JH Brearley

New Playgrounds:

An Introduction to Hacks in the Arts

A foreword from the British Council:

First seen in the tech sector, hacks have become a popular way to bring together people from different backgrounds to collaborate quickly on new ideas and products. The UK has pioneered this practice in the arts and cultural sector and learnt lots of lessons along the way. Creating the right environment, motivation and confidence for new collaboration is essential for innovation - but requires time, energy and willingness to fail!

This booklet is intended to share experience on how hacks work and encourage others to take part. It seeks to ask how we can go beyond hacks for long-term, systemic change. Where do we go next to ensure an idea becomes a reality, rather than a sketch in a notebook? More importantly, how do we embed some of the thinking, systems, openness to innovation and collaboration into every day practice rather than a weekend event? We need to nurture the next stage of hacks, either by incubation, mentoring or funding, to ensure that momentum and motivation is not lost.

It's also a great introduction to some of the people and organisations that have pioneered these new ways of working. The British Council is proud to have worked with some of them on collaborations around the world, bringing together people from different backgrounds to tackle shared challenges. They are part of a movement of people, places and technology that are quietly shaking up the world's creative and cultural industries, one of the fastest growing sectors of the global economy.

Beatrice Pembroke, Director Creative Economy, British Council

British Council's Creative Economy team supports international connections and collaborations across the creative and cultural industries. http://www.britishcouncil.org/creativeconomy http://twitter.com/uk_ce

New Playgrounds: An Introduction to Hacks in the Arts

Contents
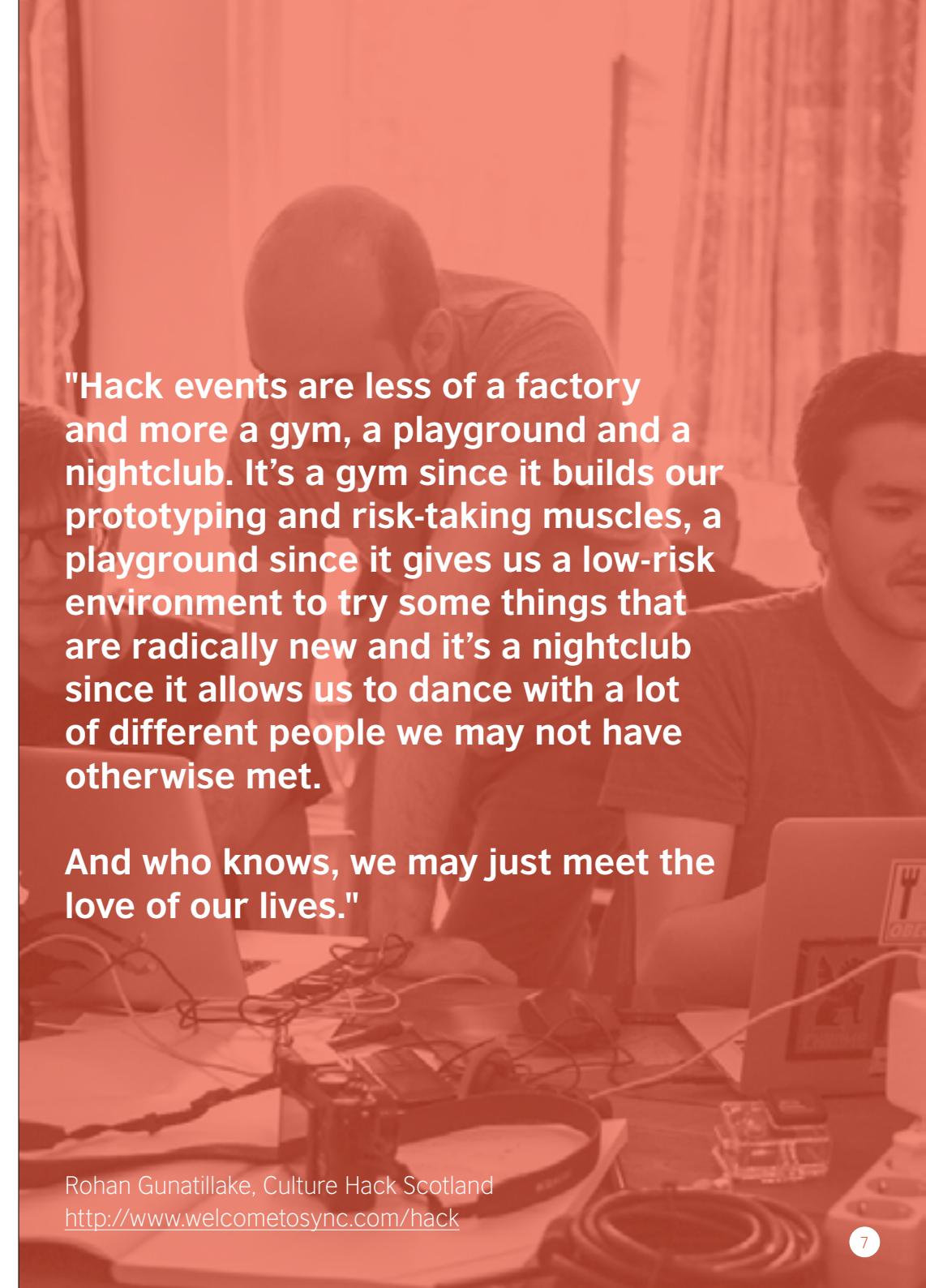
This publication presents an introductory guide to hack events for the cultural sector. It examines some of the main types of culture hacks, what the benefits are for individuals and organisations taking part, the different approaches to engaging various communities and how to create the right environment. It details some of the essential ingredients that are required for success, and explains the rationale for common approaches.

The publication also presents a snapshot of the current culture hacking landscape in the UK through a series of case studies. Hack events have been active in the cultural sector since 2007, and there is growing interest among cultural institutions and organisations in the benefits they offer. There are today a number of organisations who specialise in their delivery for the arts, several of which are profiled in this publication.

Hack events can be approached and delivered in a variety of ways. With each interpretation and each event, new metrics and principles have come to fruition. The intention here is not to reduce this diversity to a single definition or method, but to introduce some of the practices you might adopt. In addition to helping you understand the key steps involved in running a hack, this publication will assess what the potential benefits are to you, your organisation and the communities with which you interact.

As a method, hack events have emerged from the world of digital culture, and for many in the cultural sector they remain an unfamiliar way of working. Ultimately, this publication aims to make hack events more accessible and to enable more people to benefit from what they have to offer.

What is a hack?

"Hack events are less of a factory and more a gym, a playground and a nightclub. It's a gym since it builds our prototyping and risk-taking muscles, a playground since it gives us a low-risk environment to try some things that are radically new and it's a nightclub since it allows us to dance with a lot of different people we may not have otherwise met.

And who knows, we may just meet the love of our lives."

Rohan Gunatillake, Culture Hack Scotland
http://www.welcometosync.com/hack

In the cultural sector, hacks, hackdays and hackathons are events that seek to develop new relationships and collaborations, whilst creating solutions and unravelling challenges.

A hack is an event that includes some form of prototyping and concludes in a demonstration of what has been developed. There are three main types of hack:

Paper Prototyping
These hacks embrace the spirit of playful experimentation through 'paper prototyping' – brainstorming and idea development usually involving lots of flipcharts and marker pens.
For an example of a paper prototyping hack, see Culture Hack East Ideas Lab: http://www.culturehack.org.uk/2013/02/27/ideas-lab-culture-hack-east-round-up-group-working-and-themes

Data Hack
Datasets form the basis of prototype development at these hacks. Data from the cultural sector might include things like: visitor footfall figures, listings or programme information, imagery, video, audio, collections and archives, floor plans and web-based analytics. Sometimes, other data sources are used to enhance the cultural data, these can include: weather data, transport data and government data.

For an example of a data hack see the CultureCode Hack: http://www.culturecode.co.uk/data

Maker Hack / Art Hack
The maker community is based on open culture, open hardware and open source software and ideas. Maker hacks can incorporate things like 3D printers, arduinos, Raspberry Pis, synthesisers, soldering kits, recycled parts from old PCs, theremins, circuit boards, plus many other bits of hardware, software and recycled materials.

For an example of an art hack see FutureEverything's 'Art Lab: Moscow': http://www.futureeverything.org/news/hacking-moscow

Community, Environment & Motivation

"I worked with someone who had links with the digital and developer communities in the North East, with their involvement it became easier to promote. I then did the rounds of the local community events, presenting the project and talking to people."

