MOJO - MOBILE JOURNALISM IN THE ASIAN REGION

2nd edition

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CHAPTER 1
WHAT IS MOJO, OR MOBILE JOURNALISM

SUMMARY

This first chapter outlines how reporting is changing around the world. It distinguishes between the video-journalist (VJ), and the mobile journalist (mojo) and makes the point that not all reporters will become mojos or VJs. The chapter shows that mojos extend the newsgathering options for a news organisation, especially for breaking news. It describes three levels of multi-media reporting, and demonstrates the many advantages of the mojo. Because this e-book is anchored in Asia, this chapter also provides information about mobile phone demographics in the Asian region, showing the massive potential spread of mobile phones.

On 17 February 2004 *The New York Times* published, for the first time on page one, a photograph taken with a mobile phone. It was an image grabbed at the formal signing of the merger between two mobile phone giants, Cingular and AT&T Wireless, in New York the previous day. Joseph McCabe Jr., AT&T's Chief Financial Officer, snapped Cingular Chief Executive Officer, John Zeglis signing the document.

The photograph was pretty ordinary. But it marked a milestone in the use of the mobile phone for newsgathering. A mere half decade later, the mobile phone is being used as a newsgathering tool throughout Asia. This book explores the potential of the mobile phone for newsgathering in the region, and around the world.

Five and a half years after the still image taken with a mobile phone appeared on the front page of *The New York Times*, television reporter Jeremy Jojola filed a live report using only a mobile phone and free web-based software called Qik. On 20 August 2009, Jojola used an iPhone and Qik software, instead of an outside broadcast truck, to cover a story for KOB-TV in Albuquerque, New Mexico. Technologies like Qik and the iPhone are changing the way journalists report live television. Here is a link to Jojola's story:
http://www.kob.com/article/stories/S1097039.shtml

The author of this book worked as a television journalist in the United Kingdom, New Zealand, Australia, and the United Arab Emirates. Getting an outside

broadcast truck to a breaking news scene for a live broadcast involves a lot of time and money. An outside broadcast truck costs several million dollars, needs a crew of at least two, and costs thousands of dollars an hour to run and maintain.

At a news scene, the truck needs to be parked strategically with a microwave mast raised. Cables are hauled to the

Outside broadcast van by Stephen Quinn

camera and tripod, and connections tested. This process takes a lot of time and effort and usually involves a minimum of two people. Satellite fees to transmit video are also expensive.

With software like Qik and a connected mobile phone, journalists can broadcast live video within five seconds of opening the program on their phone, at a fraction of the cost. No trucks, tripods, broadcast cameras or cables are needed. It seems almost like science fiction.

Media scrum in Washington DC, by Stephen Quinn

Over the next few years, as the technology improves further, the mobile phone that journalists carry in their pocket or handbag will become a powerful and common reporting tool. Reporter Jeremy Jojola of KOB-TV in Albuquerque said he was "waiting for the day" when he would be able to report live breaking news from the scene without a photographer or an expensive live truck. "I have a feeling that day is going to happen very, very soon. The technology is cheaper and faster [than traditional television equipment], and it's only going to get better," he said. "What news manager isn't going to like that," Jojola asked rhetorically.

Linotype machine used to create newspapers in days of hot metal by Stephen Quinn

We are only at the start of what is possible with mobile reporting. Moore's Law and Hwang's Law both tell us that digital technology can only get

more sophisticated. New technologies are always more powerful than their predecessors. Moore's Law was based on an observation by Intel co-founder Gordon Moore in 1965. He said the computing power of silicon chips – the brains of a computer – doubled every 18 months.

Hwang's Law goes further, saying that the memory capacity of chips such as those in mobile phones could be doubled every 12 months. Hwang's Law was named after Hwang Chang-gyu, former head of the semiconductor business at Samsung Electronics, in 2002. Samsung proved Hwang's Law true for eight consecutive years to 2008.

If improvements in speed and capacity continue for another 30 years, reporters will be using computers and mobile phones one million times more powerful than today. Some smart-phones are already mobile personal computers that are as powerful as some of the best personal computers of a few years ago. The mobile phones that people use to access the Internet in the next few years will seem like science fiction. For example, Nokia's Research team in Tampere in Finland predict people will be able to shoot broadcast quality video from a mobile phone by 2011.

Reuters mojo toolkit for reporting, courtesy Thomson Reuters

SURGE IN MOBILE PHONES

As of mid 2009 more than 4.2 billion mobile phones were being used around the world – in other words, two of every three adults already owns a mobile phone. About half of those phones contain a camera, which means potentially a pool of more than two billion reporters.

Not everyone will take photographs or video with their mobile phone. But the potential exists for people to be where news breaks, and snap images of that news. The number of people with mobile phone-equipped cameras dwarfs the number of journalists around the world. News organisations that embrace this form of citizen newsgathering possibility boost their newsgathering potential significantly.

In April 2009 YouTube launched a training site for aspiring reporters. The web site, *http://www.youtube.com/reporterscenter* contains scores of useful videos about how to be a reporter. The web site says: "The YouTube Reporters' Center is a new resource to help you learn more about how to report the news." It features some of America's leading journalists, who share tips and advice for

better reporting via instructional videos. News organisations around the world have established similar sites, such as CNN's i-Report. Details can be found in the readings section at the end of this book.

A convergence of cheap technology, fast broadband and wireless networks, and a booming interest in citizen involvement in news will see a revolution in the way news is covered over the next decade.

It is rare to find a journalist who does not have a mobile phone. Free software can turn most mobile phones into portable broadcast tools. It is relatively easy to stream video and audio to the web from a mobile phone, as this book will show. This means all journalists are potential mojos.

That does not mean all journalists will become mojos. But mojos extend the newsgathering potential of any news organisation because with a mobile phone one person can stream video and audio, take still photographs and send text from their phone provided they have access to a wireless or wi-fi network.

