Contents

1 Introduction
2 Digital Archaeology
3 We Create
4 Creative Spaces
5 Sound & Vision
6 State of Play
7 DevArt
8 Our Digital Futures
9 Indie Games
10 Commissions
11 Installation Shots
12 Sample Marketing
Digital Revolution explores and celebrates the transformation of the arts through digital technology since the 1970s. The exhibition brings together for the first time a range of artists, filmmakers, architects, designers, musicians and game developers, who are using digital media to push the boundaries of their fields. The show also looks to the future and considers the impact of creative coding, DIY and makerculture, digital communities and the creative possibilities offered by augmented reality, artificial intelligence, wearable technologies and 3D printing.

The exhibition includes new commissions from design studios Umbrellium (Usman Haque and Nitipak ‘Dot’ Samsen), Universal Everything and Seeper; global music artist and entrepreneur will.i.am and artist Yuri Suzuki; and a range of artists and performers including Rafael Lozano-Hemmer, Chris Milk, Aaron Koblin, Björk, Amon Tobin, game developers such as Harmonix Music Systems (Dance Central) and work by Oscar®-winning visual effects (VFX) Supervisor Paul Franklin and his team at Double Negative for Christopher Nolan’s groundbreaking film Inception (2010). The Barbican have collaborated with Google on a new project called DevArt and will present four new gallery commissions by Karsten Schmidt, Zach Lieberman, Varvara Guljaeva and Mar Canet.

Comprising of both, interactive art works and exhibition-based displays Digital Revolution presents a number of impressive installations. Umbrellium, who are known for their large-scale and mass-participatory outdoor events, will produce their first work within a theatre setting. This immersive experience will take-over The Pit at the Barbican, filling the space with a series of magical interactive laser sculptures and set within an otherworldly sound environment. Universal Everything, one of the UK’s leading media art studios, have developed a participatory piece allowing visitors to submit a hand-drawn artwork that they can contribute in the venue and online. Furthermore visitors can explore filmmaker and artist Chris Milk’s major shadow play work The Treachery of Sanctuary, which was presented in the UK for the first time.

Our Digital Future section explores artists’ use of recently possible and emerging technologies with London based Studio XO for TechHaus, the technical division of Lady Gaga’s Haus of Gaga, wearable technology by Pauline van Dongen and a robotic installation by Minimaforms (Theodore Spyropoulos and Stephen Spyropoulos).
Hire Fees: Upon Application
Duration: 3 months +
Dimensions: c. 800 – 1,500 m²

Number of staff travelling for install/de-install:
7 exhibition technicians for 14 day install and 7 day de-install
(Venue to cover cost of flights, accommodation, per diem, visas)

Transport: We request that one way (incoming) transport is covered by the venue. The show travels in 4 x 40ft Hicube sea containers.

<table>
<thead>
<tr>
<th>Venue</th>
<th>Country</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barbican Centre, London</td>
<td>UK</td>
<td>3 Jul - 14 Sep 2014</td>
</tr>
<tr>
<td>Onassis Cultural Center, Athens</td>
<td>Greece</td>
<td>20 Oct 2015 - 10 Jan 2016</td>
</tr>
<tr>
<td>Zorlu Centre, Istanbul</td>
<td>Turkey</td>
<td>19 Feb - 12 June 2016</td>
</tr>
<tr>
<td>Wangfu Central, Beijing</td>
<td>China</td>
<td>15 Feb - 20 May 2018</td>
</tr>
</tbody>
</table>
Digital Archaeology celebrates the seminal moments of digital creativity across the areas of art, design, film, music and videogames, and highlights the dramatic pace of technological change. This section is divided chronologically and documents the decades from the 1970s to the 2000s.

1970s: Pong (1972) and Space Invaders (1978) signalled the golden age of the arcade game. Graphical experiments such as Ed Catmull and Fred Parke’s Computer Animated Hand (1972) laid the foundation for computer generated effects, the first of which were seen in the 1973 film Westworld.

1980s: Pac-Man (1980) and Super Mario Bros (1985) paved the way for character-led games and Manic Miner (1983) kickstarted the British games industry. The soundtrack of the decade was defined by the drum machine Linn LM-1 (1980) and the first digital synthesiser, the Fairlight CMI (1979).