John Coburn, Culture Grid Hack Day
http://www.culturegridhackday.org.uk/

Engaging with the community

Carefully considering who you want to engage, and how, is paramount. As a rule, it is good to engage a diversity of participants, with a range of backgrounds, skills and interests to bring to the event. When skilled people are giving up their time for free, it's crucial to be clear about their motivation and reward.

As a minimum you will need to attract the cultural organisations and/or artists whose skills you would like to enhance plus a variety of experienced and able technologists including developers, digital designers and creative technologists. Other hacks are keen to incorporate other communities and skills including (but not limited to) Academics and researchers, copywriters, animators, data scientists, investors, the general public and young people.

First you need to identify the communities you would like to attract, based on who can benefit, and who can offer a useful contribution. Then you should start cultivating valuable relationships within those communities and gain the interest of their leaders. This will create promotion opportunities, and it also enables the communities to help to shape ('co-design') the hack. A community is more likely to be interested in attending if the format is an attractive environment for all of the participants, and, if they are interested, they will act as ambassadors which is powerful promotion.

Ultimately, the first stages are about building trust and this is done through creating channels for a two way conversation.

"We had input from people who had been to the first UK hack therefore we gained credibility with that audience of developers and designers."

Rachel Coldicutt, Culture Hack
http://www.culturehack.org.uk

Cultural organisations and some artists will have different questions and different needs to the creative technologist and developer communities and the language used in engaging with these different stakeholders needs to be adapted accordingly.

Motivation

Cultural organisations and artists may be keen to organise or take part in a hack event for the following reasons:

• To develop sustainable relationships with people who have different skills
• To offer a new platform for creativity and innovation
• To commission new artworks or find new talent
• To better understand how they can use digital technology
• To champion some of the principles of hacking and rapid prototyping within the arts

• To promote new data sets and to gain feedback on the data sets offered

Creative technologists, developers and designers may be keen to organise or take part in a hack event for the following reasons:

• To develop sustainable relationships with people who have different skills
• To offer a new platform for creativity and innovation
• To demonstrate their skills to people and organisations who may be looking to recruit or commission new work
• To have an opportunity to prototype with new data
• To use their skills for playful experimentation
• To compete for a prize
• To learn new skills from their counterparts
• To meet new people and have fun

Setting the right environment
A hack is about being creative and working with new people, many believe this is more easily achieved in an informal and fun environment. As people are giving up their time for free, they need to enjoy the experience rather than feel like they are at work. You have to really want to be there. The relaxed, fun environment encourages collaboration which is key to the success of the hack.

"CultureCode was an appealing social event that you didn't want to leave. You bump into people and have interesting and new conversations that you didn't know you would have. That is where the interesting things happen. If it is an ordinary event then with the best will in the world, people will leave as they want to do other things with their Saturday."

John Coburn, Culture Grid Hack Day
http://www.culturegridhackday.org.uk

However, inevitably the process does need to be managed in some way as you need to get your participants to complete a process. It can be a challenge to work out where management ends to allow freedom to begin. The magic happens when you have just the right amount of constraints.
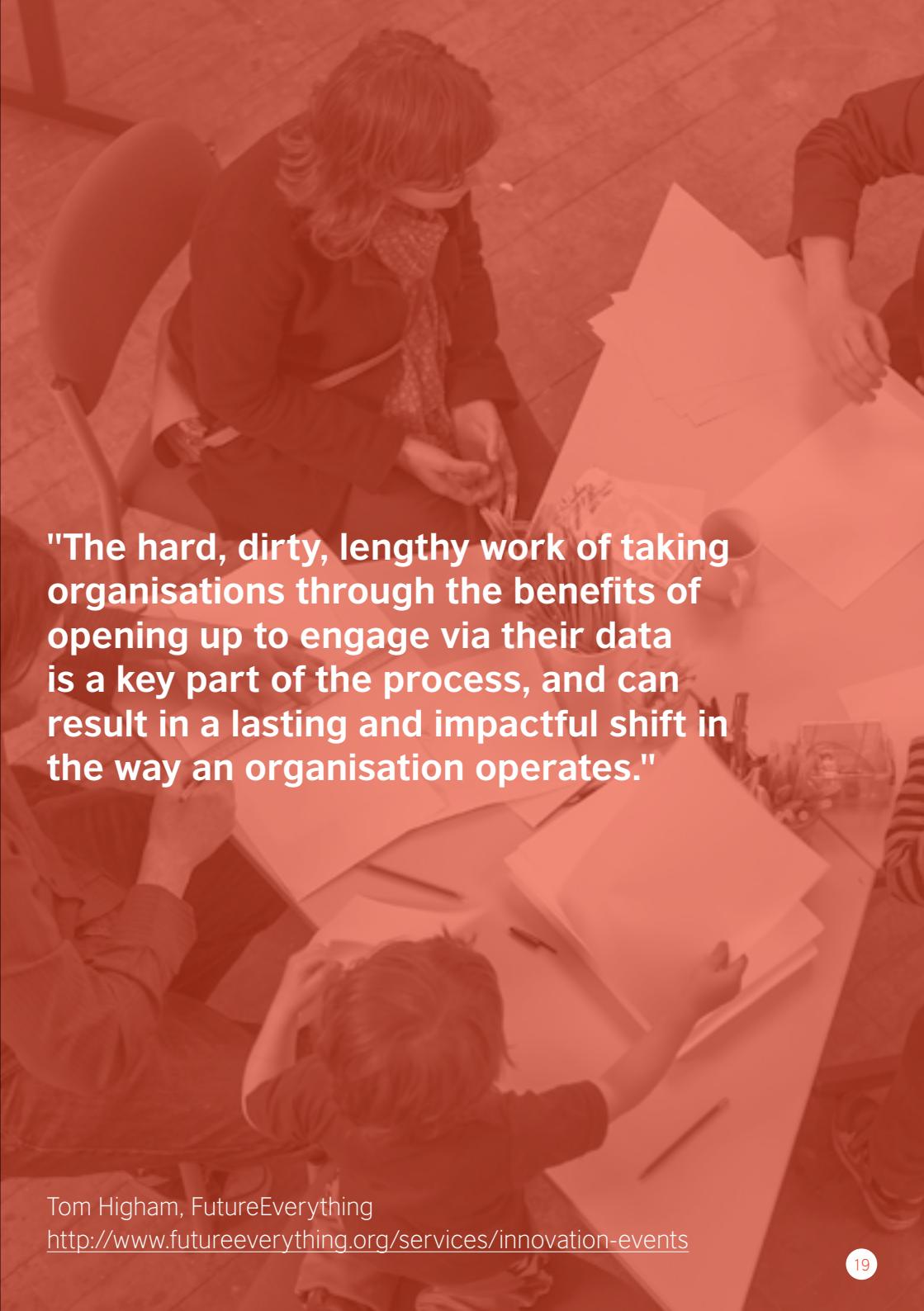
Constraints can help to create fruitful collaborations, but it's a tricky balance. You may not get everything right the first time round; be prepared to evaluate what worked and what didn't.

"As soon as you put shackles on a structure you lose some of that spontaneity. The way we do Digital Sizzle is it is very hands off until there is a need to be hands on. We encourage as many people to come up with as many crazy ideas as they can."

Joe Scarboro, Digital Sizzle
http://www.thedigitalsizzle.com

Data & Intellectual Property

"The hard, dirty, lengthy work of taking organisations through the benefits of opening up to engage via their data is a key part of the process, and can result in a lasting and impactful shift in the way an organisation operates."

Tom Higham, FutureEverything
http://www.futureeverything.org/services/innovation-events

Data
Data would be opened and used at a data hack.

Once you have engaged communities and you bring them together for the hack, it is crucial that you have tools available to create effective collaboration. Data is one such tool.

"If you just plonk people in the room by themselves then you end up with two tribes. Data is the broker in the room. With data, then suddenly they have something to talk about – you need to flock around something."

Rohan Gunatillake, Culture Hack Scotland
http://www.welcometosync.com/hack

Data gives groups with different knowledge and skills something to focus on and this has a neutralising effect. The cultural professional is bringing data that is directly linked to the work they do, this makes them the data expert in this particular situation, and equips them with a tool for communication. Data is something that the developer will be used to working with and will be well equipped to ask useful questions about. The data is the starting point for developing a new prototype, without prescribing what that prototype will be.