Before we proceed, we need to agree on some definitions: A mobile journalist, often abbreviated as mojo, uses only a mobile phone to gather and distribute news. That news can consist of text, audio, stills or video, or sometimes a combination of these. Mojos tend to work alone. Mobile phones are so common that it is easy to blend in with one, and they are so light they can be carried in a handbag or pocket.

From NYTimes 1999

From The Age, Melbourne in 2000.

Early backpack journalists from newspaper files

A video journalist, often abbreviated as VJ, sometimes works alone but tends to operate in a small team, often pairs. VJs tend to have a large amount of equipment and are more obviously journalists. They stand out in the crowd. A mojo is more discreet and often goes unnoticed.

Video journalist in England working for the BBC. courtesy BBC TV

Video journalist Richard Goncalves in Melbourne, Australia. by Stephen Quinn

Welcome to the world of the mojo. The images that mobile phones

produce may currently look rather ordinary, but this is only the start of a major new way of reporting. The internet was ordinary a decade ago, as was the photograph on the front page of *The New York Times* on 17 February 2004. Now look at what we can do with the internet.

In 2009 the author worked as a mojo in Australia, the Czech Republic, Malaysia, Singapore, the Philippines, Thailand and China. He has also trained journalists in those countries, and given presentations at conferences for journalists and academics in more than a dozen countries.

MOBILE PHONES IN ASIA
It is important to remember that a huge number of people in Asia have mobile phones. As of late 2008, 43 per cent of all mobile phones in the world were in the Asian region, compared with a mere eight per cent in the United States. The software that allows journalists to stream video to the web is free, and any member of the public with the desire can also be a mojo. The next chapter describes what is involved.

Mobile phone adoption has been remarkable around the world. It is the fastest-growing communication device in history. In the decade to 2007, the percentage of mobile phone users in the developed world jumped from 18 per cent to almost saturation level at 97 per cent, according to the International Telecommunications Union (ITU). For the developing world, the rise was even more pronounced, from one per cent to 45 per cent.

Growth is predicted to be significant in the Asia-Pacific region. The research company Datamonitor predicted the number of mobile phones in the region
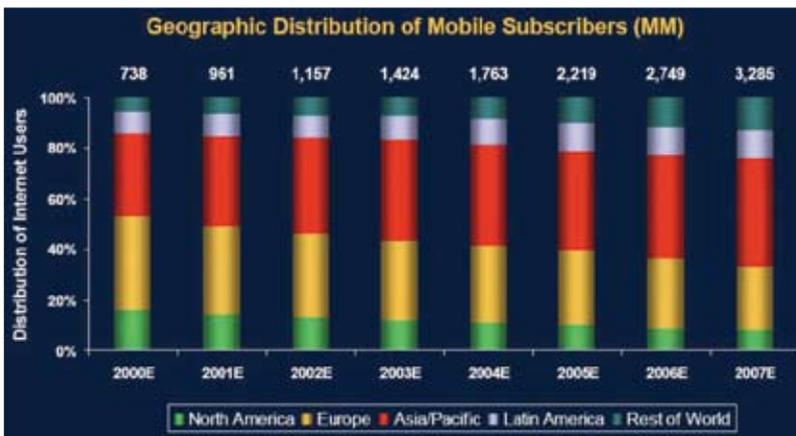
Chart courtesy of Synovate Research, Hong Kong

would jump from 389 million in 2007 to 890 million by 2012. In 2007 China had almost half, or 48.9 per cent, of the total number of mobile phones. Japan had 29.9 per cent, with the rest of the Asia-Pacific region making up the balance of 21.2 per cent.

Back in 2003, the Asia-Pacific region had only 133 million mobile phones. China and India will be the major contributors to future growth.

Datamonitor estimated that the mobile phone business in the Asia-Pacific region would be worth a massive $US95.5 billion by 2012, up from $US40.2 billion in 2007. Three companies dominate the mobile phone market in the region: Nokia, Samsung and Sony-Ericsson. Nokia had global revenues of $US69.86 billion in 2007. Sony-Ericsson's global revenues that year were worth $US27.78 billion. Samsung is a private entity and does not publish any consolidated financial results, but it has 124 offices and facilities in 56 countries around the world.

GLOBAL MOBILE PHONE NUMBERS
At the end of 2004, the world had a total of 1.75 billion mobile phone subscribers. Four years later the total had soared to 4.2 billion.

Almost two in three people owned a mobile phone. Based on this growth pattern, we could reasonably expect that 80 per cent of the world's population would have a mobile phone by 2012.

In less-developed nations, people tend to buy second-hand phones. These older mobile phones do not have a camera, but that situation will change over time. During the next half-decade most of the second-hand phones people buy will also have a camera.

INTERNET GROWTH IN THE REGION
The same massive growth patterns have occurred with internet connections. China is the major player in the region. By the end of 2008 China had 298 million internet users with a penetration rate of 22.6 per cent of the population, according to the China Internet Network Information Center (CNNIC), the state network information centre. About 90 per cent of those users (270 million) accessed the internet via broadband.

Almost 40 per cent (118 million) of China's Internet users accessed the web via their mobile phone, more than double the number a year earlier in late 2007. China also had about 162 million bloggers as of late 2008. The three biggest regions for internet use were Shanghai, Beijing and Guandong.

Recent growth has been spectacular. The total number of China's internet users surged to 338 million by the end of June 2009, a 13.4 per cent increase from the end of 2008, according to CNNIC. The internet penetration rate reached 25.5 per cent as of 30 June 2009, up from 22.6 per cent at the end of 2008. This puts China slightly above the global average of 24 per cent.

In July 2009, Forrester Research estimated that about 2.2 billion people worldwide would be online by 2013 – a global increase of 45 per cent. Almost half of those new users will be in Asia, with China contributing 17 per cent of the new users. In 2009, the United States had the most people connected to the internet, followed by China, Japan, Brazil and Germany. Within five years China will be in first place, followed by India, and then the United states, Japan and Brazil.

