create something that they will love.

## In Conversation

with Mills, founding partner, ustwo

**Two best friends, Mills and Sinx, founded ustwo in 1998 with £5,000 (about \$8,500) borrowed from their parents. At the time of writing, ustwo employs more than 150 people in London, Malmö and New York. Over the years, contrasting personalities of these two friends have come to define the secret of their company's success.**

ustwo.com

Mills explains that right from the start, the partners had differing interests—Mills was the visual designer and Sinx the interaction designer/developer—but it was this mixture of creativity and technical innovation that enabled them to define a distinctive place in the market. Mills is an exuberant larger-than-life extrovert; he is the “head wonka” and ustwo’s cultural ambassador—whereas Sinx shies away from the limelight and likes to lead at a client/project level. Working together, they have developed a seemingly schizophrenic business that creates off-the-wall digital games, apps, and their own IP products, but also offers high-end interface and user-experience design for a range of high-profile corporate clients.

Mills comments, “You shouldn’t be able to build a gaming team and create products like Whale Trail and at the same time work for a big bank like Barclays, create Ping It and work on multi-million pound trading platforms. People say that you should specialize and be either one or the other.”

He also talks about how ustwo has focused on developing a build mentality and that this has enabled the company to ensure a high level of technical functionality. Its team has developed in-house tools that provide platforms for internal communication and financial record-keeping and have developed a set of highly sophisticated in-house skills from doing this.

As Apple opened the App Store and released the iPhone, Mills initiated Content With Attitude—an area of the business set up to realize the potential creative opportunities that these new platforms might provide. The two sides of the business now feed each other’s existence—they are symbiotic. The income from interface and user-experience design provides ustwo with a level of financial security that in turn enables them to also work on more speculative projects. The release of apps such as Granimator, Nursery Rhymes, Mouth Off, Whale Trail, and Rando fulfills the dual function of providing exposure and explaining through experience what they can do.



The two contrasting sides of ustwo’s business create a unique opportunity to keep teams motivated through a system of “project holidays.”

“We need to be doing big projects, but the problem with these is that they take years to complete. People can’t possibly stay focused and motivated on a project that goes on forever. It doesn’t matter whether it’s for a client or a game—even something like Whale Trail gets boring after a while. We move people off projects and give them a two- or three-week break doing something completely different. They might go on to another project or they might just do some research. We created the sound for [the app] Blip Blup by using somebody who had been working on Ping It, for example. He was interested in sound design so we gave him this task to work on this as two-week project holiday.”

While the specifics of what they create might be different, the two sides of ustwo are linked by a concern for the user and a rejection of style-based approaches to design. “I grew up loving the Attik, Designers Republic, and all of these style-based graphic design companies, but now I think you have to be absolutely moronic to try to adopt a style. Our style at ustwo is that we do not have a style. I love the fact that we can do Whale Trail and we also do Ping It. We are about the user—this is a user-centred design company. We find out what the user needs because we want to create something that the user will love.”

Mills is currently working on a redesign of ustwo’s identity. Originally, he commissioned one of his design heroes to work on the project, but this strategy failed. The designer created a series of visual solutions that were inspired by his (rather than ustwo’s) vision of what the company was about. They believe in a rigorous examination of user need, so Mills felt that any identity strategy should start with the people who work for him, who he calls “the ustwobees.”

As a result, he terminated the project and began working with a researcher to instigate a series of

discussions with his employees that were aimed to identify the core values of the business. This process enabled ustwo to establish a way of describing themselves. They became the “dreamers and doers”—a group of people able to apply a build mentality but also able to understand the power of play and innovation, a studio able to create irreverent but highly engaging digital products while at the same time producing sophisticated functional services for serious financial institutions, a company able to post YouTube videos of Mills riding a mobility scooter in a pink wig without jeopardizing the patronage of their fee-paying corporate clients.

