INVENTORY

Collaborative work from BlackBerry and the Helen Hamlyn Centre for Design at the Royal College of Art

7 YEARS | 7 PROJECTS
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FOREWORD

It was in Arthur C. Clarke’s polemic book ‘2001: A Space Odyssey’ – famously brought to film by the brilliant Stanley Kubrick – that I first discovered what research was really all about. I was a student at the Royal College of Art at the time – curious, rebellious, confused – and had found a first edition in its library. I had already seen the film and soon realised that Kubrick had taken Clarke’s book, which was a work of fiction, and religiously layered a depth of space research over it, research that Kubrick personally investigated. He had interviewed retired astronauts and physics engineers to create such cinematic detail that at one point NASA requested a personal visit to his production studio in Elstree (just outside London), to witness where space exploration might well be in the future.

The reason I mention this piece of history is that while Clarke had been curious about the potential dilemmas faced by the future, Kubrick was driven by insight – the ability to investigate current reality to inform his imagination. It is this combination of curiosity and insight, by two very different figures, that led to one of the most compelling visions of the future.

And so we come to BlackBerry – a technology company that must itself continually navigate the current while grappling with the future. To help with this ‘future’ part, they worked with design researchers from the Helen Hamlyn Centre for Design (HHCD) for a period of seven years. This is a significant commitment – something I had not realised until Todd Wood, BlackBerry’s key design director, revealed it to me. Technology doesn’t run at the same speed as other areas such as agriculture or banking, but instead it changes much faster. In fact it’s probably similar to dog years, which means that BlackBerry’s relationship with the HHCD translates to almost 50 years? A good moment to reflect on the curiosities that drove it and the insights that ensued, captured in this collaboration.

Sam Hecht
RCA Alumni – Founder of Industrial Facility
**Project Directors** (BlackBerry):

- **TODD WOOD** Senior Vice President Design
- **JASON GRIFFIN** Vice President Foresights

**Project Director** (The Helen Hamlyn Centre for Design, RCA):

- **RAMA GHEERAWO** Deputy Director

**Project Researchers:**

- **MAJA KECMAN** / 2006
- **CIAN PLUMBE** / 2008
- **YUSUF MUHAMMAD** / 2009
- **CLARA GAGGERO** / 2010
- **CATHERINE GREENE AND LISA JOHANSSON** / 2011
- **GIANPAOLO FUSARI AND LISA JOHANSSON** / 2012
- **CRISTINA GORZANELLI AND CHRIS MCGINLEY** / 2013

**FOUR STAGES DOUBLE DIAMOND PROCESS**

- DISCOVER
- DEFINE
- DEVELOP
- DELIVER
INTRODUCTION

This book covers seven years of collaboration between BlackBerry and the Helen Hamlyn Centre for Design (HHCD) at the Royal College of Art (RCA). It describes the design outcomes of the relationship between a global leader in wireless innovations and one of the UK’s leading design universities. It showcases a successful and long running partnership between an academic institution and a business organisation through the knowledge exchange, design projects, research methods and ideas that have resulted.

The number seven features throughout the book, a playful reflection of the seven ‘bullets’ in the BlackBerry logo. There have been seven years of work and seven projects completed, and in the publication, BlackBerry and HHCD project directors responded to seven questions. Seven statements end the Future Perspectives section of the book and even at the reunion workshop held for previous project researchers in 2013, seven people contributed.

Central to all the work is the people-centred design approach that is core to both organisations. Technology is often associated with rapid technical development and cutting edge innovation in a digital or silicon context. Engaging people in design research and in co-creation processes has not been historically seen as a starting point for innovation. This has been a special hallmark of the relationship – the emphasis on understanding human behaviour, community aspirations and the varying needs of people of diverse cultures, ages and abilities.

The projects were part of the HHCD’s Research Associates programme, which teams RCA design graduates with industry, government or voluntary sector organisations to work on year-long design research projects. BlackBerry is currently the longest-running industry partner on the programme. Each designer, termed a Research Associate (RA), is schooled in a range of research techniques including questionnaires, workshops, co-creation, diaries, interviews, observation, design provocation and research kits.

A key part of the project involves working with users and communities, and designers have talked to gardening communities, grandparents, isolated homeworkers, visually impaired teenagers, food lovers and busy sales staff to name a few. The project year follows four stages of the double-diamond process as defined by the UK Design Council (see facing page). Each stage is convergent or divergent depending on whether it is about ‘blue-sky thinking’ or focusing ideas. Typical activities in each stage are:

- **DISCOVER** (divergent): exploration of brief and hypothesis, contextual research and definition of project participants or communities.
- **DEFINE** (convergent): designing and conducting design ethnography. People-centred design briefs defined from the research insights.
- **DEVELOP** (divergent): development of a number of ideas through co-creation and design ideation processes.
- **DELIVER** (convergent): selection of ideas to take forward and delivery of outputs in the form of prototypes, services ideas or guidance.

In 2010 RCA Masters students became involved to add a further creative dimension and engage the RCA design studios. This facet was also run as a competition with student prizes and further exhibitions of the work being held every year as part of the London Design Festival to showcase the ideas.

A signature part of the process was a single two or three word brief that was set at the start of each project. Although a challenging concept, it allowed the designers to go on a journey, to interpret a broad concept in their own way and not dive straight into a results orientated approach. The consideration of a social issue, involving research participants in the process and understanding people, had a stronger emphasis than device design over the seven years.

This has been the basis of the relationship between BlackBerry and the RCA – an emphasis on exploration, a focus on people and community, and strong mutual trust built on friendship that has led to a spirited seven years of collaboration and discovery. We hope you enjoy this book as much as we have enjoyed working on the projects within it.
Why the collaboration with the Helen Hamlyn Centre for Design?
It’s important, given our history. BlackBerry began at University of Waterloo, Canada, so the relationship with education is part of the foundation of the company. The RCA is world famous as a place of design and education, and the Centre embraces a user-centred design approach in which we share a passion and an interest.

Why does the relationship work?
Like all great relationships it is built on trust, openness and respect. Over the years, it has become more valuable and more meaningful as a result. It never really feels like work! It’s always fun to create and work together.

What is the ideology behind the relationship?
We fundamentally believe in user-centric design as an approach to improve quality of life through the practice of design.

Why is working with people important?
The constraints that inform any project, or object for that matter, are typically technology, business and user needs. We look to users as the primary source of both the problem and opportunity statements, as well as the inspiration to create innovative products or services.

What have you learned from the collaboration?
I guess beyond all the wonderful ideas, insights, innovations, and inspiration, I think I have learned that the power of collaboration and working well with others in this global context is really limitless in terms of its potential.

What has been stand-out or unexpected over the seven years?
I think it is outstanding how fresh all of the ideas and work appear, even in retrospect. But in addition I think it is incredible to look at everyone that we have supported and worked with to see how well they are doing, and what a positive impact they are having in the world, industry and society. This year marks the seven year point of our relationship with HHCD. Seven is also a lucky number for us at BlackBerry, as we happen to have seven bullets in our logo! It felt significant to us, and it inspired us to reflect, to take an inventory of the great work we have done together. Somehow capturing this journey in a beautiful book seems the most appropriate way of celebrating the relationship.

How do you make business/academic partnerships work?
The real secret was keeping the ‘briefs’ brief and somehow every year we managed to get our problem statement down to a few words. I believe you must start with a great problem definition, and put trust in the people and the process.
1 Why the collaboration with the Helen Hamlyn Centre for Design?
At BlackBerry we have always wanted to focus on user-centred design. This is also core to the Centre’s belief. At the Centre there is an amazing diversity of people, skills and creativity. We both believe in an inclusive design approach.

2 Why does the relationship work?
We have a similar mindset. There is a strong alignment between the desires of the Centre’s researchers to find something new, and we share in that excitement. We do not come to the Centre with a solution in mind. We are looking for inspiration and different ways to look at a problem.

3 What is the ideology behind the relationship?
To find new approaches to a problem and to trigger inspiration. Being able to share that solution or insight internally can really open a company’s viewpoint. In industry, you are bombarded with predetermined solutions. We need to open up our viewpoint and not get stuck with the traditional approaches.

4 Why is working with people important?
You learn things that you did not comprehend before. The value is obvious as you always come away with insights, feelings and knowledge that you did not know going in. It is different to research techniques that reinforce what you already know.

5 What have you learned from the collaboration?
In each project we learned new things. Overall, it is just a powerful process that unleashes creativity which is an unrestricted combination of the right people, process and mindset. For me, understanding the details of the process and why it works is key.

6 What has been stand-out or unexpected over the seven years?
The fact that you can always be surprised. You build a feeling when starting that you are going to be excited by the results. The quality of the people is amazing, and the diversity in thinking is so beneficial in getting great creativity and inspiration.