Without data, there is often no obvious starting point for a conversation and the cultural professionals will often revert to discussing either their problems or a specific digital platform that they would like to have, without really knowing what it is they want.

It can be challenging to not only engage cultural organisations but then to ask them to open up their data for the event. Organisations are naturally protective of their data: worried that they may be releasing something that has future commercial value, or concerned they will be in breach of the data protection act.

"People are over-optimistic about future commercial value (of their data) and not excited enough about present public value."

Tony Hall, (previously of) Royal Opera House

Overcoming the natural fear and anxieties around opening up data often needs to be part of the process for getting the cultural organisations ready and engaged.

The data is usually opened up through a specific licence (see, for example, Creative Commons). The cultural partner is

encouraged to be as open as possible; if restrictions are placed on the data, developers will be less inclined to use it. The data should then be provided in a readable format with an easily digestible description.

Intellectual Property
IP (Intellectual Property) is a complex and fast moving area so it is worth doing your own research before you launch your hack event. Then you can communicate the approach you want to adopt clearly in advance.

"The important thing is to be clear and transparent in advance about your IP policy. Many people are looking at new and emerging models. There is no one size fits all approach."
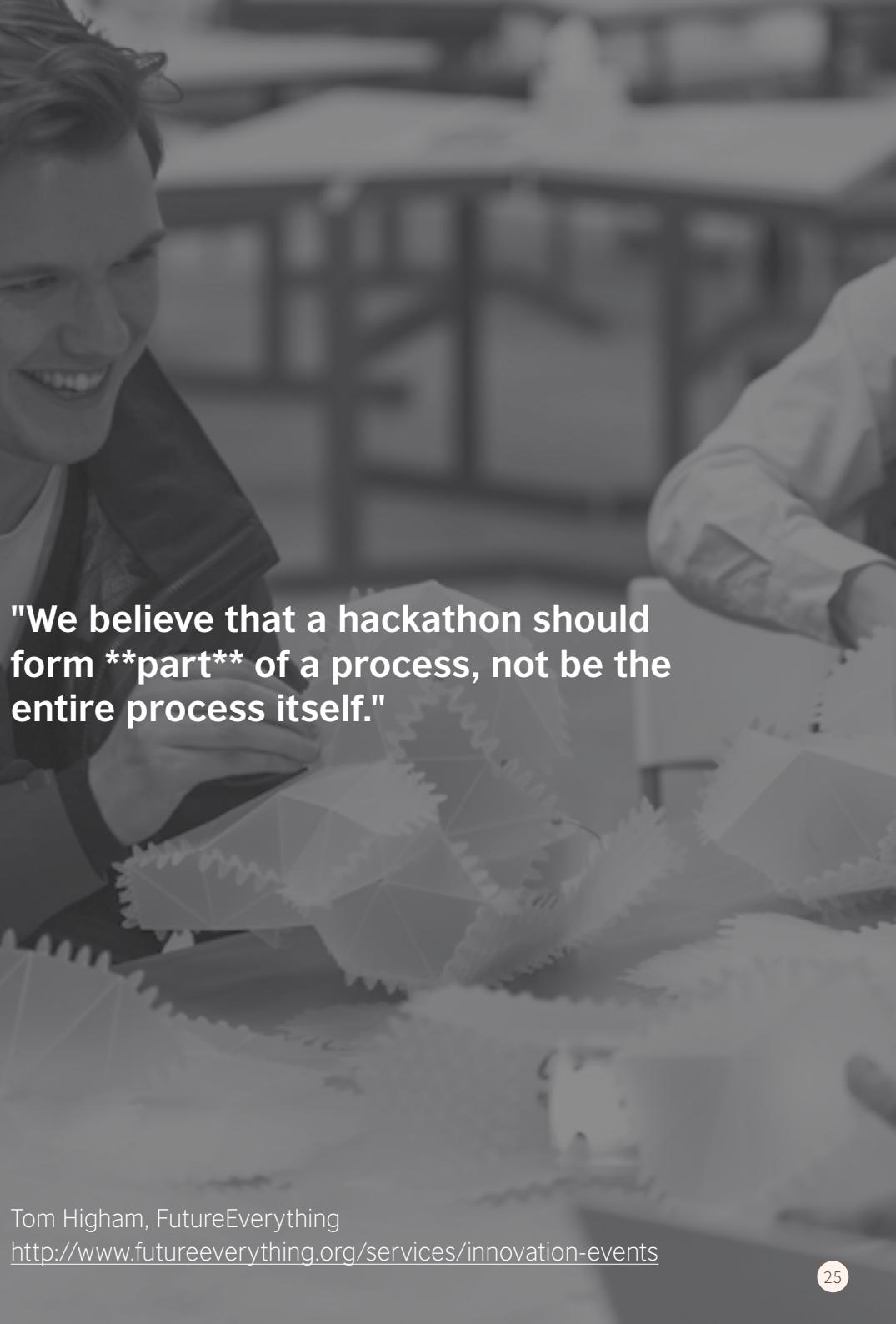
Drew Hemment, speaking at FutureEverything 2012

All of the hack events which acted as case studies for this publication ensured the hackers had full IP of whatever they created during the event. If developers are to relinquish all IP then you are unlikely to attract anyone to the hack unless you pay them for their time. Also, if you do not make it clear in advance who intellectual property will reside with or how IP will be managed then you run the risk of fewer people attending the

event, as well as reputational damage.

You can find some useful links to more information in the Appendix.

The Programme

"We believe that a hackathon should form **part** of a process, not be the entire process itself."

Tom Higham, FutureEverything
http://www.futureeverything.org/services/innovation-events

We can identify some typical stages an organiser usually implements depending on the type of hack they are organising. Most hacks usually start with an introduction to the event, explaining what the participants should expect; this is then often followed by some inspirational talks either from previous hack participants, people who have developed innovative prototypes or speakers who can inspire creativity, to kick start people's thinking.

At a data hack the cultural partners would then present their data. This has the added benefit of involving the cultural partner from the outset whilst encouraging collaboration through aligning the data owner with the data the developer will be prototyping with. The communities are then encouraged to discuss the different data sets with the data owners, generating ideas.

During a paper prototyping hack the teams might be encouraged to start the process by thinking of interesting questions or challenges they can discuss with others, keeping the questions broad. Once they have identified the question or challenges they are keen to tackle they might create mind-maps or draw pictures to illustrate their thinking. Paper prototyping is often encouraged as a starting point for data hacks and maker or art hacks.

At a maker hack or art hack, it is possible there will be smaller workshops available to demonstrate how some of the equipment works, or it may be that the hack is focussed around one particular piece of equipment – such as an arduino or 3D printer.

Across the 3 types of events, the organisers may employ:

- Workshop sessions designed to enable idea generation, team formation, hands-on prototyping, learning new skills, and so on.
- A pre-defined theme or challenge, or use of specific data, to provide initial focus and to mobilise idea generation.
- A facilitator, and/or mentors to work with the different teams to help them work through their thinking.

Time limits

The main constraint of a hack is time. Participants are often given 24 or 48 hours to complete prototypes. The way the time is organised varies, but keeping things fast is key.

"I love that kind of pressure: the way you only have that amount of time and limited resources – working with the skills of the other people in the room. When you give yourself these kinds of constraints and you have to work fast, you realise working fast is actually quite joyful."

Stef Lewandowski, Makeshift
http://www.makeshift.io

Rohan Gunatillake trialled different amounts of time for Culture Hack Scotland in order to consider the impact on participants. The first two events allowed for 24 hours of active hacking time, the third event's participants had 48 hours (see Culture Hack Scotland: http://www.welcometosync.com/hack).

Rohan found that the longer time frame created fewer prototypes, but more collaboration: the 24 hour hack saw lots of developers working independently, keen to complete the task in the short time frame, while the longer format created more time for collaborative idea generation and networking.

Pre-events

"The opening party is an overlooked part of the hacking experience. It can be the most crucial bit - you walk around a room full of people who are about to hack and have interesting conversations with them. If you have the basis of an idea you can strike up conversations with them about your seed of an idea and see where it goes."

Stef Lewandowski, Makeshift
http://www.makeshift.io

You can encourage collaboration through pre-events. A social event in advance with some simple networking games will get people talking and prepare them for the day. Usually, this element of the process is considered to be the ideation or paper prototyping part of the procedure and the organiser feels it sets the tone for the event, as well as creating opportunities

for those serendipitous moments of magic that can change the whole experience.