### Case Study: Whale Trail

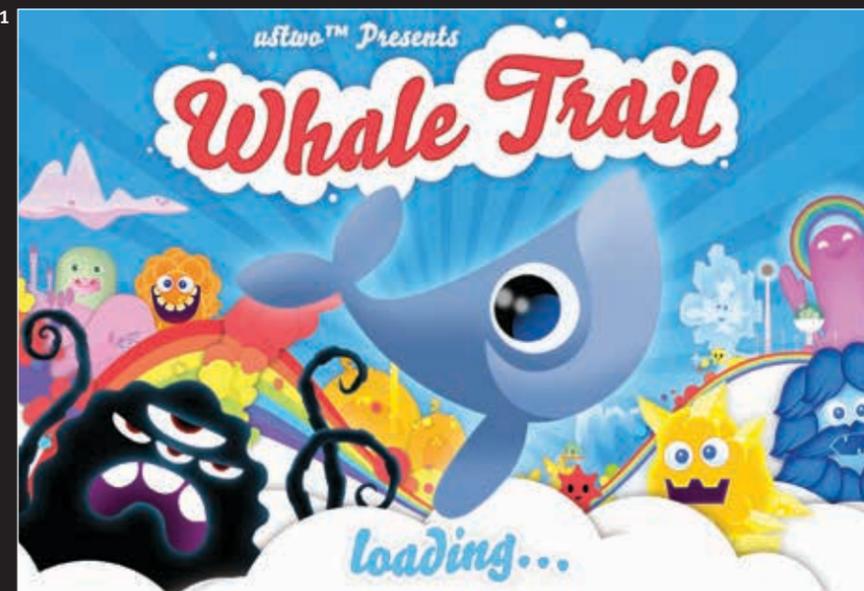
As with most digital games, Whale Trail started with “a mechanic,” or set of actions that a gaming experience could be built around. Pac-Man eating power pellets, Super Mario jumping from platform to platform, or an explorer running/ jumping/ sliding through an ancient temple in Temple Run are all examples of successful game mechanics. The mechanic for Whale Trail started with the gentle undulation of a bird in flight. While the game designers were brainstorming this movement, someone jokingly suggested creating a flying whale. Thus the surreal humor of Whale Trail was born, and from this point the game almost designed itself.

The next step was to visualize the world that Willow, the flying whale, would inhabit along with characters and environments that he would interact with. Working prototypes of this world produced by the development team enabled them to test animation and interaction. A team of user testers were then recruited using Twitter with the

additional benefit that they could promote the game on social media. Further publicity was gained by recruiting Gruf Rhys, formerly of the band Super Furry Animals, to create a soundtrack for the game. This track, “Space Dust #2,” was released as a single to coincide with its launch.

The success of Whale Trail led to ustwo being approached by Penguin to buy its publishing rights; and an e-book of the game simplified for children was released as a joint venture. ustwo is now working with children’s TV production company Absolutely Cuckoo to turn Whale Trail into a TV series. A pilot was created in 2013 featuring full-sized live-action puppets who inhabit a digitally animated 3D world. At the time of writing, MacFarland and the team have just returned from Cannes where they have been pitching their pilot to leading TV executives.

[www.youtube.com/watch?v=r8bJs8opqRw](http://www.youtube.com/watch?v=r8bJs8opqRw)



1. The promo screen of the Whale Trail game.

2. Initial sketches of Whale Trail created by Neil MacFarland from ustwo.

3 & 4. Tests from the development of the Whale Trail game.

5 & 6. Stills from the “Whale Trail” TV pilot.

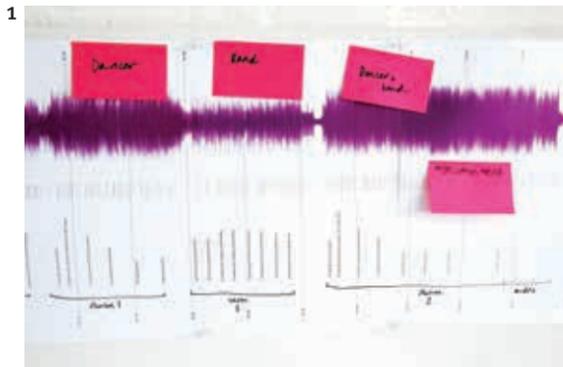
7. Green screen puppetry from the filming of the TV pilot.