7 How do you make business/academic partnerships work?
It is important to not treat the partnership like a traditional business relationship. You are adding in things that business tries to remove such as ‘risky projects’. It is critical to bring that back to the organisation. From the academic side, there is a freshness but also commercial naïveté, so this needs business knowledge and experiences.

Jason Griffin, Vice President Foresights, BlackBerry. Jason and Todd led the projects from the BlackBerry perspective, instigated many of the briefs and supported throughout each year. Jason sees this book as a celebration that shares experiences that other people can learn from.
1 Why the collaboration with BlackBerry?
The collaboration started with a phone call between myself and the BlackBerry team in 2005 talking about older people and technology. This led to the ambition of doing projects that create usable technology to improve people’s lives. BlackBerry as an innovative technology company and global name meant that we were well-matched partners in making this happen.

2 Why does the relationship work?
The relationship works because the values are shared and both organisations have pushed for exploratory rather than risk-averse outcomes. The relationships between individuals from both organisations are incredibly strong and ‘fun’ – evidenced by how enjoyable project meetings were and how motivated and energised we were.

3 What is the ideology behind the relationship?
The projects are embedded in a people-centred approach which is core to the work. We do not aim to simply design new devices, but want to learn about how people communicate, how they connect and the experiences they have.

4 Why is working with people important?
Understanding people’s needs, desires and aspirations is one of the most powerful ways of inventing and innovating in the digital space. This helps match future technology to real people’s needs.

5 What have you learned from the collaboration?
Many things such as the importance of involving people when creating digital technology propositions, the need to think about services not just devices, and the value of asking ambitious questions in a design brief.

6 What has been stand-out or unexpected over the seven years?
Seven years ago, we felt that technology would evolve rapidly but what was unexpected is how quickly people’s behaviours, attitudes and relationship to technology have had to change in response.

7 How do you make business/academic partnerships work?
Both types of organisation have to bend a little. For business, this means stepping outside of constant commercial pressures of product development to engage more deeply in research. For academia, it means tightening up timescales and delivering practical as well as theoretical results.

Rama Gheerawo is the Deputy Director at the Helen Hamlyn Centre for Design, Royal College of Art. He directed and led the seven project collaborations outlined in this book and was principal investigator for the research. The book celebrates a milestone achievement in terms of an active, seven-year partnership between business and academia. It was a good time for Rama to reflect on the work and assess the project ideas in today’s digital context.
1. Why the collaboration with BlackBerry?
BlackBerry built a brand on anticipating user needs and designing for them, so the fit with our people-centred approach is a good one.

2. Why does the relationship work?
BlackBerry does not give a detailed, over-specified brief. In fact, the company works with two or three-word briefs and broad-brush approaches. That leaves space for our design researchers to explore and creatively interpret. This is a good use of us as an academic resource.

3. What is the ideology behind the relationship?
I am not sure if there is an ideology as such, more a trust. BlackBerry’s interest in fostering the development of young designers at an early stage in their career by giving them a lot of space to experiment is ideological, one could say.

4. Why is working with people important?
Smartphones are to the early 21st century what the motor car was to the early 20th century – transformative in terms of distance and relationships and increasingly ubiquitous as an industrial artefact. People’s needs and aspirations drove the rise of the smartphone, and only by working with people can we see the next curve.

5. What have you learned from the collaboration?
Digital technology moves incredibly fast. However, trust with users and consumers builds more slowly, so a people-centred approach is a solid foundation on which to conduct research.

6. What has been stand-out or unexpected over the seven years?
When we started with BlackBerry, we did not realise how central the smartphone would be to every single aspect of life. That has been the most unexpected thing – the sheer pace of change.

7. How do you make business/academic partnerships work?
There is no magic button. Business wants to get closer to its customers. At the Centre, we work very hard to develop new ways of doing design research to try to make that happen. That is a good fit and a process that works for us.

Jeremy Myerson is co-founder and Director and Chair of the Helen Hamlyn Centre for Design. He supported the seven project collaborations at both a practical and supervisory level. For Jeremy, seven years is a long time in an industry/university collaboration, and a lifetime in mobile technology terms. It seemed like a good moment to review what had been achieved and what had been learnt.
BlackBerry was championing the ‘always on, always connected’ internet. The ‘cloud’ was just an idea but BlackBerry customers were already experiencing aspects of it. The company saw that a businessperson’s mobile phone was about more than messaging, making wireless data a more mainstream concept.

Staying connected on the road became the next big thing as email became standard corporate communication. BlackBerry devices delivered a great email experience and true ‘push’ service (something other platforms were still trying to achieve ten years later).

The company further pioneered the idea of ‘push’ – where you get new content immediately, rather than waiting until you request it – ultimately becoming a BlackBerry hallmark.
A watershed year for the smartphone, finally consummating the marriage of the cellphone and the connected organiser in a suitable, usable way. People liked having their phone, email, and calendar in a single, pocket-sized device.

Nokia’s share of the smartphone market was estimated at 90 percent worldwide and the introduction of BlackBerry Connect to Nokia’s Symbian devices ensured BlackBerry’s visibility as a platform, not just as a producer of devices. BlackBerry smartphones were given a smaller, lighter package and functionality increased with more internal device memory.

The millionth subscriber to BlackBerry services signed up and the company announced new international carrier deals almost every week. The first speakerphone BlackBerry reflected the company’s increasing focus on the consumer market.

The service exploded from 1 million to over 4 million subscribers seeing the first QWERTY BlackBerry with a clear Send / End key arrangement.

References:
Wi-Fi goes mainstream
A combination of improved accessibility and efficiency makes Wi-Fi a viable option for the masses.

Twitter is launched
Twitter was launched in July 2006. Within a few years, it was comparable with Facebook in terms of prominence. By 2012, Twitter had 500 million users, generating 340 million 'tweets' a day and handling 1.6 billion searches.

Facebook goes mainstream
The social networking service launched in 2004. Initially membership was limited to Harvard students, gradually opening up to other universities and then high school students. By 2006 anyone aged 13 and older with a valid email address could join.

BlackBerry devices now adopted 3G, dual-mode and Wi-Fi radios, autofocus cameras, high resolution displays and optical trackpads. At the same time they built on the same back-end security, collaboration and communication benefits that the company was known for.

The consumer market made a sharp turn toward touchscreen capabilities in the two years since Apple's iPhone was launched.

Cameras became an integral part of smartphones.
The BlackBerry Pearl represented a move from smartphones being differentiated by model numbers to model names, and promoted use of the trackball, an unique feature for a phone at the time. So popular was the Pearl that the company added in a 2 megapixel camera, Wi-Fi, and GPS. It remained on the market for three years.

iPhone goes on sale
With the introduction of the iPhone, mobile technology devices with touchscreens became widely accepted and eventually were the most common form of interface on mobile devices.

Google Street View launched
A visualisation technology that provides panoramic views from positions along many streets in the world is launched. Street View images appear when zooming in beyond the highest zooming level in maps and satellite images.

Flash Memory
Flash memory became a feature of many consumer electronics products, from ultralight notebooks to digital cameras and media players.

GPS
The Global Positioning System (GPS) was operational in 1978 and available for commercial use since 1993, but was limited to expensive personal navigation devices. GPS now became mainstream.

The world goes App mad
Since Apple launched its App Store in July 2008, users have downloaded more than two billion applications, including games, travel planners, music services and productivity tools.

Twitter goes mainstream
Stephen Fry, the UK’s leading celebrity Tweeter, joined in 2008. However, it was not until early 2009, around the time that he tweeted while stuck in a lift, that the service went truly mainstream.

Satellite navigation on smartphones
TomTom and CoPilot systems became available on Apple smartphones, whilst Android users have the same built-in functionality as GPS units.

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Satellite navigation on smartphones
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<td>2010</td>
<td>The Playbook, the first BlackBerry tablet, was released.</td>
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<td>2011</td>
<td>An optional ‘sideloader’ that could play Android Apps on the BlackBerry PlayBook was announced.</td>
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<td>2012</td>
<td>In 2005, BlackBerry had 4 million subscribers. Seven years later, in 2012, the number was at 80 million.</td>
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<td>2013</td>
<td>BlackBerry's new Operating System, BB10, featured a Hub function which collates, sorts and presents data from multiple sources such as email, SMS and social media in one place. It simplified complex interfaces into one readable repository.</td>
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### The arrival of 3D
3D television entered the marketplace this year and the technology to create 3D content followed shortly.

### Joysticks becoming obsolete
Sony’s PlayStation Move combines controller tracking with body tracking via a camera while Microsoft’s Kinect uses a camera, projector and microphone to track the voices and body movements of players. These systems immediately demonstrated potential beyond gaming.

### The rise of the tablet
The battle between big-name tablets such as Apple, BlackBerry and Google also saw many new Android tablets on the market.

### Cloud storage and streaming
Cloud-based systems became the hot topic with key operating systems talking about launch dates.