Other types of pre-hack events can be helpful to educate participants and make them feel at ease, encouraging active involvement in the process. This can be particularly useful when there are specific complexities such as requesting organisations open their data. This sort of activity can also be conducted online to reduce costs, using a wiki or social media platforms to build knowledge and relationships in advance of the event itself.

Curating Teams

"We believe that by having lots of different opinions, experiences, skill sets - everybody's ideas get better."

Clare Reddington, I-Shed
http://www.watershed.co.uk/ished

Hacks often involve team work, and teams can be formed in a number of ways:

1) Teams are determined in advance by the organiser
2) Teams self organise in a bottom up way during the event
3) Teams are formed in advance by the participants

"What made our prototype so successful was the mix of skills on our team. Two of us are developers and we worked closely with an artist, a cultural professional and an academic. Each member of the team was an expert in their field, but we worked collaboratively to solve a problem."

CultureCode participant
http://www.culturecode.co.uk

Team curation, i.e. determining in advance who will be in a team with whom, has its advantages and its disadvantages. This method guarantees teams have a good mix of skills and reduces the time it can take for this to happen organically.

A more bottom up approach, i.e. individuals form their own teams during the hack, can lead to greater happenstance and connectivity across the group as a whole. Design a session to do this well, and encourage groups with a mix of interests and backgrounds.

Decide if you want to encourage or not allow pre-formed teams. Some coders will want to come as a team. But pre-formed teams reduce serendipity and networking.

"It is a case of human nature that we don't always work well together, even if we have complementary skill sets, so being forced into a position where you might have a clash could be really problematic."

Syd Lawrence, Developer

Making people perform in teams that have been created by the organiser can feel more like work than fun. The majority of the developers who attend the event will say they are there to play and experiment so adding certain rules and constraints can change the atmosphere and participants may question why they are contributing for free.

Logistics

"My feeling would always be to spend your money on really great food and accommodation – the infrastructure and resources that suggest they are professional people."

Clare Reddington, I-Shed
http://www.watershed.co.uk/ished

From Snacks to Sockets

Wifi
Really good wireless internet is absolutely crucial. You will need to speak to the internet provider of the venue you are using to make sure they are bumping up the bandwidth for this specific event. Most commercial wifi providers would never provide enough bandwidth to support the strain a hack event can place on the existing allowance.

As a benchmark, you should think about the full capacity of your event and imagine each person is using four devices simultaneously.

"You will likely need to beef up the distribution and add better, and more routers. In many cases it's not too important what speed people get, much more so that it's a reliable connection."

Tom Higham, FutureEverything
http://www.futureeverything.org/services/innovation-events

Sustenance
If you are running an event for a minimum of 24 hours, it is very important that you make sure your participants are well fed and watered and that there are a range of options. Meal times and having a fixed station for refreshments throughout the day, can create new opportunities for networking.

Power
With many devices comes many batteries that require regular charging. It is important that participants can move around the space, but wherever they are they can very comfortably plug their devices in.

Ticketing cost
If you ask people to pay to attend you will be competing against free events. Only one of the hack events sited in this publication charged for attendance.

Sleeping
Some hack events happen for up to 48 hours without a break. Of course, within that time some people will want to sleep and this should be considered in your planning. It is not important to offer luxury but participants will need a quiet space with some cushioned areas and showers, as a minimum. It is fine to ask people to bring their own sleeping equipment and other creature comforts they require to make themselves feel relaxed and cosy.
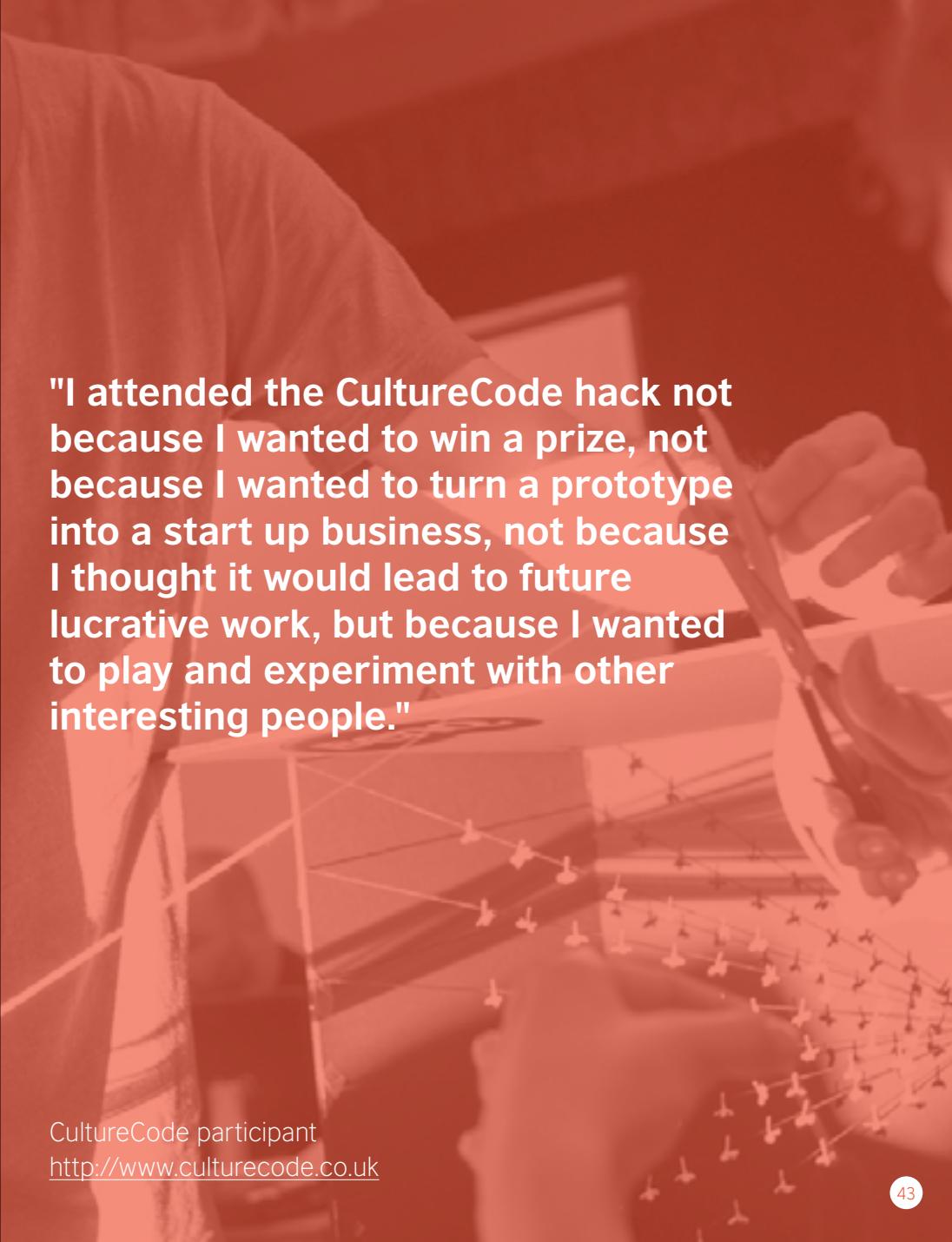
There are definitely benefits for networking and collaboration when designing an event that involves a sleep over.

"It's that time at about 4am where you start to go just slightly crazy, and that's where the real innovation starts to happen. The relationships you have with strangers after you have spent a full 24 hours with them and had very little sleep, are different to the relationships you develop with a stranger you met at a normal event."

CultureCode participant
http://www.culturecode.co.uk

Selection, Incentives, Support

"I attended the CultureCode hack not because I wanted to win a prize, not because I wanted to turn a prototype into a start up business, not because I thought it would lead to future lucrative work, but because I wanted to play and experiment with other interesting people."

CultureCode participant
http://www.culturecode.co.uk

Selecting the best ideas
Most hack events for the cultural sector culminate in a process for judging the prototypes that have been made. The event will often have categories for success and a panel of judges will decide which prototype will triumph within that category. This process helps to focus the event, drawing it to a close with an exciting series of demonstrations from the teams.

The judging panel is an opportunity for the organisers to strategically invite funders, sponsors, leaders within communities and potential future investors who will add something to the event, either because the participants are excited to showcase something they have made to this panel of people or because they might offer new platforms for promotion, funding or influence. The panel may be carefully chosen as the organisers are keen that they support the next stage of the hack.