Forrester's senior analyst, Zia Daniell Wigder, noted, "Per capita online spending is likely to remain highest in North America, Western Europe and the developed markets of Asia throughout the next five years." But shifting online populations and growing spending power among Asian consumers mean that Asian markets will "represent a far greater percentage of the total in 2013 than they do today".

The number of Chinese people who surfed the web on their mobile phones as of mid-2009 hit 155 million, representing 46 per cent of China's overall internet population, CNNIC said. The number of mobile internet users will grow in the coming years with the launch of third-generation (3G) mobile phone networks in China. Most mobile networks in China, as of the date of writing of this book, were second generation, or 2G.

In August 2009, Apple executives had discussions in Beijing with China Unicom, China's second-largest mobile company, aimed at introducing the iPhone to China. The potential introduction of the iPhone is significant because in other countries with high iPhone penetration, such as the United States and Western Europe, iPhone users tend to surf the web significantly more via their mobile phones than people with other brands of mobile phone. The iPhone is an illustration of the triumph of technology.

Three in five iPhone owners in America already spend more time with the mobile web than they spend reading print newspapers, according to a survey by metrics firm comScore published in July 2009. The iPhone has led to a huge rise in the amount of mobile data usage in the United States. Data consumption is discussed later in this chapter.

The number of American mobile internet users more than doubled from 22.4 million in July 2006, when the iPhone was first introduced, to 46 million at the end of 2008, according to Park Associates. The market research firm predicts that 60 million smart-phones will be sold in America in 2013. A smart-phone is effectively an ultra-portable computer that allows its owner to surf the web, receive and send email, and conduct a host of other activities.

As of mid-2009 only one in 10 of the world's 4.2 billion mobile phones were smart-phones. In July 2009, Morgan Stanley Research predicted the number of smart-phones could represent half the total number of mobile phones over the next few years. They described the migration to internet-connected mobile devices as "one of the biggest opportunities in the history of the technology industry".

One of America's mobile phone networks, T-Mobile USA, reported that average mobile data consumption among its customers skyrocketed to 3.7 megabytes per user per month in 2008, from just a few kilobytes in 2006. The world is consuming huge volumes of data on their mobile phone.

Independent wireless analyst Chetan Sharma predicts the world will consume an exabyte of information on mobile networks in 2009. An exabyte is 1 million terabytes. In his latest report, *Managing Growth and Profit in the Yottabyte Era*, Sharma noted that Verizon, one of the major American mobile phone networks, reported more than 3,500 terabytes of traffic a month in 2008.

"That figure would explode to 4 million terabytes, or 4 exabytes, a month within half a decade", Sharma said.

A terabyte is a measure of digital storage capacity and is equivalent to about 1,000 billion bytes, or about 1,000 gigabytes. To put that number into context, a terabyte would be the equivalent of the digital data contained in more than 300 feature length movies, or 15,000 CDs converted to MP3 at high fidelity. In terms of words, it would take every adult in Indonesia speaking at the same time for ten minutes, to say the equivalent of a terabyte of words. Sharma suggests that by 2016, annual mobile data traffic around the world is likely to exceed 1 zettabyte (ZB) or 1,000 exabytes and information repositories across the web are almost doubling every day as the world moves rapidly to the yottabyte era.

A yottabyte is1,000 billion terabytes. So we are talking massive amounts of data on mobile networks. Based on Sharma's estimates, a massive increase in data

activity could put a strain on mobile phone networks unless governments work with phone companies to prepare for the future.

Mobile phones are also big business. In the first three months of 2009, America's mobile phone market exceeded $10 billion in revenue for mobile data services, for the first time. Mobile subscription penetration in the United States is well over 90 per cent and mobile data usage is on the rise. "While the rate of new subscriptions has slowed, the pace of innovation is going very strong," Sharma wrote.

The mobile industry is going through a significant transition from voice to data, from voice communications to multi-media communications. "Helped by the ever expanding wireless broadband networks, and release of hit devices every quarter, consumers' insatiable appetite for information and content has brought us to the surge of a data tsunami that will shake the industry to its core," Sharma wrote.

THE iPHONE FOR REPORTING
Within the context of a surge in the use of the mobile phone, the iPhone is a game changer. It will become one of the key tools for newsgathering in the next few years. One of the leading companies making iPhone apps for reporting is Vericorder in Canada. In early 2009 Vericorder introduced the first of three products that will have a major impact on journalism and newsgathering. That first product, Poddio, has been designed primarily for radio broadcasters.

Poddio allows reporters to record, edit and send complete radio news packages from the field via the iPhone much more quickly than with a laptop. Poddio currently works on the iPhone and iPod Touch platform and will be extended to other platforms from the start of 2010. You can watch a video about how to use the Poddio sound editor on an iPhone at
http://www.youtube.com/watch?v=sQ1ZmJMIO2E

Gary Symons is the CEO of Vericorder. He was a senior reporter with the Canadian Broadcasting Corporation before founding Vericorder in 2009. In this YouTube video a journalist at the 2009 Consumer Electronics Show interviews Symons about Poddio: *http://www.youtube.com/watch?v=EhnscQK1tBk*

Symons said his company's next iPhone application on the market would be ShowCase, a multi-media tool designed to create slideshows for newspapers, radio station web sites and general web media applications. It allows reporters in

the field to create a narrated slideshow, combining audio with images. Vericorder is also designing a hardware device that will move photographs from standard digital cameras to the iPhone, so reporters have the option of using either the iPhone's onboard camera or their own digital camera.

"Test versions of ShowCase are scheduled to be available by late 2009. The great benefit of ShowCase would be its ability to provide an almost video-like experience, but far more quickly and far more easily than with video editing," Symons said. He gave an example of how ShowCase could be used for a typical reporting assignment in the field, especially where the reporter needed to stay at the scene but also needed to file for the web right away.

"The reporter goes to the murder scene in the park. While waiting for an interview with police, the reporter quickly uses the camera to snap some photos: body under the tarp, police dogs, the forensic guys in their space suits, a witness who came by, the cop who actually does the interview, crime scene tape in the trees. That's six photographs in all."