### Augmented Reality
Augmented Reality continued to move from gimmick to everyday technology with Apps such as Yell.com’s augmented reality directory.

### Mobile tickets and payments
Services from supermarkets to airlines began to use smartphones as loyalty cards and boarding passes.

### 3D printing switches on
The cost of 3D printing for home desktop use becomes a viable option as prices continue to decrease, but this still largely remains in the domain of hobbyists and enthusiasts.

### Google Glass
Wearables have been around for some time, but with promises of optimal size, weight and cost, public interest is significant. A developer version is made available this year with consumer version anticipated in 2014.
MAJA KECMAN
GENERATION GAME: making Wi-Fi devices more inclusive

DESIGNER PROFILE
Maja Kecman is an industrial design engineer. She holds a Masters degree in Industrial Design Engineering from the Royal College of Art and an undergraduate degree in Manufacturing Engineering from the University of Cambridge. She is passionate about developing products that meet the needs of real people, creating simple solutions to complex problems and guiding clients and colleagues through the design process.

Maja’s design experience ranges from consumer products to factory layouts, but her specialisation now centres around design in healthcare. Following the BlackBerry project, she continued at the Centre focusing on medical devices including a knee replacement instrument kit for DePuy, Johnson & Johnson. Her graduation project – a device allowing women to take a Pap smear tests by themselves – is currently in clinical trials at a hospital in Manchester, UK.

In 2011, Maja became Head of Design at the Centre for Vision in the Developing World. Her work on self-adjustable glasses won first place in the public vote of the Design Museum’s Design of the Year 2013 competition. Currently she is part of a team of designers at Helix, a new centre for healthcare innovation at St Mary’s Hospital in London, working alongside clinicians to use design to improve patient care.

REFLECTIONS
Maja reflects that working on the BlackBerry and Helen Hamlyn Centre for Design collaboration exposed her to open briefs. Although this pushed her out of the comfort zone of the defined engineering brief, she notes that it helped her develop a keen focus on the user. She also developed interview strategies that she still uses today.

At the core of Maja’s project was the premise that devices should adapt to people rather than expect people to adapt to technology. Since her project, she points out that devices are markedly more intuitive now and are revolutionising the way we interact with technology – even her 65 year-old ‘tech-averse’ mum quickly picks up many features in today’s devices.

However, Maja believes there is still a long way to go. Having recently spent three months at the Singularity University, based in a NASA campus in California, USA, she is convinced the answers to most global issues can be addressed through ‘accelerating technologies’ applied to the world’s grand challenges such as health, education, food, water, environment and security.

Maja concludes that understanding people, their desires and behaviours, is the only way to design something that will actually be used.
YEAR 1: 2006

GENERATION GAME

PROJECT BRIEF
Inclusive Wi-Fi

PROJECT SCOPE
Look at how wireless technologies can better facilitate communication between individual members of the multi-generational family.

TECHNOLOGY CONTEXT
Before this study took place, Wi-Fi was mostly used by business people and was still emerging as a mainstream technology. A key aim was to see how Wi-Fi could benefit families as it became more ubiquitous and less expensive.

SOCIAL CONTEXT
Older users were the main focus for the research as part of the larger multi-generational family unit. Increased longevity is leading to more generations in a family with great and even great-great grandparents being a part of family life. Based on research with real people, a model family was devised comprising a mother, father, teenage daughter, toddler and grandmother, each with different mental and physical abilities, as well as different relationship needs.

INSIGHTS
1. Family communication tends to be reliant on a ‘hub’ member, usually the mother.
2. Digital technology can help to support better communication between the generations and even mediate family differences.
3. Devices should work at the level of simplicity demanded by each family member.
4. Younger family members tend to be the ‘technology specifiers’ giving them an authoritative role relative to older family members.
5. Enabling connection between grandparents and grandchildren is important.

DESIGN IDEAS
The design concepts build around a technology ‘hub’ that allows family members to use Wi-Fi to communicate by using the medium best suited to each person. The mother sends a single message
The multi-generational family, the focus for this project (facing page)

The hub translates communication between individual members of the multi-generational family (below)
that the father receives as e-mail on his laptop, a tune plays on a toy for the six year-old, a ‘ping’ secretly alerts the teenage daughter so she is not embarrassed in front of her friends, whilst a printed message is created for the grandmother on her device.

Two new Wi-Fi enabled devices are part of this service. The six year-old has a digital tablet that allows them to send drawings to other family members by pressing icons. The grandmother’s device contains a miniature scanner and printer so she can write messages using pen and paper, which are then converted to emails and text messages. Digital messages from family members are then printed out as physical letters.

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RELEVANT DEVELOPMENTS

Wi-Fi is now a mainstream technology and a number of ideas captured in the project are reflected in recent developments. The interconnectivity of Wi-Fi and the rise of the idea of the Internet of Things has enabled devices to talk to each other, whether a laptop talking to a printer or a car downloading multimedia updates from a house.

The rise of cloud computing has also allowed more than one device to communicate through a hub-like system and Wi-Fi has enabled digital connectivity to benefit not just the business user – it is now a basic technology that most families rely on. However, the varied digital needs of the multi-generational family needs further attention, especially as lifespans extend and older people become increasingly digitally curious.

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A digital tablet that allows children to send drawings to family members by pressing icons (facing page, above)

A grandmother’s device contains a miniature scanner and printer (facing page, below)

Screenshots from interviews with different families in London (below)
Cian Plumbe is an industrial designer. He holds Masters degrees in Industrial Design Engineering from the Royal College of Art and Mechanical Engineering from Bristol University. He is an experienced designer who places a strong emphasis on research and process. He has worked with leading universities, dynamic companies, and adventurous start-ups to create original and game changing innovations. His work spans the areas of product, service, communication, digital and web.

Cian started working at the Helen Hamlyn Centre for Design in 2006, exploring the interactions between people and technology. In 2007 he further developed this interest examining the idea of seamless mobility with BlackBerry; together they examined future technology scenarios to enable the work-life blend.

In 2009 Cian formed Studiohead Ltd with Matthew Harrison (another Helen Hamlyn Centre for Design alumnus), working on a broad range of products from medical simulators for surgical training to barbecue sauce packaging.

Cian reflects that the open brief is a rarity. He found it refreshing, and respected the fact that a designers from BlackBerry could have such an open mind. He states one of the many things he took away from the project was that while technology continues to change at a rapid pace, the desires of people remain relatively consistent: the importance of communication with friends and family; the boundaries between sharing and privacy; relationship between work and leisure. However, what changes is the space and manner in which this happens.

This project helped Cian appreciate the complexity of capturing user research and of devising appropriate research methods. A further challenge he faced was explaining complex and often intangible ideas based around the notion of imagining the future. To overcome this he developed techniques of scenario building, design provocation and story-telling, to check, validate and ultimately communicate ideas. These are tools that he now uses frequently in his work.

Some of the topics Cian’s project considered included ideas around lifestyle-tracking, time away from communications and leveraging local knowledge, which he sees in today’s technology offerings. However, he believes that digital technology still has a long way to go, and what will change most is who we communicate with, and how we do it.

Cian concludes that working closely with people is key to advancing communication, as people are unpredictable and surprising, and that inspiration is needed to drive meaningful innovation.
YEAR 2: 2008

SEAMLESS MOBILITY

PROJECT BRIEF
Seamless mobility

PROJECT SCOPE
Investigate opportunities for digital technology to create a better work-life ‘blend’ for a new generation of mobile urban dwellers.

TECHNOLOGY CONTEXT
In 2007, information and communication technologies were changing the way people worked and the way they lived. The increase in mobile, connected devices, the rise of new services and the emergence of social media were all creating new freedoms and data experiences. The project asked two important questions. Firstly: BlackBerry technologies expand their capabilities, so what new roles will they now fulfill? Secondly: BlackBerry services have enabled ‘work’ to happen outside the office, so how can they enable ‘life’ to take place?

SOCIAL CONTEXT
The project explored the ‘seam’ between work and life. Although traditionally viewed as work-life balance, the project proposed that it was more of a work-life blend with the boundaries for most people becoming blurred. Seven knowledge workers were visited in their homes or at work, informally interviewed and given research kits to capture a week-long snapshot of their lives. From this, four personality types were developed, demonstrating how technology was being used to combine work and life in novel ways.

INSIGHTS
1. **The Overlapper**: “My work and life share the same space.” This person is generally ‘always on’, using their device both professionally and socially.
2. **The Separator**: “I have strict boundaries between work and life.” This person keeps work and life distinct and rarely works when on ‘family time’.
3. **The Expander**: “My work expands into my personal life.” This person has an imbalance, where work takes priority over life.
4. **The Reclaimer**: “I am trying to reclaim my life from being too work-focused.” Work is organised around social or personal fixtures and events.
Quick Time envisages new ways of switching off the phone.