"Judges allow you to bring in people who you really want in the room. You want them there as they may attract people you want to come, or you want them to really understand and buy in to the event."

Rohan Gunatillake, Culture Hack Scotland
http://www.welcometosync.com/hack

However, it doesn't need to be a judging panel who select the best ideas. Other hack events have asked the attendees to vote on the best hack, or displayed the prototypes online and asked the public to choose which they think should secure a prize.

For example: http://www.omusicawards.com/vote/best-music-hack

Incentives and Prizes
Whether to offer large prizes, or other types of incentives, has been a hotly debated subject. Offering a grand prize for the winning team(s) makes the event into a competition, the bigger the prize, the more fierce the competition tends to be. Of course, a grand prize is a great incentive to attend an event, the opportunity to secure a large contract, take home a healthy cash prize or obtain some expensive equipment will attract several excellent developers, confident that their skills will triumph. The difficulty is that by making the event so competitive you can easily affect the mindset of the participants. Competing is an inevitably selfish pursuit, it does not enhance collaboration.

"If there is something to be won people don't want to collaborate, they want to show off."

Stef Lewandowski, Makeshift
http://www.makeshift.io

Big prizes certainly seem to impact on the type of attendee you would expect. Ultimately, they are there for a different reason than if there is no prize or a very small prize.

"Some people go as professional hack day attendees, they roll in, roll out a hack and roll off. They are not necessarily there to collaborate or share ideas."

Mia Ridge, Cultural heritage technologist

Research conducted by Sync (http://www.welcometosync.com/what) after the first Culture Hack Scotland, concluded that the developers who attended the event had done so for three reasons. The first reason was their general interest in the arts sector, they were keen to meet and work with the cultural organisations they admired. The second reason was the access to new data sets and the third was the opportunity to attend a really fun event. No-one said they wanted money.

"Prizes are the icing on the cake, they aren't the cake, you can have a great cake without icing"

Rohan Gunatillake, Culture Hack Scotland
http://www.welcometosync.com/hack

Rewarding all of the participants can be effective. After all, most people have attended the event during their free time and for no income. The prizes don't need to be expensive but something novel or indeed, useful, can make the participants feel appreciated.

For example at the CultureCode initiative, each participant was given an arduino to tinker with, other prizes include badges, t-shirts and cake!

Cultural organisations sometimes offer prizes to winners of certain categories at a hack. These can be rewards that money can't buy, but they are inexpensive for the cultural organisation to offer. This makes everyone feel appreciated, can allow collaboration between these two communities in a new way, and can have a positive future impact.

Turning Ideas Into Things
A hack event can generate some innovative ideas but on its own rarely leads to a new product that is then realised. To turn ideas into things, further support is required and this can come in a variety of forms.

Follow-on funding can enable teams to continue developing an idea or prototype. Various forms of funding or investment may be available to support the further development and commercialisation. Consult local funding and business support agencies for details.

Outcomes can include a digital platform that can be used to support the activities of the organisation, or a new start up business.

Developing ideas takes time. To assume people should give their time for free is exploitative, and it is likely that paid work will take priority. Sometimes people will commit time because they see intrinsic value in taking part, in exchange for the time or skills of others, or for some other benefit, such as learning new skills.

Some teams will also benefit from the support of mentors and experts. Mentorship programmes can be established once the winning prototype(s) have been chosen and can include face to face as well as online support. Sometimes the mentor will also act as a contract manager ensuring milestones are being reached if money is being distributed.

Commissioning new work
Commissioning comes in all different shapes and guises. Hacks are occasionally programmed as a means to uncover new and interesting talent, or as a process for creating new artworks, or even to develop new applications and digital platforms for cultural organisations.

Hacks can act as commissioning platforms, but to do this, it is likely you will need to adapt your timeframes and your costs.
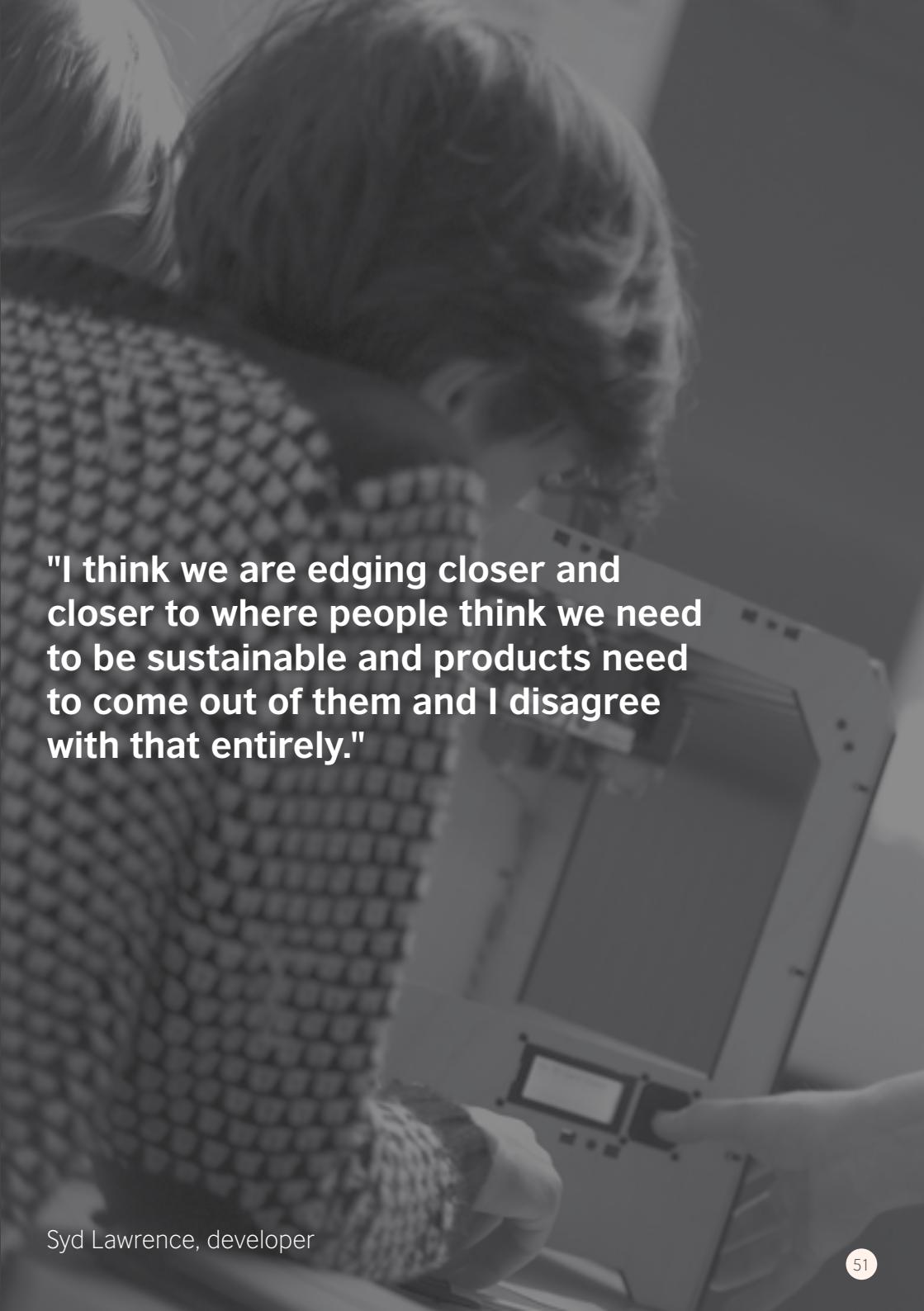
"For a hack to work effectively as a commissioning process it would need to be highly selective and involve paid participation. Hacks are relationship and collaboration building exercises, rather than competitive pitching environments."

Tom Higham, FutureEverything
http://www.futureeverything.org/projects/culture-shift-russia-art-lab

If your focus is to commission a new product or new artwork then you need to be very upfront and candid about your intentions. Sometimes the commissioning of new work is an accidental by-product of a hack event and organisers can offer assistance to help the groups broker a deal that will be beneficial to all involved and will support the development of the new work.

Hack Outcomes

"I think we are edging closer and closer to where people think we need to be sustainable and products need to come out of them and I disagree with that entirely."