2000s: We Feel Fine (2005) by Sep Kamvar and Jonathan Harris gauged the mood of internet audiences and an interactive web video, Subservient Chicken (2004), changed the face of advertising, but it was Apple’s iPhone (2007) introducing addictive apps like Angry Birds (2009), which changed everything. Suddenly, digital culture was just culture.
2 Digital Archeology

Texas Instruments
Speak & Spell
Interactive hardware

Danny Kleinman
Game of Life
Interactive projection

John Conway
Game of Life
Interactive projection

Tomohiro Nishikado, Taito
Space Invaders
Interactive arcade machine

Joan Heemskerk & Dirk Paesmans
www.Jodi.org
Interactive Project

Apple
MacPaint
Selection of 2C Prints

Digital Revolution Tour Pack
We Create

The shift from content consumer to content producer, an outcome of readily available digital tools which are often free to use, is examined in We Create. The works in this section demonstrate how the digital has created new opportunities for artistic expression.

The Johnny Cash Project (2010), by Chris Milk and Aaron Koblin, allows fans to pay tribute to their icon by participating in a group artwork online. In a similar way the adventure game Broken Age (2014) showed that fans familiar with Tim Schafer’s previous work could directly impact on the development of the game by using the crowdfunding website Kickstarter as an alternative funding platform to other, more traditional funding models.

The Massively Multiplayer Online Role Playing Game (MMORPGs) Minecraft (2009) has enabled thousands of individuals not only to play together, but also, craft together, pooling labour resources to create virtual architectures for others to appreciate, or even attempt to destroy.

The Deleted City 2.0 (2011) explores an early DIY net culture, which has evolved into the hacker and maker-culture of today by way of experimentation with accessible hardware platforms such as Arduino, Raspberry Pi and BeagleBone. This has given individuals and small teams the power to produce imaginative and interactive artworks as demonstrated by Type Case (2010), Escape II (2014), Pristitrope (2012).
3 We Create

Mojang
Minecraft
Game

Richard Vigen
Deleted Cities 2.0
Interactive installation

Chris Milk and Aaron Koblin
The Johnny Cash Project
Interactive installation

Double Fine
Broken Age
Film clip and display object

Quirken Swagerman, Jasper van Loenen and Mr. Stock
Pristrope
Multimedia
4 Creative Spaces

Creative Spaces demonstrates how conventional notions of time, space and narrative can be re-imagined using digital tools.

The section begins by looking at the world of visual effects (VFX) in Hollywood cinema. From computer-generated imagery (CGI) and pre-visualised animation, to bespoke constructions such as the lightbox, today’s VFX industry is characterised by technological innovation and a creative approach to filmmaking.

We explore Christopher Nolan’s Inception (2010) and Alfonso Cuarón’s Gravity (2013) through the eyes of the Oscar-winning VFX supervisors Paul Franklin from Double-Negative and Tim Weber of Framestore. We look at how digital technology is changing the role of modern-day animators using DreamWork’s How To Train Your Dragon 2 (2014) as a case study.

Outside of Hollywood the affordability of creative tools has opened up spaces allowing independent studios to make their own unique films, like Factory Fifteen and Director Kibwe Tavares’ Robots of Brixton (2011) and Jonah (2013).

Artists and coders are also using technology online to experiment with the creation and delivery of narrative. James George and Jonathan Minard’s Clouds (2013), FIELD’s app Energy Flow (2012), and artist James Bridle’s Dronestagram (2012-ongoing), all connect audiences to content in exciting and poignant ways.
4  Creative Spaces

Kilwe Toname/Factory Fifteen
Robots of Brixton
Static display object

Dreamworks Animation
How to Train Your Dragon 2
Interactive display

FIELD (Vera-Maria Glahn and Marcus Wendt)
Energy Flow
Graphic display

Tim Webber/Gravity, [Dir. Alfonso Cuaron]
Gravity Lightbox
Interactive display

Paul Franklin/Double-Negative (Dir. Christopher Nolan)
Inception display
Interactive display

James Bridle
Dronestagram
Floor projection and tablet display

Digital Revolution Tour Pack
**Sound & Vision** explores the visualisation of music through the eyes of musicians, artists, film-makers and designers. The explosion of imaging technologies has come to influence not only the sounds we hear, but also, the style in which we see them changing the look and feel of music for ever.

Globally-renowned recording artist and technology entrepreneur will.i.am in collaboration with artist Yuri Suzuki present Pyramidi (2014); an immersive and multi-sensory installation. His first work to be exhibited in a gallery setting, will.i.am has composed a newly commissioned song brought to life through three robotic instruments and accompanied by a projection-mapped backdrop.