"Then the reporter quickly records one minute of audio as a basic description of what's happened. The reporter might even read their print story out aloud.

"He or she uses the Poddio-style editor to fix up the narration, and then presses the photo selector. The reporter picks the photos they want and then presses the slideshow editor button. In this screen, the user can tailor the photos so they appear in the right order, and can choose when each photo appears and for how long. This process takes about 30 seconds to one minute in total."

"The file is rendered, sent, and posts on the website as an MP4 file. You can also post instantly to YouTube, with links back to your site."

USING iPHONE TO REPORT TV
The latest version of the iPhone was released in the United States in June 2009. On 19 June a Miami television station, CBS affiliate WFOR, aired a story completely shot on an iPhone as they covered the launch of that version of the phone. Reporter, Gio Benitez, used an iPhone to shoot video and then loaded the video into Final Cut Pro for editing. It is possible to trim the start and end of video clips on an iPhone but it is not possible to edit the video much beyond that. Benitez also used the iPhone's Voice Memo application to record his voice-over for the story. It aired on WFOR's 5pm news bulletin on 19 June 2009. You can watch the news item on the web at:
http://cbs4.com/video/?id=78304@wfor.dayport.com

Symons of Vericorder said his company's third reporting tool, scheduled for release in 2010, was an application that turns the iPhone into a video-editing device. "So it becomes possible to shoot video with the iPhone, edit the video on the iPhone, record a voice-over, and then send the completed package back to the broadcast outlet."

In other words, the iPhone permits sophisticated and live television reporting, replacing all of the complicated and expensive equipment usually associated with making television news. It goes much further than what reporter Gio Benitez did in Miami, Florida, because Benitez had to take the iPhone back to the television station to load the video into Final Cut Pro so it could be edited.

Symons said his company had a separate research and development program aimed at delivering media convergence in new ways, involving mojo systems being integrated with internet protocol television, or IPTV.

After the launch of the new iPhone 3Gs, an American camera accessories maker released a series of handgrips that attach to the iPhone to improve the shooting of video. Steve Weiss, product designer for Zacuto USA, said the Zgrip iPhone Pro handgrip was ideal for helping solve the problem of unsteady iPhone video. "It's easy to use and is quick to attach. Once you hold it, you'll see what we are talking about. It changes a phone to the form factor of a video camera and is necessary if you want to shoot real video." To learn more about the Zgrip iPhone Pro, watch this video at *http://www.zacuto.com/zgrip-iphone-pro*

The pro-version costs $US295, and the consumer version, which is smaller and has fewer features, costs $US69.

The next chapter will describe the most common hardware and software tools for mobile journalism. Welcome to the world of the mojo!

CHAPTER 2
HOW TO BE A MOJO, OR MOBILE JOURNALIST

SUMMARY
This chapter discusses how mobile journalists work, and describes the software and tools that mojos use. It emphasises the importance of increased mobility for journalists – getting people into the field rather than sitting behind a PC in their office. The mojo concept changes journalism. This chapter describes the tools that mojos use, and recommends their most relevant and useful.

Today's audiences know that if a big story breaks, it will be available first on the web or mobile phone. Filing first for the mobile phone and the web have become second nature to many journalists.

The past decade has seen a huge change in the way news evolves. It has been part of a massive evolution in the way news is covered. It helps to go back in time to understand these changes.

Newspapers and their loyal servants, news agencies, had a monopoly on news until the arrival of radio in the 1920s. Their only competition was word of mouth, which had limited range. Radio maintained its dominance as the main place where news broke for almost three decades until well after television broadcasting resumed at the end of World War II (Television was considered too strategically important during the war and development was delayed until after the war ended).

Television gained dominance in the 1960s and 1970s as journalists became accustomed to doing live broadcasts. By the end of the twentieth century, because of the ability to go live via satellite phone, broadcast television became the place where big news stories broke, especially via the 24-hour all-news channels like CNN and BBC World. We heard and watched the fall of the Berlin Wall live, and we watched as the Twin Towers cascaded in flames on September 11 2001.

As the news cycle evolved, the print media acquired a new role. Because it was published the next day, print learned to provide analysis and reflection, and

to offer the best available still images. Then along came the web, and more recently the mobile phone.

Audiences now turn to the internet and the mobile phone for breaking news. In response to this change, the web sites of major daily newspapers such as The New York Times and The Guardian have introduced "continuous" or "extended" news desks. These publish breaking news online and via the mobile phone as soon as possible after stories break.

Indeed, they function like the re-write desks common on afternoon newspapers until the 1960s. As events unfold, senior editors on these desks phone reporters in the field, often re-writing reporters' first few sentences in conjunction with wire copy.

Robert McCartney, assistant managing editor for continuous news at *The Washington Post,* said a team of three editors and two writers solicit and edit breaking news from reporters in the field – "especially during peak web traffic hours of 9 am to 5 pm".

Every news organisation takes news agency copy. And because all online sites use agency copy, the news tends to be the same. The goal of the continuous news desk is to increase the flow of original stories to the web, to distinguish the paper's coverage from other online sites.

"We want to take advantage of the beat reporter's expertise, sourcing and credibility," McCartney said. When a reporter is pressed for time they telephone the desk, where an editor produces a story under a double by-line. "This arrangement encourages beat reporters to file for the web while relieving them of the burden if they're too busy." If necessary, continuous news desk editors write stories on their own "doing as much independent reporting as possible, and citing wires or other secondary sources," McCartney said.

Dan Bigman, Associate Editor of NYTimes.com, said the continuous news desk at *The New York Times* had been a catalyst for changing newspaper journalists' opinions about online. "The continuous news desk has changed the [newsroom's] culture," Bigman said.

These desks represent an example of how news organisations have changed their structures to accommodate breaking news online. Traditionally, newsrooms have been built around sections of the newspaper, such as sport and business, or

around beats or rounds (the American and English terms for the way newsgathering is divided along specific topics, such as education or local government). This led to newspaper-centric thinking and a production-oriented model.