Syd Lawrence, developer

The prototypes
As Stef Lewandowski said 'The hack is the message.' The prototypes that are developed at hack events rarely go on to have a life after the event, it is the relationships and the learning that are the sustainable elements. However, there have been some very special outputs at the hack events that have taken place over the years. Here are some as an example of the fruitful collaborations that were formed through this process and the interesting outcomes those collaborations created. We asked some of the interviewees and some hack event participants to choose their favourite prototype.

Joeli Brearley - Hopebook
http://www.culturecode.co.uk/projects/hope

"A Day of Hope" is an experiment in personal storytelling, developed at the CultureCode Hack 2012. The prototype invites the user to befriend the story's protagonist on a simulated social network; to watch her talk about a day in her life and interact with friends. As the day progresses, the player realises they can 'flip' the status updates- to see both her openly projected image, but also the feelings hidden behind this mask - the real reasons for her decisions, her family struggles, and the personal pressures brought on by her situation in poverty. Similarly, the player is presented with a number of 'regular' and 'flipped' games.

The team utilised 'headline' poverty stats, and a dramatic narrative ("Hope's Story") developed by a previous project with children from local communities. The core team of technical, game and theatre professionals, in collaboration with a children's charity, have since secured funding and backing of the All-Party Parliamentary Group on Poverty, to redevelop the platform to explore the issues in a more interactive way. The aspirations for the prototype are that this will become a useful tool for developing personal understanding of the issues around poverty, whilst creating a mechanism for feeding back to policy. The reason why I loved it so much was that the team were driven to show how data can be emotional. During the demonstration of the prototype I genuinely don't think there was

a dry eye in the house! The team was made up of developers, designers and a theatre producer who all collaborated for the first time and have continued to work together on further iterations of the project.

Rachel Coldicutt - Inkvisible

Inkvisible allows visitors to add their own "digital graffiti" to gallery objects. Developed as part of the Caper/King's Cultural Institute Creative Lab, it was created by Ben Eaton, Nikki Pugh and Dr Gretchen Larsen from King's College, London, with Linda Spurdle from Birmingham Museum and Art Gallery (BMAG) and Danny Birchall from Wellcome Trust.

Inkvisible gives people the opportunity to annotate artworks and the public space. It raises a number of questions about how people experience and reflect upon art, and it invents a whole new, very visceral kind of gallery participation that could give rise to new art forms, commercial products and learning experiences. Although still at prototype stage, the team managed to spend a week testing two iterations of the software at BMAG, finding out how people would use it and gauging the impact of the technology on the surrounding environment.

Rory Gianni - Sing for your stitches

http://www.welcometosync.com/sing-for-your-stitches

This was a sewing machine powered by song. A 1970s sewing machine was modified using an Arduino so that it would only start and stop working if sung to. It was developed using the audio data from the Away with the Birds project (http://www. awaywith-thebirds.tumblr.com). The reason why I loved it so much is simple, because everyone in the room started making bird noises.

Rohan Gunatillake - Shakey

Developed at Culture Hack Scotland in 2012, Shakey was an extraordinary game based on an iconic cultural dataset - the script of Macbeth. It was a game that sees four people perform the text of various characters within the play, while an audience passed judgement on their skills. There are three main reasons why I loved it so much. Firstly, too many people think that technology meeting the arts signals the death of the live experience and this project showed that live in-person social interaction can be central to digital culture. Secondly, while the way you played, and the interface, was very simple to the user, that belied the complexity of the technology that sat behind it. Finally it was built on tremendous teamwork and crucially involved a literature specialist who came to the event unsure of what she was going to do and ended up holding the project together as producer.

Sarah Yates - When Should I visit?

Using footfall data from cultural organisations in London, this web app finds the least busy time to visit the museums, galleries and theatres of London. It states the quietest day and provides a glanceable graph to judge the relative popularity of different days. The site is intended to show the data in the simplest possible way with no unnecessary detail. This prototype took two hours to create and demonstrates how simple it can be to create something really useful out of simple, accessible data.

Documentation

You will probably want to document the event in some way, either through video, photography, audio or a mix of all three. This documentation can be useful when designing further iterations of your model and promoting the event to new sponsors, data partners or technologists. After all, for those that didn't attend, an event is only ever as good as its documentation.

For CultureCode documentation see http://www.culturecode.co.uk/media and http://www.culturecode.co.uk/projects

Evaluation

If you have received funding to deliver this event, or if you are planning on holding a similar event in the future, it is imperative you evaluate its effectiveness against your objectives. If you do not capture the thoughts of the participants very soon after the process is complete, they will be lost forever.

For an example of a hack evaluation, see the Arts Council England commissioned CultureCode evaluation http://www.culturecode.co.uk/documents/_view/5294b6967cbb88dc1d0005ff

The Learning

"The arts has so much baggage with regards to how it relates to technology - It's tortured, it's transactional, it's expensive. Everyone in the arts has had a terrible experience of working with technology."

Rohan Gunatillake, Culture Hack Scotland
http://www.welcometosync.com/hack

The relatively recent revolution in the way we engage and communicate, as well as the contemporary opportunities available to us for developing new artworks, has created a dramatic disruption in the arts. This isn't just about having a website or an app or a profile on Facebook however, digital should be embedded in the organisational culture. Hack events are meant to be accessible to any cultural organisation who is eager to be creative and innovative with digital technology. They don't assume any knowledge of technology. Many organisations can feel intimidated by the words 'hack' and 'data,' if they are willing to bring some of their data and they are prepared to contribute ideas and collaborate, then they will benefit from the experience. Openness to the possibilities of digital technology is ultimately more important than digital literacy.

The process of hacking and rapid prototyping can help organisations visualise, understand and consider the opportunities in a different way. Hacking gives you the opportunity to have a conversation about something tangible, rather than just discussing an idea. Once you have seen a prototype, you can talk about some of the ideas that make up that prototype and how you might integrate those ideas.

"Quite often you can make a prototype in the amount of time it takes you to talk about what it is you want to do and there is a lot of strength in demonstrating stuff."

Rachel Coldicutt, Culture Hack
http://www.culturehack.org.uk

For the cultural organisation, they can experience the process a digital technologist tends to implement when developing an idea.

"It is a really good opportunity for people in my sector to understand the value of the design principles that

are important to digital work... You might not be really familiar with how effective tools are built in the digital sector - which is quite often using design principles founded on iteration and experimentation and having short term milestones to evaluate success. Arts organisations wouldn't necessarily design a digital product using those kinds of design principles but hacks are founded on this."

John Coburn, Culture Grid Hack Day
http://www.culturegridhackday.org.uk

Hacking is an iterative process, it allows for effective idea generation and rapid testing, it embraces failure and creates necessary remodelling and adaptation. The idea you set out to create is likely to look very different by the time you come to demonstrate it.

However, the learning opportunity isn't just for the cultural organisation. Hackdays create a learning environment for everyone who participates in the process. The developers who attend hacks, sometimes work in corporate and commercial

environments with very little freedom to play and experiment, the artists and cultural professionals they encounter at a hackday can help them realise their artistic vision or effectuate an idea, developing it to its full potential.

"For the participant I would say that the learning is the most important part. They are very much learning occasions. Personally if I come away from a hacking environment and I have learnt something then I am happy, if I come away and I haven't learnt anything and I have just created something that I would have created anyway, then my opinion is why didn't I just make that at home?"

Syd Lawrence, Developer

The relationships and collaborations

"We are really interested in properly collaborative work. I don't think any one group are heroes who are here to save us. I am still really intrigued and interested by how a really great and agile team work in exactly the same way an orchestra or a dance troupe would work together, because they are creating as a team, using each others skills to create more interesting stuff."

Rachel Coldicutt, Culture Hack
http://www.culturehack.org.uk

Effective prototypes are created when different skills are mobilised, this can only be achieved through collaboration. Many cultural professionals will have never had the opportunity, or the mechanisms, to work closely with a digital professional and vice versa. Hack days create an environment that encourages and nurtures positive collaboration to generate new ideas and prototypes. Once people with interdisciplinary skills have found a method for working together and realise the positive difference this makes to their own thinking, they will

not only efficiently absorb new knowledge but this will act as a springboard for new and sustainable cross-sector relationships.

Where next?

"Have we reached the point where we have to contest many of the assumptions in making and prototyping culture? Is making really the best path for intellectual reflection or social improvement?"

Jose Luis De Vicente, taken from the 2014 Theme Statement for FutureEverything - *Tools for Unknown Futures*

What is there to learn about hacking principles for the arts more generally? Is there essentially something about the hackers ethic and hacking processes that we all feel a natural affinity towards? Could this potentially reveal new operating models for organisations and their supporting infrastructures?