From work-life balance to work-life blend (below)
DESIGN IDEAS

Seven new service applications resulted from two user demands: first, to ‘experience the immediate’ and explore the unfamiliar safely; and second, to be able to ‘take their world with them’ allowing unfamiliar spaces to become familiar. Explorer encourages discovery of new places. PeerSteer bookmarks places on a map so friends can share recommendations. Traces uploads pictures of those recommendations so you can see where your friends have been. Wildfire uses mobile devices to automatically communicate as people pass close by each other spreading messages around the city. BlackBox holds a person’s preferences on their device to reconfigure a hotel room to feel like their living room. Footfall gives an ambient experience of another person’s movement, digitally connecting to their daily routine. Quiet Time creates new ways of switching off, such as by time of day or by location.

RELEVANT DEVELOPMENTS

The design scenarios depicted possibilities five years into the future, so many ideas from the project are relevant today. Geotagging and location-based systems are now prolific, delivering a range of map-based services. Review sites help to find hotels and restaurants based on fellow travellers’ experiences, and social media or instant messaging can keep us locally and globally connected as messages are pushed from phone to phone. Further work can still be done around the Quiet Time ideas to switch off and filter calls.
BlackBox holds your personal preferences on your device (facing page above)

Footfall gives an ambience experience of another person’s movement (facing page below)

Seven service applications to create a more seamless work-life blend for different smartphone users. (below)
DESIGNER PROFILE

Yusuf Muhammad holds a Masters degree in Industrial Design Engineering from the Royal College of Art and an undergraduate degree in Mechanical Design, Materials and Manufacturing Engineering from the University of Nottingham.

An entrepreneurial and creative designer with a strong grounding in both manufacturing and inclusive design approaches, Yusuf believes in applying a wide range of skills towards creating new ideas to meet real needs. As well as his grounding in engineering and manufacture, his recent entrepreneurial experience has given him a strong understanding of the business issues surrounding commercialisation of ideas.

Following the BlackBerry project, Yusuf continued at the Helen Hamlyn Centre for Design working on the Design for Patient Dignity project with the UK Design Council and Department of Health. He was also part of the Centre’s team redesigning the emergency ambulance that was awarded Transport Design of the Year by the Design Museum in 2012.

In 2010 Yusuf left to become Design Director at Plumis Ltd. a business he co-founded based on his multi-award winning invention, Automist, a retrofittable sprinkler-alternative that turns a standard household tap into a fire protection device.

REFLECTIONS

Yusuf reflects that the BlackBerry and the Helen Hamlyn Centre for Design collaboration immersed him in the process of experiencing design from someone else’s perspective, which he found truly refreshing and inspiring to explore. As he explored the problem he discovered the role of ‘play’ to be an excellent way to coerce good ideas. Yusuf believes that the different perspectives on technology, people, industry and academia resulted in a more well-rounded result.

Yusuf believes that although his project worked with low vision communities as lead users, it was really about suggesting new communication possibilities that were applicable to the mainstream. He sees elements of this concept developing in devices today, with communication prompts going beyond purely audio and visual, incorporating more sensory and subtle input. However current devices have only scratched the surface.

Yusuf concludes that great products rarely happen by accident and engaging with people is often one of the greatest routes to accessing fresh perspectives, also that inspiration is needed to drive meaningful innovation. He thinks that working closely with people is key to advancing communication and that they are unpredictable and surprising.
PROJECT BRIEF
Visual impairment

PROJECT SCOPE
Look at how people with reduced sight use smartphones in order to develop device designs based on eyes-free operation.

ALTERNATIVE VIEW

TECHNOLOGY CONTEXT
In 2009, smartphones were becoming more widespread offering features such as email capability, web browsing and fast data transfer. However, they typically relied on people having good vision to access even the most basic features. There was also an emerging trend towards touch-screen devices which offered little or no feedback to indicate when an onscreen button was pressed.

SOCIAL CONTEXT
Visual impairment affects over 161 million people worldwide, with 124 million registered with low vision and 37 million registered blind. Inclusive design research was carried out with two groups of visually impaired people – the over 65s and the under 25s – to explore their difficulties, aspirations and communication networks. The under 25s were seen to be at the front end of new technology take-up and the over 65s represented a relatively untapped market.

INSIGHTS
1. People need information ‘on the go’ but may not want to take their smartphone out due to the weather, inconvenience or fear of crime.
2. Both older and younger people wanted connectivity, though the over 65s wanted the ability to readily switch off.
3. Everyone engaged in the research wanted a mainstream device that was not specific to visually impaired people.
4. The trend to reduce phone size was not helpful as it made screens and buttons smaller – difficult for sighted and non-sighted people.
5. There needs to be new ways of inputting into the device using senses other than sight.
The differing needs of the over 65s and under 25s using smartphones

CONNECTIVITY

UNDER 25
(customization and style)

mode of use
change to suit their mood

easily located and desirable (not for thieves)

OVER 65
(simplicity)

readily switch off

lose unused functions

get the most from those functions they did use
DESIGN IDEAS
The design ideas supplement sight with other sensory input such as sound and touch. Sense Profile comprised an Audio Slider, Visual Slider and Tactile Slider on the phone screen. Moving the Visual Slider up, for example, progressively makes the font size bigger, icons larger and contrast greater, removing the need to change multiple settings buried in the software. Voice Design sketches out ways in which voice interaction can be more human and customisable. Service Design looks at how the phone connects to a laptop to control settings, software and get online help. Form Design suggests how phone attachments might enable ‘eyes-free’ navigation and use. All ideas also represent ways for fully sighted people to interact with smartphones beyond using their vision.

RELEVANT DEVELOPMENTS
Using senses other than sight to operate devices is still an under explored area, though voice interaction has grown in popularity since 2009, with most current smartphones including this type of interface. Adjustable accessibility is now generally built into mainstream devices removing the need for some external software programmes for people with low vision. However, further improvements are still essential.
New ways of interacting with smartphones using the human senses

Sense Profile allows you to customise phone settings

SIGHT

SOUND

TOUCH

SENSORY PROFILE

Visual Slider

Audio Slider

Tactile Slider
YEAR 4: 2010

CLARA GAGGERO
FASHIONING TECHNOLOGY: the social impact of mobile communication

DESIGNER PROFILE
Clara Gaggero is a designer, user-oriented researcher and educator. She holds a Masters degree in Industrial Design Engineering from the Royal College of Art and an undergraduate degree in Industrial Design from the Politecnico of Torino, Italy.

Helping technology talk to people in meaningful ways is a recurrent theme in Clara’s work, but she is not limited by this with her design experience ranging from fashion design to operating theatres. Her philosophy is to treat each project as a unique challenge, yet focus the process and the solutions on the user. She has worked for designer Ross Lovegrove as well as the BBC.

Clara completed two people-centred technology projects at the Helen Hamlyn Centre for Design before leaving in 2010 to start her own design and invention consultancy, Vitamins, as one of three co-founders and directors.

Vitamins works with a broad and also international client base (including BlackBerry), inventing and developing new products, experiences, concepts and systems. The consultancy has won an array of awards, most recently a Design Museum Designs of The Year Award in the Transport category, for its Morph folding wheelchair wheels.

REFLECTIONS
Clara reflects that working on the BlackBerry and the Helen Hamlyn Centre for Design collaboration was a treasured experience from which she learned a great deal. It has had a lasting impact on her work. Learnings included insights such as technology needing to become more calm and discreet to really enhance people’s life; social etiquette around technology and information consumption being in its infancy; and that skin is the most wearable ‘screen’.

At the heart of Clara’s project was the dialogue between fashion and technology experts, which she feels the project helped facilitate. She believes wearable technology is one of the big new frontiers of technology and that technology companies all over the word are waking up to this.

Through Clara’s experience during and after the project she remains committed to people-centred principles and believes that we need to understand our social needs first in order to design valuable and meaningful technologies.

Clara concludes that technology companies will not be able to design devices that make a difference and integrate meaningfully into people’s lives without understanding a person’s dynamics, needs and aspirations.
PROJECT BRIEF
Smart accessories

PROJECT SCOPE
Explore the shift from carrying a device to wearing technology on the body and look at how objects in the home could become intelligent and interactive.

TECHNOLOGY CONTEXT
Digital interruption was becoming more prevalent in 2010 as people were expected to be constantly available and connected. There was a growing interaction between communication technology and fashion. Belts, bags, shirts and other items of clothing were incorporating technology, and phones were being seen as ‘fashion statements’ or personal accessories.

SOCIAL CONTEXT
The research focused on evolving digital etiquette to manage the constant stream of communication from mobile devices. A user group of 15 people – ranging from teenagers to older workers and from phone...
Mapping the shift from carrying a device to wearing technology on the body (right)
addicts to technophobes – were interviewed and shadowed to see how they dealt with unexpected calls and interruptions. Working meetings, romantic dinners and the daily commute were observed to understand how people behaved in working, private and social situations.