In the new world of breaking news, journalists need to be put into flexible teams of "news gatherers" who provide content for the web, mobile and print editions of the organisation. Stories should be driven by news values and the value of the news, and then delivered across platforms. The aim should be a more multi-media focused newsroom.

Breaking news draws audiences to the web sites of news organisations. And multi-media breaking news builds even bigger audiences, which makes editorial managers happy. Online advertising is sold based on audience size, and on the number of people who look at page impressions. So we can argue that multi-media breaking news builds revenue for news organisations.

Video is one of the best ways to build audiences. The death of pop singer Michael Jackson and political unrest in Iran were the big stories in June 2009. They drove a record number of people to online news sites that month – more than 157 million American internet viewers watch 19.5 billion online video clips in June 2009, according to media measurement firm, Comscore.

The previous record for internet video was in April 2009, when 151 million viewers watched 16.9 billion online videos, according to Comscore. Mobile journalism, or mojo, is one way to get video on to web sites quickly. Much of this chapter describes how mobile journalists work, and assesses the software and tools that mojos use. In July 2009, the figure was even higher with American internet users watching 21.4 billion online videos.

But first a few words about how newsrooms should choose the stories they cover.

NEWS COVERAGE BASED ON NEWS VALUES

Too many news organisations cover stories based on history. It is the equivalent of driving while looking in the rear vision mirror. They attend news conferences because they have always attended those conferences. They cover functions because they received a media release telling them about an event.

In the new world of multi-media reporting, story coverage should be driven by news values, not by the fact that a news organisation has always covered

those stories. Just because we have always covered the mayor's weekly news conference does not necessarily mean we should. Perhaps it is enough to send a junior reporter to that conference, and send more staff if the story warrants more coverage. Meanwhile, a protest in a nearby suburb might require coverage from a team of reporters.

The news value of the story should dictate coverage, not tradition.

Many newsrooms need to restructure themselves for a 24-hour news cycle capable of feeding web and mobile phone audiences constantly. Newsrooms that have increased staff numbers tend to allocate new hires to these breaking news audiences, usually early in the morning because of the nature of web audiences. Most people access the web during office hours, Monday to Friday. Newsrooms subsequently allocate resources for this time frame.

Much of the material produced by early-morning teams of reporters is routine: traffic problems, police stories, court reports, fire and emergency stories, local government meetings or sports results. These stories tend to have a short shelf life, as more significant news overtakes them during the day. Sometimes they are significant enough to need updating for the next morning's newspaper.

But breaking news does drive traffic to web sites, and multi-media is one of the most powerful news forms for breaking news. On 21 July 2008, the Pew Research Center's Project for Excellence in Journalism published a report entitled The Changing Newsroom. The report described a trend towards a more modern newsroom with more versatile and technically attuned reporters who had new skills, higher productivity and the ability to multi-task. Of the new skills, the most important was the ability to shoot video.

Almost two in three American editors surveyed in the report had boosted the editorial resources devoted to video. Ninety per cent of editors surveyed said they considered multi-media skills "very" or "somewhat essential" for the job, when hiring new staff. Reporters once went on assignment with little more than a pen, a notebook and the deadline for their newspaper's first edition. Now they carry a wide array of tools.

The web provides new openings and vistas for daily newspapers, enabling them to offer video content that competes directly with television. It gives newsrooms the chance to establish a genuine two-way conversation with the community while at the same time extending the reach of the paper's circulation to anyone with an Internet connection.

In recent years IFRA, the research and service organisation for the news publishing industry, has published a collection of multi-media reporting tools, collectively called Newsgear. It has been tested for newsgathering, and is recommended as the best available group of tools. You can find examples of Newsgear by searching the web using "Newsgear+2008" as the search term.

THREE LEVELS OF MULTI-MEDIA

Multi-media reporting comes in three main forms.

Breaking news often takes the form of a single sentence. The item is then developed or built over the next few hours or days, depending on the significance of the story. The mobile phone and the web are the logical place to initiate breaking news and then we add more text or podcasts or photo galleries or slideshows or video to the story as it evolves. In effect, we build the story from the foundation of the initial sentence of breaking news. Much of the information about this section came from DJ Clark, who directs the master's program in photojournalism and multi-media at Ateneo University in the Philippines.

The second level is multi-media treatment of a general news story. We must remember that the treatment of any news story depends on the story's news value. News characteristics or news values are much the same around the world. These are stories that contain conflict, involve prominent individuals, have impact on a large number of people, are money stories, represent examples of a new trend or development (usually the first of something), or involve novelty or something odd or bizarre. Most major news stories also relate to something nearby or involve the local community.

In a typical eight-hour shift one reporter can produce multiple versions of a single story: a text version of a few paragraphs for the web and mobile phone, later developed as a podcast with more information, and then as a slideshow or photo gallery as images arrive from the audience or are taken by the organisation's photo-journalists.

Perhaps the reporter also does a short piece-to-camera for an online video, or appears as the expert in a television news package. In essence, the reporter here is the expert and simply provides various versions of the story for different audiences at different times of the day. Sometimes the news desk will decide if the story is worthy of further treatment for the next day's newspaper, and will ask the reporter to craft 600 words for print.

The third level is similar to the feature form of reporting in a newspaper, or a documentary at a television station. Here one or perhaps several journalists spend several days crafting a piece of quality reportage such as a long feature designed for the weekend newspaper or a documentary that will screen during prime time. Investigative journalism that takes several weeks or months to develop falls into this category as well.

ARRIVAL OF THE MOJO

The mobile journalist (mojo) is most appropriate for the first level of reporting: breaking news. They can provide quick content for the website, as a text message or verbal report, or a few sentences from the scene of an event, or supply still images or video taken with their mobile phone. Most editors surveyed in the Pew Center's The Changing Newsroom report said mojos contributed either "some" or "a great deal" of value to the news product. Among editors of large-circulation newspapers, the positive response was even higher, at 90 per cent, when asked about the value of a mojo.