As viewing experiences cross-over onto multiple mobile devices musicians are choosing to work with artists to visualise music in new ways. This connects them to larger audiences and allowing their fans to contribute. Highlighted here is a selection of ground-breaking apps, including Biophilia (2011), developed by Björk in collaboration with interactive artist and app developer Scott Snibbe, and Peter Chilver’s and Brian Eno’s generative music app Scape (2012).

Finally we feature a selection of some of the most dynamic and inventive data-driven, interactive and computer generated music videos, from Radiohead’s House of Cards (2008), and Daito Manabe’s Music for Robots (2014) with Squarepusher, to Chris Milk’s interactive music video The Wilderness Downtown (2010).
5 Sound & Vision

Scott Snibbe
Euphixo
Interactive installation

Chris Milk / Aaron Koblin / Arcade Fire
The Wilderness Downtown
Interactive installation

James Frost (Radiohead)
House of Cards
Music Video

Peter Chilvers
Scope
Interactive installation

will.i.am and Yuri Suzuki
Pyramid
Musical installation

Andrew Thomas Huang (Björk)
Mutual Core
Music video
State of Play looks at the ways in which artists and game designers have experimented with notions of play and gesture using camera technologies.

Digital artists Rafael Lozano-Hemmer’s The Year’s Midnight (2011) and Daniel Rozin’s Mirror No.10 (Sketch Mirror) completed in 2009, show how artists have adopted (and adapted) camera technologies, so that they can be harnessed into what can be considered an interactive form of digital portraiture.

In film-maker and director Chris Milk’s monumental work The Treachery of Sanctuary (2012), the performer engages in a personal narrative, whilst participating in an interactive shadow play controlled by their own bodies, exploring a journey through life, death and transfiguration.

The artworks in State of Play show how the roles of viewer and computer have now become reversed: whereas once the player watched a screen and interacted via a simple hand-held controller, the computer now carefully watches over the player – as the marketing slogan says – YOU are the controller.
6 State of Play

Chris Milk
Threats of Sanctuary
Interactive Installation

Daniel Rozin
Mirror No.10
Interactive art installation

Rafael Lozano-Hemmer
The Year’s Midlight
Interactive art installation

Digital Revolution Tour Pack
DevArt challenges what code can be, and what art can be.

When developers use code to push the possibilities of creativity and technology, the result is a new type of art. It’s called DevArt and it’s made by a new type of artist. Using technology as the canvas and code as the raw materials these interactive artists create innovative, engaging digital art installations. The DevArt section of the Digital Revolution Exhibition shows what is possible when code and creativity are combined to create art.

Inside the exhibition you will see the work of three of the world’s finest interactive artists: Karsten Schmidt, Zach Lieberman, and duo Varvara Guljajeva and Mar Canet. They have been commissioned by Google, and the Barbican Centre, to create three all-new installations. Over the past few months, people logging in have been able to track the progress of these projects through regular updates on g.co/devart — from concepts and early sketches to the completed work.

The site was also used to give a platform to new, up-and-coming interactive artists. Our call for submissions was met with hundreds of responses from artists all around the world. Out of these, the interactive artist duo Cyril Diagne & Béatrice Larrique has been awarded a commission to create a new work of art to appear in the DevArt section of the Digital Revolution Exhibition.
7 Dev Art

Zach Lieberman
Play the world
Interactive Installation

Karsten Schmidt
Co(de)Factory
Interactive 3D modelling tool and 3D Printer installation

Cyril Diagne & Béatrice Lartigue
Les métamorphoses de Mr. Kalia
Interactive art installation

Mar Carret & Varvara Guljajeva
Unified Butterfly work
Interactive installation
Our Digital Futures presents a selection of some of today’s most experimental and future-focused artists, architects and designers. With particular reference to the body and our environment the projects span the worlds of cyborg and wearable technologies, drones and “big” data.

The Not Impossible Foundation present BrainWriter (2014), designed for the paralysed graffiti artist Tempt1, it can read peoples thoughts and track their eye movements allowing them to communicate with the outside world. Artist Neil Harbisson has achromatopsia, a form of rare colour-blindness, meaning he can only see the world in black and white. Since 2004 Harbisson has used the Eyeborg, a mechanism he designed that translates colour into sound enabling him to hear a world in technicolour.

Fashion technologists Studio XO, recently launched the first ever drone dress with their flight couture collection and CuteCircuit have designed the iMiniskirt (2013), an accoutrement of personalised animations instantly controllable by a bespoke app. Fashion designer Pauline van Dongen presents Wearable Solar (2013), and The Unseen exhibits Control (2014), a technology garment that responds to the shifting weather patterns in outer space.