INSIGHTS
1. People can better cope with face-to-face interruptions because body language and situation give clues about the nature of the disruption.
2. Digital communication lacks human subtlety and needs to mimic real-life interruptions, becoming more personal and less binary.
3. People sometimes felt enslaved to their devices, compelled to answer and attend to them.
4. People were not ready to implant or wear devices, but could see objects such as toothbrushes or candles being digitised if there was distinct benefit.

DESIGN IDEAS
This study suggested ways of communicating digitally that are more closely based on the complexities of human behaviour. Smart Call enriches voice calls by communicating the reason for the call, the urgency and the time frame for response when the phone rings. This information is attached to the call as a short message that flashes up on the phone screen. Skin Display makes phone interaction more discrete. Raised lettering appears on the back of the phone, containing the caller’s identity or the reason for the call. By pressing fingers to the phone, words are imprinted on a person’s hand. This can then be erased by simply rubbing fingers together. Thirty Masters students from the Royal College of Art Departments of Fashion, Textiles, Innovation Design Engineering and Vehicle Design also worked on design ideas as part of the project (see pages 62-63).

RELEVANT DEVELOPMENTS
Developing new digital forms of etiquette has been a focus for users of devices and services over the last few years. Rules for social networks, for email conversations and for instant messaging have all developed. Although there was push-back from the project participants about implanting technology on or in their bodies, this is an area that is being increasingly debated and developed.
Skin Display uses raised lettering to imprint messages onto skin (facing page)

Smart Call develops new digital forms of etiquette (right)
Catherine Greene is a designer and design researcher. She holds a Masters degree in Design Products from the Royal College of Art and a BA in Textile Design from the National College of Art and Design in Dublin.

Catherine’s approach to design is user-centred and multi-disciplinary, using and developing qualitative research methods to identify significant insights to inform design concepts and strategies. She specialises in workplace, workstyle and sustainability, focusing on how people interact with technologies and spaces, both physically and virtually.

Catherine has worked at the Helen Hamlyn Centre for Design for six years. In her current role as Senior Research Associate she plays a lead role in the Work & City Research Lab looking to improve living and work environments. Her research has had international impact, a recent paper ‘Space for Thought: Designing for knowledge workers’ being chosen as an outstanding paper at the Literati Network Awards for Excellence 2012.

REFLECTIONS
Catherine reflects that the BlackBerry and the Helen Hamlyn Centre for Design’s collaboration demonstrated how inspirational people’s stories can be for design. She was exposed to the fascinating role communication channels have within communities and the diversity of people’s needs. The project prompted an ongoing research interest in community-based design, her current work investigating how new media can support and add value to community-led design projects.

Catherine believes future technologies need to feel more inclusive, not just to individuals, but also to communities. She speculates that future technologies could enhance our connections to the places and neighbourhoods in which we live, work and socialise.

Catherine concludes that understanding the nuances in people’s lives – their dreams and frustrations, the way they use things, how they hear about things, and their relationships – are a huge source of inspiration and ideas.

Lisa Johansson is a product designer. She holds an Masters degree in Design Products from the Royal College of Art and a BA in Product Design from Central Saint Martins College of Art and Design.

Lisa is passionate about design research, in particular sociology, sustainability and system design. Prior to her MA, she spent two years designing furniture and products for the nursery industry. This experience informs the commercial elements of her design. She feels her industry knowledge is perfectly complemented by the people-centred ethos of the Helen Hamlyn Centre for Design.

Currently Lisa works for the Centre part-time whilst building up her design consultancy INTO which she co-founded in 2011. Her work strives to understand people and cultures in order to help businesses find new opportunities and turn them into innovative designs, services and strategies. Her innovation process focuses on people’s lives and understanding wider social influences.

Lisa worked on two projects with BlackBerry. Her reflections are on page 47.
PROJECT BRIEF
Community and communication

PROJECT SCOPE
Envisage how digital technology can help people in local communities come together and increase opportunity for social exchange.

TECHNOLOGY CONTEXT
Digital technology was visibly impacting the way people participated in communities in 2011. However, people could be kept apart rather than brought together unless the physical and online aspects of community were reconciled. There was still a marked difference between digital and physical communities and they existed as separate worlds.

SOCIAL CONTEXT
Social exchange in communities was explored from digital and physical perspectives starting with desk research, expert interviews and site visits. A month-long workshop was held with 20 Masters students from three RCA departments to develop design proposals based on research with over 140 adults and children. Local shopkeepers and residents were then interviewed on two London High Streets – one in Chiswick and the other in Clapton – to probe issues more deeply.

INSIGHTS
1. Local-local: there is a growing interest in staying local, with people choosing neighbourhood amenities and sources of information.
2. Real-time information: instant messaging services have raised the expectation of the speed at which people want information.
3. Peer-to-peer: there is a growing trust of peer-to-peer services that use the online to benefit the offline, enabling trust between strangers and allowing goods, services and information to be exchanged.
A digitally enabled community noticeboard, one of the project ideas (facing page)

Research took place at Chiswick and Clapton, two different areas of London (below)
DESIGN IDEAS
The project outputs looked at how digitally enabled community notice boards could become spaces for people to interact with real-time local information, from both online and offline sources. Doorsign Messenger hangs on a café door displaying messages that are also pushed through social media feeds.

Online maps, currently linear in character, could be enhanced to encourage more chance exchange or discovery within local communities. Tag Along plants a geotag allowing anyone to join in the activity at that location, from bird watching to foraging. The results of the student work are outlined on pages 64-65.

RELEVANT DEVELOPMENTS
Augmenting online maps is fast becoming an accepted practice, though the information seems to be sourced globally rather than locally. Geotag systems that allow members of a neighbourhood to present and upload local information will become increasingly important. The link between physical and digital messaging also needs to be explored, looking at how communities want to inform and broadcast, and if this helps provide a more cohesion and connection.
Digitally enabled community notice boards

Scanning onto the notice board
GIANPAOLO FUSARI AND LISA JOHANSSON
BELONGING AND BECOMING: older people, technology and community

GIANPAOLO
DESIGNER PROFILE
Gianpaolo Fusari is an industrial designer. He holds a joint MA/MSc in Innovation Design Engineering from the Royal College of Art and Imperial College London, and a BA in Industrial Design from the Universidad Iberoamericana in Mexico City.

Gianpaolo’s specialism is design and research, using advanced user-research tools to derive evidence-based design briefs and working with users and stakeholders to design, develop and commercialise cost-effective solutions. He has worked on a range of products and services becoming increasingly involved in healthcare related issues in recent years, and designing several medical projects such as the UK emergency ambulance interior, which won the transport category of the Design Museum’s Design of the Year Award in 2012.

Gianpaolo joined The Helen Hamlyn Centre for Design in 2010 and is currently a Senior Research Associate in the Healthcare Research Lab. He is also part of a team of designers at HELIX a new centre for Healthcare Innovation at St Mary’s Hospital in London.

REFLECTIONS
The project was a unique experience for Gianpaolo as he worked with older people from very different backgrounds and learnt from their diverse experiences. In managing the student project, he covered the age spectrum. Many preconceptions were set aside as he came across 70 year-olds talking about the new app they just downloaded for their tablet device, and younger people struggling with their new smartphones. He has some reservations about the current understanding of people’s needs that technology has, especially those of older people. Whilst some companies have a good grasp of user need, others boast about never doing any people-centred research, which he believes is either untrue or a strategy that will end in failure. He believes that technology should be here to make life simpler and blend into our lives. He concludes that real insights can only come from real situations and perhaps the only way to get to understand people is by spending time with them.

LISA
REFLECTIONS
Lisa reflects that this project taught her how to appreciate and communicate the valuable insights that can be obtained through working with people in the design process. She believes that central to the work was the notion of community and communication, and since the completion of this project she has seen many insights manifest into design proposals on the market, such as local communities and businesses using app-based ways of instant marketing to passers by.

Lisa believes there is great potential for technology to become truly seamless and act as a useful tool for people in their everyday lives, instead of current devices and services, which are still complicated and require specialist skills. She concludes that products and services do not exist in a vacuum, they always involve customers, consumers and users. By talking to these people and trying to understand what would be useful to them, inspiration often results and costly mistakes can be avoided. Lisa worked on two projects with BlackBerry. Her profile is on page 41.
PROJECT BRIEF
Belonging and becoming

PROJECT SCOPE
Understand how digital technology can enable older people to become a more vibrant, visible and vital part of their community.

TECHNOLOGY CONTEXT
With the number of older people rising within most countries, many of them were still not digitally connected in 2012 and found new digital devices and services challenging to engage with. As technology was playing a major role in linking individuals within a community, it was important to understand how older people use technology to communicate or fulfil aspirations within their community.