Anecdotal evidence suggests American mojos are usually deployed to cover geographical rather than themed beats and tend to act as "carpet sweepers" – reporting and filing a stream of short, quick stories for the paper's website on developments during the course of the day. The mojo rarely appears in the newsroom, but works from the field armed only with a cell phone and perhaps a laptop.

When a big story breaks a mojo files repeated updates for the website, and sometimes writes a longer story for the next day's print edition.

SOFTWARE AND HARDWARE FOR MOJO WORK

Several companies offer software that lets mobile journalists stream live video from a cell phone to the web. With all of them, reporters use their mobile phone like a miniature camcorder to capture news almost live. The delay is usually a few seconds, depending on the size of the file being transmitted and the quality of the telephone network being used. It is vital to have a data plan because video streaming consume large amounts of data, which can be expensive.

Video images are streamed from the reporter's camera to a web site. Then the news organisation copies the embed code for each piece of video and pastes it into the news organisation's web site. A faster option, which would involve negotiations between a news organisation and the software companies mentioned below, would be to stream video directly from the camera to the news organisation's web site. Organisations considering this option would need to contact individual software companies.

Here are details about the six main software providers. They all work in a similar way. Whatever a reporter videos with their mobile phone is transferred via wireless networks to the software company's servers. The phone buffers and sends footage back almost in real time to the servers, which transcodes the video into Flash so it can be watched by anyone who goes to the website.

Students from Finland and Sweden founded **Bambuser** (*http://bambuser.com/*) in 2007 to let people broadcast live using a mobile phone from anywhere. One of the founders was Mans Adler: "What you see on your cell-phone screen is what everyone can watch a second later on the Internet." The company's development office is based in Turku in Finland and the head office is located in Stockholm, the Swedish capital. Bambuser lets people stream video both from a computer and a mobile phone.

More details about Bambuser can be found at the information technology company Crunchbase, which maintains sites about all of the software described in this section of this e-book, at *http://www.crunchbase.com/company/ bambuser*

ShoZu (*http://www.shozu.com/portal/index.do*) believes the "mobile web" is about providing mobile phone versions of web applications and services. CEO Mark Bole said the technology was designed to allow sharing of videos, photographs, and blogging and social networking sites, as well as other Internet

services such as RSS feeds, podcasts and videocasts. Bole said ShoZu's patented technology allows consumers to transfer photos, videos, music, text and other digital content to and from the handset without the need to open a mobile browser, wait for pages to load, interrupt phone calls, start over in the event of a dropped connection, or synchronise to a PC.

ShoZu has offices in London, San Francisco, France, Spain and Italy. The BBC used ShoZu in its mojo experiments in early 2007. More details about ShoZu can be found at *http://www.crunchbase.com/company/shozu*

Flixwagon (*http://www.flixwagon.com/*) is based in Israel. It aims to promote citizen journalism and has negotiated with to use Flixwagon's software for

citizen journalists. In September
2008 Flixwagon partnered with the
organisers of the Web 2.0 Expo in
New York to cover the conference
live from mobile phones. Users
can also broadcast alerts to friends
and family and automatically
upload their video to YouTube and
Facebook.
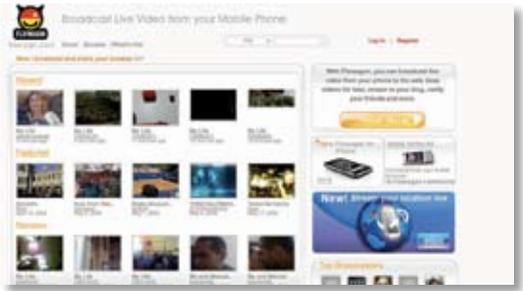
More details about Flixwagon can be found at
http://www.crunchbase.com/company/flixwagon

Qik (*http://qik.com/*) is probably the best known of the live video streaming
tools in the United States because of publicity it gained when prominent
media and political figures started using it in 2008. For example, Republican
Congressman John Culberson, from Texas, broadcasts live images from the

United States Congress via Qik
software on his mobile phone. In
August 2008 Culberson described
himself to The New York Times as
the "first real-time representative".
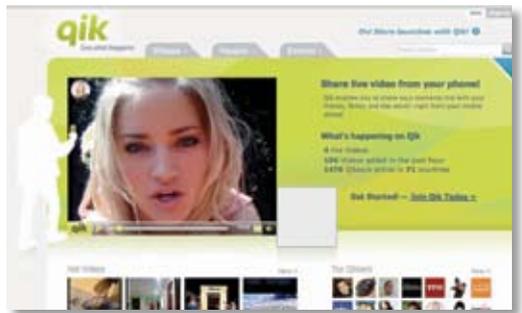
Qik has users in more than 50
countries, who have produced
thousands of videos since the
company's launch in December
2007. Like many software

companies, Qik currently appears to be focusing on building a community and
seeking partnerships with media companies and other organisations. More
details about Qik can be found at *http://www.crunchbase.com/company/qik.*

Kyte (*http://www.kyte.com/*) has strategic partnerships with some of the
world's leading media and mobile phone companies, including Nokia. The
company's headquarters are in San Francisco with a European office in
Zurich, Switzerland. Chief Executive, Daniel Graf, described the company's
rationale: "For on-the-go content producers, Kyte Mobile Producer provides a
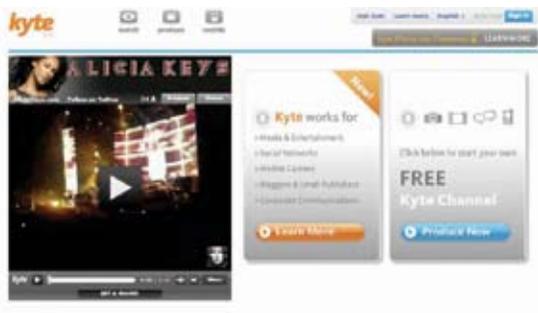
mobile production studio that fits in your pocket." Graf said the technology featured the ability to stream live video with high production values with one-click.