"What we really need right now is for funding bodies to help us take prototypes generated from hack days to the next stage; they could be much more interesting than things that originate through that classic funding cycle."

Rachel Coldicutt, Culture Hack
http://www.culturehack.org.uk

Funders consider highly skilled technologists to be integral to the future of the culture industry, and strategic funding frequently requests cross-skill collaboration and partnership work.

"There is a worrying emphasis coming from funders that cultural organisations need technologists to come and work with them. It undervalues the content and the way of working that cultural organisations bring to that space as well – it should be a mutual exchange."

Clare Reddington, I-Shed
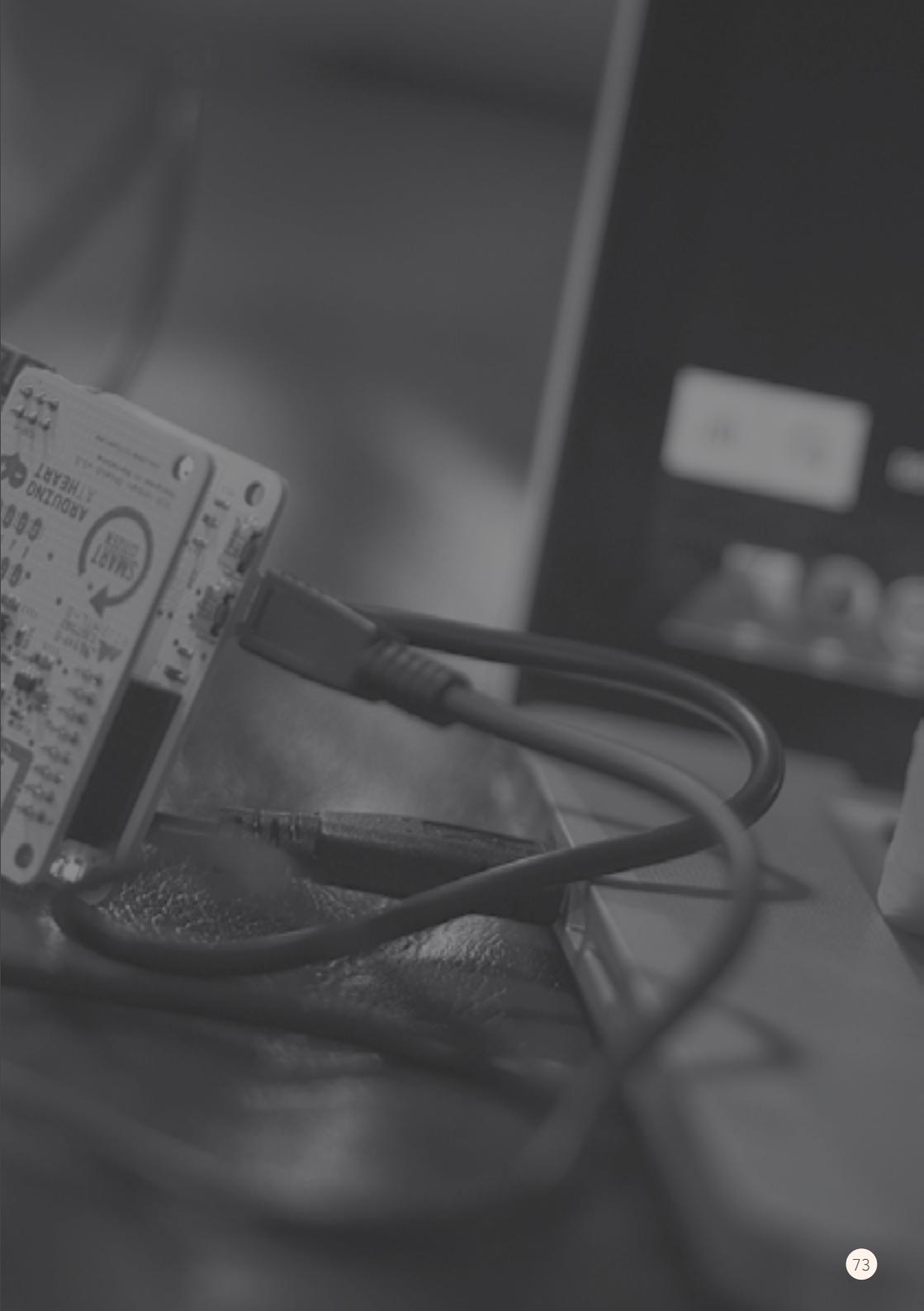
Creating change
Hack events are ultimately about creating change. Change through learning, change through making and change through collaboration. For the cultural organisations, this change is a necessary process for adapting to the new digital landscape in which we all now operate.

Hack events do not profess to create new innovative outcomes, services or products that can be implemented tomorrow. Nor will they instantly at a stroke equip an organisation with the knowledge and skills required to effectively navigate this new digital world. The process for change is inevitably slow, and sometimes it isn't obvious or immediately visible. Often, the relationships that are formed and the learning that is assimilated are not captured through effective mechanisms as they are incremental, intangible, sometimes serendipitous.

Hacking requires reflection and evaluation, and there is a groundswell of interesting debate specifically around this topic. We can talk about the development of relationships, the incremental change, the opportunity to be creative, but is this enough? As the debate continues it is likely that new adaptations of the hacking model will emerge. In time hacking may prove to become less effective and fall out of favour, as other methods emerge or technologies and working practices shift. But, for now, it is hard to deny that hackathons have clear merit for those that participate. In any case, If you find the right hack event and you are ready to play and experiment, you will undoubtedly have some fun along the way.

Appendices

Interviews

1) Joeli Brearley, CultureCode
http://www.culturecode.co.uk
Joeli produced this publication on behalf of the British Council. You can find out more about Joeli here: http://www.culturecode.co.uk

2) Rachel Coldicutt, Caper & Culture Hack
http://www.wearecaper.com | http:// www. culturehack.org.uk
You can find out more about Rachel here: http://www. wearecaper.com/us and here: http://www.fabricofthings. wordpress.com

3) Rohan Gunatillake Sync & Culture Hack Scotland
http://www.welcometosync.com | http://www.welcometosync. com/hack
You can hear the full interview with Rohan here: https://www. soundcloud.com/joeliculturecode/rohan-gunatillake-interview

4) Tom Higham, FutureEverything
http://www.futureeverything.org
You can find out more about Tom here: http://www.about.me/ tomhigham and here: http://www.creativeconomy.britishcouncil. org/people/tom-higham

5) John Coburn, Tyne and Wear Museums & Archives & Culture Grid Hack Day
http://www.twmuseums.org.uk/home.html | http://www. culturegridhackday.org.uk
You can hear part 1 of the interview with John here: https:// www.soundcloud.com/joeliculturecode/john-coburn-part-1 and part 2 here: https://www.soundcloud.com/joeliculturecode/ john-coburn-part-2

6) Clare Reddington, iShed
http://www.watershed.co.uk/ished
You can hear the full interview with Clare here: https://www. soundcloud.com/joeliculturecode/clare-reddington

7) Stef Lewandowski, Makeshift
http://www.makeshift.io
You can hear the full interview with Stef here: https://www. soundcloud.com/joeliculturecode/stef-lewandowski

8) Syd Lawrence, We make awesome & Twillio
http://www.wemakeawesomesh.it | http://www.twilio.com
You can hear the full interview with Syd here: https://www. soundcloud.com/joeliculturecode/syd-lawrence

9) James Rutherford, Creative Nucleus
http://www.creativenucleus.com
You can hear the full interview with James here: https://www.soundcloud.com/joeliculturecode/james-rutherford

10) Conánn Fitzpatrick, Culture Tech
http://www.culturetech.co
You can hear the full interview with Conánn here: https://www.soundcloud.com/joeliculturecode/connan-fitzpatrick-culture

11) Mia Ridge, Cosmic Collections, Cultural heritage technologist and researcher in digital humanities
http://www.museumsandtheweb.com/mw2010/papers/ridge/ridge.html | http://www.miaridge.com/my-phd-research
You can hear the full interview with Mia here: https://www.soundcloud.com/joeliculturecode/mia-ridge

12) Charles Armstrong, Hack the Barbican and The Trampery
http://www.hackthebarbican.org | http://www.thetrampery.com
You can hear the full interview with Charles here: https://www.soundcloud.com/joeliculturecode/charles-armstrong