SOCIAL CONTEXT
According to the World Health Organisation, Active Ageing has three components: being, belonging and becoming. Most existing design research focused on the physical and physiological state of being, overlooking the other two components. Physical changes might begin to decrease an older person’s abilities but their knowledge, experience and will to express themselves does not fade with age. Workshops, community visits and home interviews probed the barriers as well as aspirations that older people have within their communities.
Observational research in the community (facing page)

Being, belonging and becoming, the three components of Active Ageing (below)
**INSIGHTS**

1. **Change and control**: older people want to balance the need for change with control over the pace at which change happens.
2. **Individuality and commonality**: individuality is about having a voice and feeling self worth. Commonality is about feeling part of something. Digital technology needs to support growth in both areas.
3. **Extending ability**: older people want devices and services to support their multiple, minor impairments.
4. **Giving back**: older people do not want to be the recipients of volunteerism and social services, as they also have plenty to give.

**DESIGN IDEAS**

*Buddy-Up* is a platform that allows older people to buy, explore and learn about devices with a friend or colleague, and work at their own pace. *Make-A-Mobile* is a new type of mobile phone shop where people start with an empty shell of a mobile and build it up to meet their specific needs. *Independaid* comprises three features built into an older person’s smartphone – *Extra Eyes* to help read tiny print, *Extra Ears* to distinguish conversations in noisy environments and *Extra Memory* to help remember errands. *What Am I Missing* is an app that provides new recommendations for activities and places in the local area depending on a person’s previous searches. Design concepts also resulted from a month-long workshop with 16 Royal College of Art Masters students from the Design Products and Visual Communications programmes (see pages 66-67).

**RELEVANT DEVELOPMENTS**

Very few recent digital developments are inclusive of the functional needs and aspirations of older people and the market is still largely ignored. A significant challenge is around buying and learning to use a device with many people resorting to pleading help from younger relatives. Exciting opportunities exist for creating digital devices and services to work right across the age range.
Workshops and home visits with older people (below)
CHRIS MCGINLEY AND CRISTINA GORZANELLI

CULTURAL INTERFACES: strengthening community interaction

CHRIS DESIGNER PROFILE

Chris McGinley is a people-centred designer, researcher and writer. He holds a PhD in design research from Brunel University, an MA from the Royal College of Art and Imperial College’s joint Industrial Design Engineering course, and a MEng in Product Design Engineering from the University of Strathclyde.

Chris has worked in inclusive design for over a decade on a range of projects. His work has been commercialised, exhibited and disseminated internationally. He uses design thinking to improve lives on various levels.

Chris explored design ethnography approaches during his PhD, which investigated the designer’s use of information and empathy. As part of this he researched the impact of design on complex social and health-related issues including the redesign of drinking vessels to reduce alcohol-related violence and rethinking mobile toilet units to counter healthcare associated infections. These designs went into production, received substantial press coverage and numerous design awards including a Design of the Year Award. Chris is currently a Senior Research Associate at the Helen Hamlyn Centre for Design, where he plays a lead role in the Age & Ability Research Lab. He is also a visiting lecturer and tutor at Brighton University, Brunel University and the Royal College of Art.

REFLECTIONS

Chris reflects that on this project he discovered that people genuinely desire connection – with community, across generations – to culture and place. Many look to technology for help. He saw communities, pursuits and interests that he had never come across before, underlining the diversity that exists.

Chris felt that people are doing great things that are not often visible, and could be truly enhanced with a digital component. The mass adoption of communication devices and developments such as the ‘quantified self’ and the ‘internet of things’ means new typologies will emerge.

He concludes that we are on the threshold of many game-changing developments in technology, but we must keep in mind that people are fantastic sources of insight and inspiration who keep developments relevant.

CRISTINA DESIGNER PROFILE

Cristina Gorzanelli is a multi-disciplinary designer. She holds a MA in Design and is currently a PhD candidate within the Faculty of Architecture in the University of Genoa, Italy.

Cristina focuses on the urban space and the relationships people have within it, looking at how we can connect people, technology and public space. She is currently a member of the research group Recreated Urban Spaces in the University of Genoa.

Cristina’s role is to promote technology as an active instrument, using co-creative participatory processes to influence social collaboration and describe new relationships. She was a Visiting Research Associate at the Helen Hamlyn Centre for Design, whilst completing her PhD.

REFLECTIONS

Cristina reflects that working on this project was meaningful and enriching. She was inspired that BlackBerry wanted to engage with communities and with real people. She believes in community-driven approaches, and the role of the designer in mediating the different needs and ambitions from all stakeholders, rather than simply producing objects or products.

Cristina feels that the project outcomes will inform near-future technology. Although virtual presence is increasingly talked about, face-to-face relationships remain important. This human, tactile and physical presence is irreplaceable for many. We can no longer divide the physical world from the digital one, and ‘hybrid scenarios’ will become important.

She concludes that technology companies must work closely with people and understand their true needs and expectations if they really want to produce the best services and devices.
YEAR 7: 2013

CULTURAL INTERFACES

WAYS OF BRINGING TOGETHER CULTURALLY DIVERSE GROUPS

PROJECT BRIEF
Communities and culture

PROJECT SCOPE
Investigate how digital innovation can enhance neighbourhood activities in a range of diverse cultural settings.

TECHNOLOGY CONTEXT
Digital device interfaces have become largely homogenous, with the same basic interfaces being used globally despite different cultural needs and preferences. Whilst there has been a drive towards ‘globalisation’ in previous decades, there is now a move towards ‘localisation’, which takes account of local needs and cultures. Ideas such as local manufacturing, community-driven initiatives and ‘crowd-sourcing’ are all impacting the way devices and services are used.

SOCIAL CONTEXT
London as a culturally diverse city was the focus for this project. ‘Culture’ was viewed at through the lens of the ‘neighbourhood’ focusing on two aspects – location (such as community centres) and activities (such as gardening). At the core of the study was a two-month project involving Masters students from the RCA departments of Information Experience Design, Service Design and Visual Communication. Students worked with five London community groups in a co-creation process to explore the issues, gather insights and create design proposals.
Research frameworks, 
insights and mapping 
from the project 
(facing page)

Research with different 
London communities 
(below)
INSIGHTS
1. Digital technology can help to create community services based on bartering skills and time instead of money.
2. Location and activities are strong ways of bringing together diverse groups.
3. A community culture is not created by a top-down structure in today’s digitally connected world. Local people, places and activities drive the ‘flavour’ and help to define a neighbourhood.
4. Music and storytelling are a vibrant way of capturing individual memory and the distinct culture of a particular location.

RELEVANT DEVELOPMENTS
Even though the same devices and apps are sold across the world, different cultural contexts remain extremely important as we move from an entrenched attitude of globalisation to developing locally relevant approaches. A simple change of device language may not be the only way of signalling cultural relevance and new ideas need to go deeper. Designing for communities rather than individuals is increasingly important and tools and methods need to be developed to enable this.

DESIGN IDEAS
Design ideas are detailed on pages 68-69, but the creative outputs of the project propose new interfaces that promote interaction in one of the following ways: people-people; people-environment; people-service; people-technology and people-device. Proposals ranged from ways to engage a local community with the music and festivals that are central to a nearby Hindu Cultural Centre, to drawing together geographically disconnected communities through an online ‘patchwork’ that captures and connects people through their gardening activities.
Show & Tell Companion: Engaging the local community with the music from a nearby Hindu Cultural Centre (right)

An online ‘patchwork’ that captures and connects people through their horticultural activities (far right)
After many months of sending emails, making phone calls and checking diaries, the Helen Hamlyn Centre for Design brought together several Research Associates from previous BlackBerry projects to reflect on their work and speculate about the future. Now working across a range of specialities and settings in design and research, the common link between the group was their collaborative project between BlackBerry and the Centre.

The room had a good spread of representation from the seven years of projects from the first Research Associate in 2005 right through to the current one in 2013. Much has changed in the landscape of communication technology over this time, and many of the concepts that emerged from the projects are now a reality. As the discussion began, the group tried to get a sense of how each of their projects related to, or even predicted recent devices and services.

Maja Kecman (2005-2006), commented on her task to explore the benefits of Wi-Fi technology for multi-generational families. “What we came up with is essentially what became the ‘cloud’. I’m not saying I invented the cloud, but the characteristics were there.” The group discussed the need to base project insights around genuine communication habits and interesting behaviours. Any system proposition has to draw from real life insight, and exploring that firsthand is crucial. As Maja stated “The research really pointed to a clear need, and the cloud fills that gap today.”

There was a number of similar anecdotes from the other projects, with ideas such as ‘geo-tagging’, ‘the internet of things’, ‘social networks’, and ‘embedded devices’ reflected in project outcomes often before they became mainstream. The group discussed how far communication technology has infiltrated everyday life, appearing in our surroundings – even London Underground is becoming wireless.

Over the years, projects have moved from the home, to the workplace and into the community. “That was at the core of our project” noted Cristina Gorzanelli (2012-2013), “We looked at distinct cultures in communities as there are so many untapped assets within them. Technology can play a massive role in linking this all together.”