## User Testing

The strategic starting point for a piece of design is often user behavior.

**Can you empathize with the users' experience, and therefore come up with new features, new ideas, new things, and then understand it sufficiently to execute and engineer them?**

Hashem Bajwa, CEO, digital product development studio, DE-DE



**SEARCH:** User testing ustwo; David Carson Raygun/ dingbats; ethnography; Hashem Bajwa; user journeys; user centred design; user experience; user research; ustwo nursery rhymes; WW. Denzlow; ustwo nursery rhymes

Design used to be about individual creative genius. In the 1990s, David Carson famously designed a page of *Raygun* magazine in unreadable dingbats just to make a creative point. Today, designers can no longer afford to ignore the user's needs. The development of social media has empowered consumers and enabled them to enter into a conversation about the products and services they consume. In the world of digital media, the user has a direct input into shaping the design outcome. Immediately accessible feedback data means that audience response need never be second-guessed.

Companies like ustwo position the user at the center of their design strategy, but founding partner Mills (interview pp. 89–91) is keen to stress that this does not mean simply reacting to demands. “We are not in the business of just providing people with what they want. . . . User testing gives you a grounding, but ultimately we make the decision whether to act on it.”

Engaging the public in the development of a design outcome can also help recruit advocates that will generate positive feedback on social media. Mills points out, “When we created *Whale Trail*, our user testers helped market the product. Very early on in the development of the game, we put messages out on Twitter asking people if they wanted to test it. . . . We set only one rule and this was that they had to be honest and they had to be very vocal about it on social networking sites. This worked really well in creating a buzz around the product.” Before the product was released, ustwo had recruited an army of people who already identified with it, felt like they were part of it, and were prepared to tell the world about it.

### Methods for User Testing

Gov.uk defines user testing as “a ‘qualitative’ research method, used to gauge how easy and intuitive a product, service, website is to use and whether it supports the needs of its intended audience,” and says that “user testing measures how well participants respond in the key areas of: efficiency, accuracy, recall and emotional response.”

Studios employ a wide range of methods for user testing—here is a description of how two of the studios we spoke to go about it:

Gypsy and Mills from ustwo (see interview, pp. 89–91) describe four main sources for generating user feedback:

1. Feedback from the Apple Store and websites such as Tech Crunch (techcrunch.com).
2. Twitter hashtags and a network of Twitter followers who provide feedback on the work they produce.
3. Specialist user testing labs provide more formalized research into how a user reacts to a product. These labs create reports from test scenarios during which members of the public are observed working from instruction scripts.
4. They have also set up their own informal user testing groups, using friends and people who work for them. As digital companies grow they tend to develop their own user testing infrastructure.



1. Sound tests from Moving Brands

2. The antithesis to user-centered design: 1990s design superstar David Carson once created this spread for *Raygun*, replacing type with Dingbats to make the feature impossible to read.

3. Mood boards like this one from Moving Brands are used to define a visual direction for the client.

Mat Heintz CEO of Moving Brands (see pp. 23–25) describes three user testing models employed by his studio:

- 1. Persona:** Essentially this is audience profiling; it is driven by personality rather than data and seeks to predict how different types of people react in set situations. This is a subjective form of testing and relates to the team's knowledge of human behavior. Members of the team or an external sample are asked to role-play the use of a prototype or act out a reaction to a piece of communication.
- 2. User journey:** This looks at the moments involved in an interaction and considers the structural logic of how a prototype might be used. It is far less emotive than persona testing and employs logical patterns to run through user scenarios.
- 3. Ethnography:** This is the study of human behavior. In a user-testing scenario, ethnographic research techniques are used to look at how a sample of group will react in certain situations. This often involves workshops or play-oriented sessions with focus groups.