13) Fiona Moorhead, Crafts Council
http://www.craftscouncil.org.uk
You can hear the full interview with Fiona here: https://www.soundcloud.com/joeliculturecode/fiona-moorhead-craft-council and part 2 here: https://www.soundcloud.com/joeliculturecode/fiona-moorhead-craft-council-1

14) Joe Scarboro, 3 Beards and Digital Sizzle
http://www.3-beards.com | http://www.thedigitalsizzle.com
You can hear the full interview with Joe here: https://www.soundcloud.com/joeliculturecode/joe-scarboro-digital-sizzle

15) Ricardo Davila-Otoya, Hack the Barbican
You can hear the full interview with Ricardo here: https://www.soundcloud.com/joeliculturecode/ricardo-hack-the-barbican

16) Mark Simpkins, artist, activist and hacker
You can hear the full interview with Mark here: https://www.soundcloud.com/joeliculturecode/mark-simpkins-artist-activist

The Hack Event: Case Studies

1) CultureCode
For further information visit http://www.culturecode.co.uk

CultureCode was the result of various forums where cultural organisations had expressed their fear and frustration in using and embedding digital technology in their organisations. It was clear that something needed to be done to build some bridges between the regional and very active, technology community in the North East and the cultural organisations, artists and practitioners grappling with this fast paced, complex, contemporary digital environment. Hacking seemed like a really interesting model to explore, so alongside NewcastleGateshead Cultural Venues (http://www.gnculturalvenues.ning.com) and with an objective simply to create new and sustainable relationships, a 4 stage innovation process was developed that culminated in a 24 hour data hack. The results were pretty spectacular.

Since then CultureCode has been established as a company in its own right, working with the British Council to run Culture Shift Zimbabwe (http://www.cultureshiftlive.org/blog/culture-shift-zimbabwe-what-happened-on-day-1), developing innovation processes for organisations and researching hacking models for the UK cultural sector.

Splitting her time between CultureCode and FutureEverything (http://wwww.futureeverything.org), working with various organisations and in various territories exploring hacking models and innovation processes, Joeli has compiled this publication on behalf of the British Council. She has closely followed the work of some of the key people in this field and, alongside other organisations, explored new ways to achieve more ambitious objectives from the learning hacking has created.

2) Culture Hack
For further information visit http://www.culturehack.org.uk

The first Culture Hack took place in 2011 and since then iterations of the model have been implemented in London, Leeds, Cambridge, Scotland and North America. Since the first event, Culture Hack has become a Community Interest Company and a digital development programme, having worked with over 100 arts organisations and 300 developers, artists and creatives. Rachel believes that at its heart, the Culture Hack model is about the opportunity to collaborate, play, work together and to make interesting stuff. Over the last 3 years their understanding of how to get to that outcome has changed and they are constantly tweaking how they work and what they do.

They have 2 main hacking frameworks 1) Culture Hack 2) Ideas Labs or Creative Labs. Culture Hacks are about playful creativity and the opportunity to generate new working relationships

across the arts and technology. They tend to last between 24 - 48 hours and involve artists, technologists and cultural professionals who supply data.

Ideas Labs/Creative Labs are much more about the development of a valuable or interesting prototype, they can run for 3 - 4 days and successful prototypes secure funding and mentoring to progress their ideas.

3) Culture Hack Scotland, Sync
For further information visit: http://www.welcometosync.com/hack

The first Culture Hack Scotland took place in 2011 in Edinburgh and used data from Edinburgh festival. With the three objectives of raising the profile of open data within the arts, connecting cultural professionals with digital talent and demonstrating new ways of working and seeing the world, Sync have held three hackdays each of the last three years, each of which have been very different. The first two lasted 24 hours while the 2013 version was 48 hours long. The events have taken place in Edinburgh and Scotland, each attracting 80 participants with 120 for the show and tell.

4) Hack the Barbican
For further information visit: http://www.hackthebarbican.org

Throughout August 2013 Hack the Barbican took over the Barbican's cavernous foyer spaces and filled them with 100 discipline-bending installations, performances, workshops and discussions.

A half-size recreation of the Barbican's biggest penthouse provided a social hub and stage for performances and talks. Site-specific projects hijacked areas of the Barbican's brutalist interior and converted them into games, performances and installations. The projects brought together theatre performers, computer scientists, sculptors, hardware hackers, teachers, musicians and everything in between marking a radical departure from conventional arts events Hack the Barbican was organised without any central curation or commissioning.

Taking inspiration from hacker culture the project was developed over a period of six months through weekly sessions open to everyone. The project community grew to 300 people spanning all disciplines, ages and backgrounds. Each project hosted at Hack the Barbican was completely self-resourced, with its creators acting entrepreneurially to secure the materials and skills they need.

Hack the Barbican was like a slowly growing city that is gradually taking over the Barbican's public spaces, with many

imperfections, but also many moments of unexpected magic.

5) Digital Sizzle Art Hack
For further information visist: http://www.thedigitalsizzle.com

Digital Sizzle is managed by the 3 beards. With a portfolio that includes the weekly Silicon Drinkabout (http://www.silicondrinkabout.com/london), monthly Don't Pitch Me, Bro! (http://www.dont.pitchmebro.com) and Chew The Fat (http://www.chewthefat.io), and quarterly Digital Sizzle (http://www.thedigitalsizzle.com), their events are regular, accessible and focus on creating meaningful connections aimed at collaborative growth for London's start-up ecosystem.

Digital Sizzle art hack was born when the Whitechapel Gallery approached the 3 beards and said that they were keen to attract the tech community to their gallery, these conversations spearheaded the idea of an art hack where artists and technologists collaborate and prototype. The event has a very wide brief of using data and making something creative. Having just completed the second art hack event in London they are rapidly building a solid following amongst the art and tech community.

Other relevant projects

1) Hack the Space
For further information visit: http://www.thespace.org/artist/view/hackthespacebio#.U-i-vYBdWwE

An art hack which took place in June 2014 organised by Arts Council England and the 3 beards (http://3-beards.com). Attendees were invited to create a digital artwork from scratch.

2) Near Now, Know How
For further information visit: http://www.nearnow.org.uk/projects/know-how

A structured support programme designed for arts and cultural organisations in the East Midlands to take them on a journey placing digital and design thinking at the heart of what they do. The programme has been designed by Broadway Theatre (http://www.broadway.org.uk) and Snook (http://www.wearesnook.com/snook)

Useful data sources

- Health, transport, economy, mapping and society data:
  http://www.data.gov.uk/data/search
- Education data: http://www.education.data.gov.uk
- Weather data:
  http://www.metoffice.gov.uk/education/teachers/weather-
  data
- The Office for National Statistics: http://www.nomisweb.co.uk
- Central Government Departments:
  http://www.gov.uk/ government/statistical-data-sets
- GPS data:
  http://www.openstreetmap.org/#map=5/51.500/-0.100
- Visit Britain data:
  http://www.visitbritain.org/ insightsandstatistics/inboundvisi-
  torstatistics/regions/ regiontrends.aspx
- Various interesting public and proprietry datasets:
  http://www.infochimps.com/marketplace
- European Cultural data: http://www.europeana.eu/portal
- Environment data: http://www.environment.data.gov.uk
  and: http://www.geostore.com/environment-agency
- International aid data: http://www.iatiregistry.org
- Arts audiences and engagement:
  http://www.artscouncil.org.uk/ what-we-do/research-and-
  data/arts-audiences

Local Data Stores

- Manchester:
  http://www.datagm.org.uk and http://gmdsp.org.uk
- Leeds: http://www.leedsdatamill.org
- Nottingham: http://www.opendatanottingham.org.uk
- Open Data Institute - Nodes: http://www.theodi.org/nodes

Intellectual Property and Copyright - Further reading

- The Intellectual Property Office:
  http://www.ipo.gov.uk/home.html
- *Digital Opportunity, a review of Intellectual property and growth*
  by Professor Ian Hargreaves (2011): http://www.ipo.gov.uk/
  ipreview-finalreport.pdf
- Connected Digital Economy Catapult:
  https://www.cde.catapult.org.uk
- The Copyright Hub: http://www.copyrighthub.co.uk
- Public Consultation on the review of the EU copyright rules:
  http://ec.europa.eu/internal_market/consultations/2013/copy-
  right-rules/index_en.html

Credits