The conversation then turned to the ‘two-word brief’ that BlackBerry is renowned for giving at the start of each project. “I could have given a two-word response when I was first given it, it was such a challenging concept”, remarks one of the group with a smile. However, most agreed that whilst it was challenging, the format was also liberating as it gave real potential to explore different directions. The only way to manage such a broad brief was to really think about what the two words might mean in a design context and within people’s lives.

The BlackBerry ‘open brief’ was felt to be a gift to a designer as it allowed them to make it their own. “It is an inspired approach”, commented Chris McGinley (2012-2013). “Being given space to undertake a deep and broad exploration within interesting contexts and with diverse communities is unusual. But it has to be followed by framing your
• Tech should only be a way to make things work, be invisible.
• It should empower.
• Some people love tech for the sake of it, making it "invisible" and enabling it.
• Conversely, things like family can enable the "assisted" tech.
• Everything is cloud-based now.
• The future is not in service.
• Focus on the people.

"The problem is that people are programmed to be reactive, not proactive."
research with a compelling design question to drive a really interesting project”.

Cian Plumbe (2007-2008) went further. “In many cases a really defined brief should be rewritten, and it is the job of the designer to make that process happen, to identify new possibilities”. He continued, “As the lone researcher on the project I found it quite overwhelming to begin with, but by the end of the exploratory phases, as I began to define the brief, I was the most knowledgeable I had ever been about communication technology. “The group agreed that this could be a good briefing scenario as it allows for exploration, innovation and deeper thinking”.

Gianpaolo Fusari (2011-2012) remarked “This is where having two people on a project really helps. We had an advantage because we both could work together to make sense of the complex areas and move forward quicker than if we did it alone”. He worked with Lisa Johannson (2011-2012) and a large component of their research involved a multi-disciplinary project with RCA Masters students. Lisa explained “Organising the student project is interesting because you have to give them enough structure and definition that they do not get lost, but enough freedom that they engage and own it”.

The group discussed the benefits of having the BlackBerry and HHCD project leadership group check that the ideas, directions and proposals really resonated. “Having Todd and Jason from BlackBerry there to anchor the research and the concepts in a way that made sense to the company was crucial” commented Rama Gheerawo (Project
Director, HHCD). These discussions often occurred over conference calls, which many researchers reminisced created nervous moments for them. However, they quickly got a sense of where the potential was and there was often real excitement in the air from these meetings reflecting the natural partnership and trust between the organisations.

In summary, the two-word brief made a lasting impression with the designers describing it as ‘inspired’, ‘brave’, ‘innovative’ and ‘challenging’.

However, the most repeated notion was ‘the importance of including people in the design of digital technology,’ whether looking at devices, services or systems. Seeing people as collaborators and contributors rather than ‘guinea pigs’ was mentioned several times as the key to each project’s success. Everyone felt that by putting people first and understanding their aspirations, unmet needs could be discovered and creative ideas result. In the end, this people-centred focus was why seven years of partnership with BlackBerry worked so well.
STUDENT PROJECTS

2010

“This was a great experience that brought together students from several backgrounds and invited them to broaden their preconceptions of technology and think about prospective scenarios.”

Audrey Dodo, student team member, 2010

In 2010, a new initiative was added alongside Clara Gaggero’s research project (see pages 34-39) that engaged the creative talent of the RCA design studios. Thirty Masters students from the departments of Fashion, Textiles, Innovation Design Engineering and Vehicle Design took part in a project workshop lasting three weeks.

The brief was to look at how BlackBerry technologies and services could be placed around the body and investigate how this could benefit people in their daily lives. This was run as an awards scheme with student teams competing against each other.

An exhibition of the design concepts was held at the Italian Cultural Institute in London in April 2010, entitled ‘White Feast’. The work indicated that people were not ready to embed or implant technology on their body, but were comfortable wearing devices or digitising everyday objects such as candles, toothbrushes or cushions. Seven projects resulted as follows:

1. **PenPen** allows people to physically write, then digitally capture information and view it on any surface via the device’s mini-projector. It builds on people’s attachment to the physicality of the pen.

2. **Aladdin Lamp Postage Stamp** downloads data when rubbed and **Frog Image** found on a love letter releases perfume when kissed. These ideas increase the emotional value of digital communication.

3. **Black-out** comprises four products that combat technology addiction in different situations from romantic dinners to business meetings. For example, lighting the candle will switch off all phones in a two metre radius.

4. **Loop slips** onto any glass or cup turning it into a communication tool using the gesture of toasting. The system recognises the motion and sends out a signal to other Loops in the local community.

5. **sur.face** is a textile that has display and video capture elements embedded in it. It takes video calling away from the laptop screen so pillows or cushions can become tactile screens to talk to loved ones.

6. **Health Aid** uses a toothbrush to collect health data, helping people become more active in maintaining their health and well-being. Information is relayed in a way that informs rather than intimidates.

7. **Wisp** is primarily aimed at people with reduced hearing, and uses fingertips to communicate using gestures or sign language. It uses adhesive nails for women and peelable stickers for men.
STUDENT PROJECTS
2011

“The project stood out to me because something really clicked in terms of how I wanted to shape my own career – it was one of the first times I felt like I was using my skillset in a way that felt completely right, because at the centre of the project was people.”

Alice Moloney, student team member, 2011

As part of Catherine Greene and Lisa Johansson’s project (see pages 40-45), a month-long workshop was held with 20 Masters students from the RCA departments of Visual Communication, Innovation Design Engineering and Design Products.

The brief was to understand how digital technologies could help individuals in communities better communicate with each other. Working in interdisciplinary teams, the students conducted research through a combination of workshops, interviews, surveys and design provocations with nearly 150 people – from school children and parents to homeworkers and urban joggers.

The students then developed design propositions that were shown at the European Commission’s 12 Star Gallery in London at an exhibition entitled Beyond the Screen. Together, the ideas show the importance of designing for community rather than just focusing on the individual when looking at the digital space. The six projects are:

1. **Boss on Demand** is an online service that supports isolated homeworkers by recreating office culture. Different virtual bosses such as Mrs Finger Snapper help to motivate or discipline, and Christmas parties can be organised locally with fellow homeworkers.

2. **Drawn to the Table** addresses the difficulties in getting children to the dinner table and away from their digital devices. Messages written on the dining table appear on every screen, interfering with whatever digital activity is happening and persuading family member to come for dinner.

3. **The Garden** is an online space for people in long-distance relationships. Couples share experiences using pictures, drawings and messages rather than text or voice. These nourish a virtual ‘tree’ and people can draw support from other trees in the space.

4. **Communitree** is a digital noticeboard placed in neighbourhood shops that displays the skills of local people. A person who is good at DIY can connect with someone who needs help, who then cooks them dinner in return. It addresses the difficulty that newcomers to a community face.

5. **Vocal Expression** responds to a person’s voice, animating their SMS and emails to make them more expressive. One focus was on teenagers using BlackBerry Messenger, with intonations and emotions from spoken words being visualised as part of text communication.

6. **Runabout** helps runners improve their performance by competing against a community of other runners. When another Runabout member is passed, a silent competition occurs and the person pushing themselves the most wins and gets a motivational message.

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Student Projects / 2011

1. Facebook profile,
2. Dinner table with a twist,
3. Mind map,
4. Cartoon character,
5. Translating Voice to Text diagram,
6. Runabout activates when you run.
An awards ceremony and exhibition of the outputs entitled Design for our Future Selves was held at the RCA in London in June 2011. The exhibition was shown again at the London Design Festival in September 2012 and the projects are outlined as follows:

1. Land Care pairs families with older residents to grow food in the local care home. Digital animations in public spaces such as bars and bus stops communicate the scheme to the neighbourhood.

2. Day Tripper looks at how people can continue to meet after their community centre has closed down. It co-opts buses, parks and trains to hold meetings and uses digital technology to co-ordinate.

3. Radio+ uses the traditional radio format to enable older people to record, upload and broadcast up to 30 minutes about anything that interests them.

4. Memory Capsule digitally records and stores treasured family objects, which can then be reproduced using 3D printing techniques years after the real object has disappeared or been destroyed.

5. Story Walk brings local neighbourhoods to life using the stories of its inhabitants. Internet-based maps show the story locations, allowing passers-by to select the ones they want to hear.

STUDENT PROJECTS
2012

“My wife Sabita and I were very happy to be working with students and colleagues at the Helen Hamlyn Centre for Design. There was a great rapport and support all around. We felt good that the project really cared about addressing the physical and communication problems of older people.”

Vidur Dindayal, project participant 2012

The 2012 student project involved 16 RCA Masters students from the Design Products and Visual Communication departments at the RCA. It built on the work of Gianpaolo Fusari and Lisa Johansson (see pages 46-51) and added a creative phase to their work. The brief was to look at how digital technology could help older people become more vibrant, visible and active within their communities.