There are many more approaches in use across the industry, but what seems clear is that anybody wishing to work in the digital design industry needs to be regularly user testing what he or she creates. It is not enough to produce something that your friends feel works, because your friends are likely to be much more tech savvy than the average member of the public. Experienced digital designers such as Gyppsy from ustwo recommend using your parents to user test because they are least likely to have any specialist insight.

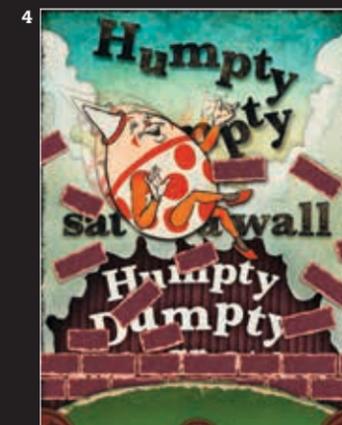
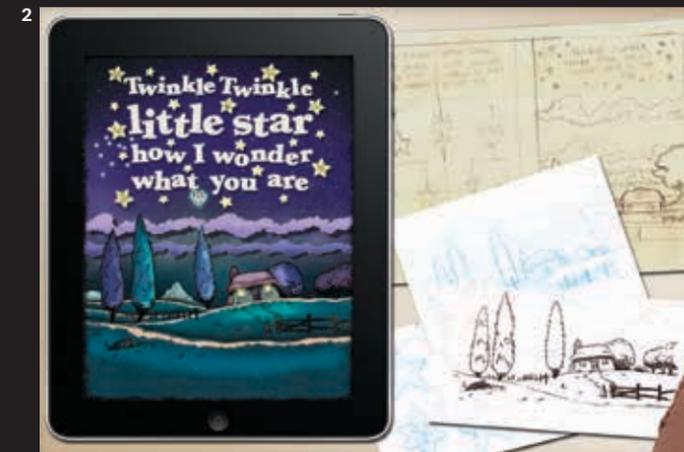
### Case Study: Nursery Rhymes

Nursery Rhymes was developed by ustwo in partnership with Chris Stephens from Atomic Antelope, originator of the best-selling app of *Alice in Wonderland*. It uses the copyright-free content of traditional nursery rhymes such as Humpty Dumpty, Jack and Jill and Three Blind Mice and remakes them “for the iPad generation.”

The look of the app was inspired by the drawings of William Wallace Denslow, the American illustrator, most famous for creating the illustrations for *The Wonderful Wizard of Oz* by L. Frank Baum. Images created by ustwo creative director Neil McFarland conjure ideas of antiquarian bookshops and Victoriana and were hand drawn and distressed before being colored in Photoshop. They were then “sprung animated” by ustwo's developers using the open source cross-platform game engine cocos2d. Each page of interaction is loaded with a series of hidden opportunities to engage with the artwork. These interactions gradually evolved through user testing with young children. Suggestions from the testers such as being able to cut the tails from the three blind mice and pin them back on were incorporated into the app to create a wonderfully rich experience that could only exist on an iPad.

On its release, Nursery Rhymes was a runaway success and disrupted the traditional publishing industry to such an extent that it was featured in the *Guardian*, the *Evening Standard* and Reuters. It became the highest grossing app in its category in both the United States and the United Kingdom.

[itunes.apple.com/gb/app/nursery-rhymes-storytime/id423322533?mt=8](https://itunes.apple.com/gb/app/nursery-rhymes-storytime/id423322533?mt=8)



1–3. The visual elements for Nursery Rhymes were drawn out with a brush and ink before being assembled and animated digitally.

4 & 5. Animated screens from the final app.

6. Nursery Rhymes featured Story Time, which enabled the user to read to their children remotely.

7. The Nursery Rhymes screen icon.