It is possible to send video directly to Facebook or Myspace with a single click. More details about Kyte are available at *http://www.crunchbase.com/company/kyte*

Livestream (*http://www.livestream.com/*) describes itself as the "most powerful live broadcast platform" on the internet. Producers can use the Livestream browser-based Studio application to broadcast live, scheduled and on-demand Internet television anywhere on the web through a single player widget. Services come in two forms: Free, which is advertising-supported, and Premium, which has no advertisements and where subscribers pay for use. Unique features include the ability to mix multiple live cameras, imported videos clips, and overlay graphics.

Livestream was formerly known as Mogulus. Company headquarters are in New York. With Livestream, producers can broadcast live from a mobile phone, use a customizable Flash player with integrated chat, and develop a branded channel page on Livestream.com that incorporates interactive chat. More details about Livestream are available at *http://www.crunchbase.com/company/livestream*

COST OF DATA TRANSMISSION
Streaming video involves large amounts of data. Charges are levied on the amount of data transmitted, and not the time spent connected. Data charges in some countries are very high and journalists need to budget for them. Reporters who stream video from their mobile phones are advised to organise a data plan with their mobile phone provider before they start.

The ideal option is called an "unlimited" data plan. It is like going to an "all-you-can-eat" restaurant for a fixed fee. An "unlimited" data plan involves a fixed monthly fee. One of the reasons Singaporeans have embraced mobile video so avidly is the relatively low cost of high-speed data packages, at $SGD60 a

month, or about 30 Euros. The author pays his own data charges. "Unlimited" data plans are not available in Australia, but I negotiated a fee of 30 euro a month ($AUS59) with a local telecommunications companies for 1Gb of data a month.

One way to avoid high data charges if you cannot get an "unlimited" data plan is to use "free" wi-fi networks. These can be found in some cafes, restaurants, coffee shops, airports and universities. They usually compel you to buy a cup of coffee or a meal to get access to the "free" wi-fi network. The author notes the wi-fi passwords and usernames at all airports he visits, so he can get access to free wi-fi on each subsequent visit.

Media organisations in major cities around the world have large editorial staff, so data charges could become excessive if all reporters did mojo work and the company paid for the charges. Costs need to be monitored closely. Reporters need to be trained how to store video on their phones and then transmit via a free wi-fi network. High data charges remain a limitation on the possibility of mojo work.

HARDWARE AND SOFTWARE FOR MOJO WORK
A wide range of mobile phones can be used in mojo work. Each software provider discussed earlier lists the supported phones somewhere on their home page. Of the currently available mobile phones, Nokia offers the largest range for mojo work.

Many media companies around the world are using the Nokia N95, while several others have adopted the Nokia N82. A small number of newspapers employ the iMate JasJam, while others are using the iPhone 3GS. (Disclosure: Nokia gave the author four Nokia N95 8Gb phones so he and his students could experiment with mojo work.)

For this e-book I tested a range of mobile phones for shooting video, including the Palm, HTC Diamond phones, and a range of Sony Ericsson mobiles as well as the iMate JasJam and Apple's iPhone. I buy almost all my own hardware and have a limited budget. One of the under-appreciated factors in diffusion of innovation theory is cost: Only people with relatively high disposable income can afford to be early adopters!

iMate JasJam mobile phone and other mojo tools, by Kerry Metcalfe-Smith at Fairfax Media, Sydney

I approached some mobile phone companies to review phones, and Nokia supplied a N96 as well as the four N95s. In April and May 2009 I contacted Samsung in Sydney to borrow a phone to review the Omnia. I phoned their public relations representative four times. Despite promises that a phone would be sent to me, nothing arrived, so it is impossible to comment further. Frank Barth-Nilsen of Norway's national broadcaster NRK reviewed the Samsung Omnia touch phone on his blog (you can find the url of his blog in the readings). The Omnia uses the Windows operating system.

iMate JasJam mobile phone and other mojo tools, by Kerry Metcalfe-Smith at Fairfax Media, Sydney

RECOMMENDATIONS: THE BEST TOOLS

My main criteria for selecting software tools were simplicity of use and quality of image. Of the above software tools, Qik was one of the best for reporting breaking news, as of mid-2009. It is also one of the easiest to load onto a mobile phone. If the software corrupts, one simply logs onto Qik and requests a repeat of the software. It appears seconds later via a text message, and takes less than a minute to download onto a phone. I also like Bambuser. It too is easy to use and the software comes to the camera phone via a text message.

The quality of the video each software package produces, varies depending on how far the phone is from the server, and the calibre of local wireless networks. Because Qik's servers are in California (the closest to Australia), I got a quick response. Bambuser and Flixwagon were the next fastest. Bambuser is based in Sweden and Flixwagon in Israel, yet I still got reasonably fast connections, which suggests they have plenty of server power.

Depending on your location, it is probably best to test a range of the software options to see which one works best for your location.

Frank Barth-Nilsen of the Norway Broadcasting Association (NRK) says one of the other attractions of Qik is that it records video onto a memory

Screen shot of home page of MojoEvolution.com

card in full resolution. This gives reporters the option of physically delivering a higher quality video clip to the newsroom, although obviously this would take longer than sending it wirelessly. "I also love all the functions in Qik, allowing you to hook it up with social media services as Twitter, Facebook and others."

It is more difficult to recommend which mobile phone to use. What phone someone uses for mojo work will probably depend on their budget, what phone they currently own, and/or the phone their employer provides.

Five major operating systems are available around the world. The Symbian operating system is by far the most common: At least 55 per cent of all mobile phones in the world use it. It is the operating system for Nokia and Sony-Ericsson phones. The iPhone contains the fastest selling operating system, in the sense that as a proportion of mobile phones sold it is gaining a large share. It is a magnificent piece of technology, and it uses a specific operating system made by Apple.

The Blackberry range of mobile phones, made by the Canadian company Research in Motion (RIM), is very popular among people who use a lot of text. RIM has its own operating system, as does the Android, the mobile phone created by Google. The fifth major operating system comes from Windows. All operating systems have their advantages and disadvantages.