Five older people joined the student teams to lend their life expertise to the research and to co-create ideas. Each person was connected to a local community in London, ranging from a computer club to a religious society. The design concepts represent the role that digital technology can play in enhancing older people’s presence in their community. They also show the power of a co-creation approach where people become active participants in the design process rather than passive test subjects.
STUDENT PROJECTS
2013

“Communication between generations is important and definitely needed right now. Working with the Royal College of Art student team helped us build mechanisms to get individuals together collectively, and work out what was really needed.”

Simon Ghotey, Director of Progress, partner 2013

In 2013, the student project became a main creative focus of the output, growing to become an eight-week engagement. Chris McGinley and Cristina Gorzanelli (see pages 52-57) led 24 RCA Masters students from the Service Design, Information Experience Design and Visual Communication departments through a process of research and design development through to concept delivery.

The brief looked at how digital technology could address a community’s cultural activities, aspirations and attitudes. Five teams of students engaged with a different cultural group based in London. The work demonstrates the opportunity of blending the digital and physical in subtle, human and even opportunistic ways, instead of using standard screens and software. The growing appetite for citizen-generated content was also highlighted.

An exhibition of the work was shown at the London Design Festival in September 2013 and the five projects are outlined below:

1. **Patchwork Progress** is a digital patchwork that grows as the community gets busy gardening. It uploads and shares activities and achievements from across the network using community centres and bus shelters. Progress, the Brixton-based partner organisation, holds gardening activities for people aged 2 to 92 years-old.

2. **Show and Tell Companion** is a service based on a digital app that uses Hindu music to bridge the generation gap. It also puts on film showings, exhibitions and competitions to share Hindu culture. The community partner was the Caribbean Hindu Cultural Society in South London.

3. **Tumble** is a physical object and digital platform that records and shares songs and stories by simply touching or turning the new device concept. The Playlist generated for Hackney is an evolving repository of Hackney’s memories and music. The team worked with community radio project Hackney Stream, part of Age UK Hackney, London.

4. **West Norwood Now** is an online platform that encourages and facilitates offline interactions, aiming to enable conversations amongst diverse members of the community. It barter time and skills, focusing on children’s activities to then bring parents together. The team worked with FEAST, a monthly food market in West Norwood, London.

5. **Brixton Voice** is a collection of interconnected sound installations hidden in buildings, bus stops and benches that give oral histories through the gossip, stories and anecdotes that the community feels are most important. The team worked with the Brixton Society, which promotes the rich heritage of Brixton, South London.
Record button
Press once, red light blinks.
When finished with recording, press again and the light stops blinking.

USB connection

Customizable surface
A “blank canvas” coated with a unique material that allows semi-permanent writing.

Story/music slide
Slide finger left and right to find the right balance between hearing music and stories.
INSIGHT BANK

Inspirational insights for BlackBerry

Marking seven years of collaboration with BlackBerry, the body of work completed over this period has been curated into an Insight Bank. This is a digital platform that brings together user quotes, videos, insights and inspiration together in an easy-access repository.

It enables the company’s marketers, engineers, designers and technologists to search and access rich and textured insights from the people who participated in the research projects over previous years. It presents new opportunities from the design ideas developed at the Royal College of Art both by the Research Associates and the student teams.

The Insight Bank embodies a solid, qualitative evidence-base for business decisions, design inspiration or simply research reflection; it is an open access site for BlackBerry personnel that presents the perspective of real people and communities, and bring the voice and aspirations of the user into the business environment.

There are seven sections – covering Body, Community, Belonging and becoming, Multi-generational family, Fashion, Cultural Interfaces and Mobility – listing over 70 unique insights.

Each insight consists of the following:

1. **A statement**: a quote outlining an issue
2. **Support research**: further statements, images and quotes to explain the issue
3. **Opportunities**: two to four opportunities that have arisen from the research
4. **Design examples**: showing how RCA students and researchers have created ideas from the initial insight
Slides of the Insight Bank can be downloaded directly for presentations and the ‘Inspire Me Already’ button generates random inspirations or provocations.

The Insight Bank captures real research with real people and is a powerful tool in supporting a people-centred approach within an organisation. It hopes to inspire with a multitude of viewpoints and unexpected insights, bringing new thinking to familiar challenges within the business of creating digital technology solution and services.
A number of projects in this book anticipated ideas that have subsequently appeared on the market. However, all the work articulated a future in which technology was built around the needs and aspirations of the people and communities that the designers worked with. As mobile communication devices have become ubiquitous, ‘where to go next’ becomes a challenging question from both a human and technological perspectives. The HHCD designers who worked on the BlackBerry series of projects were asked for their views on this, and asked to articulate seven challenges they feel are important. Their collective responses that follow are written as ‘food for thought’ and for speculation.

The advances of the last decade would seem like science fiction if they were suggested to a ‘mobile’ device user of the last century. So with technology advancing rapidly you have to be quick in speculations as to what might come next in order to keep ahead of the curve. It is essential to go beyond the technological limits and conventions of current communication in design thinking. However, by grounding research in the context of real people, real environments, real conversations and real desires, you can put together a vision of where communication is needed, and therefore heading in the near future.

Knowledge of emerging possibilities around digital technology is important, but more essential than this is gaining an understanding of people’s emerging desires and unmet needs. Technology is less about hardware and more about what it can do for you – if the desires are known then the facilitating technology will not be far behind.
Advances in technology should also be about making things work better rather than just digital advancement. Ideally this should be invisible, unnoticed, and primarily function to support natural human connections. However, there is a difference between technology being invisible and technology being accessible, and one should be mindful of what happens when technology fails. The same technology that empowers can incapacitate if it cannot be accessed. This is particularly apparent when looking at issues of aspiration, need and negotiation, where stereotypes of age, ability or gender should be avoided.

The relationship between people and technology is a sensitive one, and will be fascinating to observe in the coming years. It is no longer about people and ‘the device’ as an object – devices are currently just a ‘way in’. Advances in cloud computing removes the need for devices and this means that future relationships between people and technology can become more subtle and digitise everyday objects and environments. The future could be ‘deviceless’, with a focus on services and a development of new typologies to connect and filter information in ways that are tailored to individuals.

There is a major motivation across the globe to use digital technology to facilitate social connection and behaviours, but context is not always accounted for. The needs and motivations of developed economies can be markedly different from those that are developing.

As is often the case with reflection, more questions emerge than answers and this is true of mobile computing and communication. The following seven statements highlight potential opportunities and challenges that digital technology will face over the coming decade.

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1. **DATA:**
If digital data is the ‘new oil’, how can it be managed, owned and filtered in ways that work for the people?

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2. **EDUCATION:**
Technology is democratising knowledge so what are the implications for a world where access to education can enable or disable?

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3. **HEALTH:**
How can the potential of digital technology to improve personal health and address global health challenges be realised?

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4. **PRIVACY:**
With many new digital propositions, the question of personal control is raised, so how can people manage this?

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5. **DEVELOPING ECONOMIES:**
One billion new users will be connected by smartphones over the coming years, so what are their specific needs?

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6. **WEARABLES:**
Current smart glasses and similar present viable translations, but this is merely a first iteration, so what are the new typologies to be developed once digital wearables become mainstream?

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7. **COMMUNITY:**
A focus on personal, social, professional and global networks will be important, as will the need to design for communities as well as individuals.
We would like to thank the following for their help and support during these projects, in particular all the people who participated and generously shared an insight into their lives.
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BlackBerry
Todd Wood, Senior Vice President Design; Jason Griffin, Vice President Foresights; Scott Reeve, Director Industrial Design Insights; Nafeesa Dajda and Chris Jones, BlackBerry University Relations Team; Dave Dietz, Adele Newton and Renn Scott
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The Helen Hamlyn Centre for Design
Mark Byrne, Margaret Durkan, Rama Gheerawo, Prof Jeremy Myerson and Kay Sandford-Beal
---
Royal College of Art
Departments, Tutors and Students
---
Researchers
Gianpaolo Fusari, Clara Gaggero, Cristina Gorzanelli, Catherine Greene, Lisa Johansson, Maja Kecman, Chris McGinley, Yusuf Muhammad and Cian Plumbe
---
Individuals
Rick Crust, Hackney Stream; Vidur Dindayal, The Caribbean Hindu Cultural Society; Simon Gharley, Progress; Bill Linskey, The Brixton Society; John Price, Feast; Sean Donahue; Susan Griggs; Jane Hopkins; Matthew Harrison, Studiohead; Dan Lockton, Alice Moloney; Daphne Morgan; Tasman Munro; Joe Pochodzaj; David Lopez Retamero; Gabriella Spinelli and Adrian Westaway
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Cristina Gorzanelli
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Printing
Pureprint Group Limited
www.pureprint.com
---
Fonts
Calibri, PT Sans
---
Inventory: 7 years | 7 projects
---
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Published by
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