Artists and architects are also working within the worlds of augmented reality and gaming to create environments that lie somewhere between imagined and real spaces. Martelli/Gibson (Bruno Martelli and Ruth Gibson) present, Man A (2013) a seemingly flat geometric surface that is activated by a user’s mobile app. Musician John Cale collaborates with speculative architect Liam Young on Lost Signal (2014), a drone orchestra performance and interactive online multi-player environment.
8 Our Digital Futures

Katia Campora Vega
Kira Video Clip

Gibson/Martelli
Man A Interactive installation and app

Rafael Canepa Vega
Kira
Video Clip

Cute Circuit
Mini Bert (TBC Name)
Display Object and app

Pauline van Dongen
Wearable Solar
Display Object

The Not Impossible Foundation
Brainwriter Interactive Installation

Brainwriter Interactive Installation

Liam Young
Drone Orchestra Collaboration with John Cale and commissioned performance with interactive WebGL project
Indie Games

Space looks at videogames that have been created with generally little or no direct support from a videogame publisher. Often consisting of no more than a coder, sound and graphics artist, independent games now span many genres, from puzzle games such as Blek (2013), twitch games such as Canabalt (2009) and randomly-generated exploration fantasies such as Proteus (2011). Games such as the BAFTA Award winning Papers, Please (2013) and Journey (2012) have also experimented with gameplay as an emotional form of storytelling.

For some, game development is a personal labour of love and individuals such as Phil Fish, Terry Cavanagh, Kenta Cho and Daisuke “Pixel” Amaya have designed games crafted by single minded persistence and, in some cases, taking years of struggle to come to fruition.

More recently new methods of distribution have allowed independent development to become financially viable and today indie games flourish as a breeding ground for new experimental ideas.

Although making videogames was a more laborious process when Jeff Minter’s Attack of the Mutant Camels (1983) was coded, today indie development is a more open affair. Accessible tools such as Flash, Unity 3D and the Unreal 3 engine, being used to prototype or develop games, such as Antichamber (2013), Thomas Was Alone (2012) and Today I Die (2007).
9  Indie Games

- Davor and Denis Mikan
  Blek

- Daisuke “Pixel” Ayama
  Cave Story

- Jeff Minter
  Attack of the Mutant Camels

- Ed Key / David Kanaga
  Proteus

- Phil Fish
  FEZ
10 Commissions

Petting Zoo, 2013
Minimaforms
Real-time behavioural environment/soft robotic installation

In the form of suspended robotic arms Petting Zoo (2013) is a generative robotic installation populated by inquisitive and artificially intelligent creatures, which respond to human engagement. Using a real-time camera-tracking system that can locate people and detect gesture and activity each pet has the capacity to process data so that they can learn and explore different behaviours by interacting with the public and each other.

Assemblance, 2014
Umbrellium

Assemblance, Umbrellium’s specially-commissioned new artwork, is an environment filled with three-dimensional interactive light-structures that are created, manipulated and modified by visitors to the space. Through sweeping gestures and gentle movements that leave trails of light behind and around them, people become players on a stage, collaborating with each other to build complex forms... or destroying them if they’re not careful. At times magical, and at others times slightly sinister, the light structures created in Assemblance have a physical presence, although you can’t feel them with your hands.

Together, 2014
Universal Everything

Together is a collaboration between Universal Everything and the audience, bringing together two fundamental parts of Universal Everything’s process: drawing and rule-based creativity. The artwork is a bespoke web app that presents the audience with a minimal shape and colour palette to prompt inventive responses from a limited toolkit, encouraging them to create short animated loops. The minimal toolkit enables the audience to duplicate a frame, onion skin, trace over a guide frame, and erase or delete a frame. The audience-created loops will be shown in an array of 24 screens, creating a wall of individual animations that are a collective response to the aesthetics and rule-based limitations presented to them.

The Treachery of Sanctuary, 2012
Chris Milk

The Treachery of Sanctuary is inspired by the aura of primal human experiences with technology as felt in the prehistoric paintings on the walls of the caves of Lascaux. The piece is an interactive triptych whereby the stories of birth, death and spiritual transfiguration are played out on the giant white panels and reflected on the mirrored surface of the water. As a camera tracks the viewer’s body movements, it translates them into a series of projected shadow plays that combine with those of birds, allowing the visitor to feel transformed and immersed in the experience.
11 Installation Shots

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11 Installation Shots

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11 Installation Shots
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