The free mojo software described earlier in this chapter works on a wide range of phones. To find out if it works on your mobile phone, go to the home page of each software provider mentioned above and look for links to "supported phones", usually at the bottom of the home page.

I use both a Nokia N95 and an Apple iPhone 3GS for mojo work. The camera on the iPhone 3GS is not as good quality as the camera on the Nokia N95, but the iPhone is much easier to use. It becomes a trade-off between ease of use and technical evolution. Mobile phone technology evolves very quickly, so one should not limit oneself to one brand. Be open to new possibilities and new entries into the market. The Nokia N97 became available in Australia in mid-2009 and has received reasonable reviews. It is not possible to download all of the free mojo software to the iPhone unless you jailbreak the iPhone. Only Qik is available via iTunes, the standard way of loading software on iPhone. But Qik works easily on an iPhone.

Courtesy Nokia Australia

TIPS ON FILMING WITH A PHONE CAMERA

We are using a small screen so we need to be aware of the limitations of the available technology. Film in short bursts because the longer the piece of video the longer it takes to send wirelessly to the web. Work in blocks of 20 seconds and up to 60 seconds. Get as close as possible to the subject.

If you plan to show an event or scene, make sure you move the camera slowly. Otherwise you will produce blurred footage. Better to position the camera so the action comes to you

Much mojo work involves doing interviews with newsmakers or witnesses. Frame the person carefully **before** you press the record button. In movie or television terms, think close-up. Train yourself to frame the person. Some mojo phones have tripods, so in these situations it is OK to sit the subject down. But much breaking news happens on the spot, with the interviewer and the person being interviewed standing up. Stay in one place and choose a plain background so the background does not distract from what the interviewee is saying.

Never move the camera quickly to another person if you have more than one person to interview because you will get blurring. Always stop the recording before moving to a new subject, then start the next interview after carefully framing that person. Do not pan (this is a film term for moving the camera horizontally). Similarly, do not tilt (the term for moving the camera vertically). These also produce blurred images.

The next chapter looks at case studies of mojo work and describes how newsroom structures need to change. Mojo requires a new approach to newsroom structures and organisation, and new ways of covering breaking news.

CHAPTER 3
THE TECHNIQUES OF MOJO REPORTING

SUMMARY
This chapter outlines the techniques that mobile journalists use when reporting, with two mojo case studies. It brings together lessons learned from the field and describes new approaches to reporting that this innovation introduces. The chapter also describes how mojo interviewing varies from traditional newspaper or television interviewing. It shows the best way to use the camera to achieve the best images.

In September 2008 I experienced the adrenalin high of reporting live as a mojo with a mobile phone. It was the first time this type of reporting had occurred in Australia, though I had given mojo presentations and demonstrations around the Asian region.

Let me set the scene. It is three days before the grand final of the Australian Football League. This is the biggest game of the year. Grand finals often attract crowds of more than 100,000 people and the public is fascinated by the lead-up to the game.

The game they play is known as Australian Rules. My home town team, the Geelong Cats, had made it to the grand final. The town was fixated on the game. Geelong's city centre was festooned with blue and white stripes, the team's colours. People wore blue and white scarves and hats. Blue and white banners decorated house windows. Blue and white streamers fluttered from car aerials.

At the time Peter Judd was the editor of the *Geelong Advertiser*. He is one of Australian journalism's best media innovators. He had learned about mojo the previous month from one of his staff who saw me give a presentation about mojo at the annual conference of the Pacific Area Newspaper Publishers' Association.

One of Geelong's best players, Darren Milburn, was to give a media conference outside the team's home ground later that morning. Editor Peter Judd suggested I go to the media conference and stream video of the event to the newspaper's web site. It would make a great story in the lead-up to the grand final.

Stephen Quinn as mojo,
courtesy of Geelong Advertiser

It would also be the first time this form of reporting had happened in Australia. It was the chance to make history as a mobile journalist, or mojo.

For some months I had been researching how journalists around the world were using the mobile phone as a newsgathering tool. And Nokia had given me four N95 phones so my students and I could test the various software platforms for streaming mobile video. So far I had experimented with software from Qik, Bambuser, Flixwagon and Shozu. Weird names, I know, but the technology is quite magical. Each works the same way. You register on the company's web site. The company sends a text message to your mobile phone that allows you to download the software. This takes about a minute. The software is free. As soon as you load the application, it connects to the web and turns your phone into a video camera. Press a button on the phone and record video. Press the same button and recording stops. An indicator on the phone's screen tells when the video is being recorded and the duration of each piece of video. The video streams almost live to a web site.

I chose to use Qik, which meant the video streamed to the Qik web site. An editor back at the *Geelong Advertiser* was ready to copy the video's embedded code from the Qik site and paste it into the web site of the newspaper, ready for the audience to devour. We tested the process in the newspaper's office before I drove to the football ground.

Thus on a sunny Wednesday morning in September 2008, I found myself outside the Bob Davis gates at Skilled stadium in Geelong ready to film Darren Milburn's media conference. Helicopters buzzed above the ground like over-sized blowflies, delivering camera crews from the five main television networks, and a host of smaller networks.

Radio journalists lingered with their digital recorders, and photojournalists took up strategic positions with their long-lens cameras. More than 50 journalists waited for Darren Milburn to appear.

A scrum of journalists formed like a rugby ruck around Darren Milburn as soon as he appeared from the stadium. The noise of the helicopters above plus a nearby construction site made it difficult to get good audio. The day was sunny

so light reflected off scores of camera lenses. The glare on my camera's screen made it difficult to frame good images.

The media scrum also made it difficult to get close to Darren Milburn. The crush of bodies meant I was forced to hold my mobile phone in outstretched arms above the media ruck. Even a small phone weighing 200 grams starts to feel heavy after several minutes. Sweat trickled down my arms.

But the process worked. The video went back quickly to the newspaper's web site. The great thing about the web is the opportunity to talk to the audience, and the speed of feedback. The audience seemed to like the video, though some complained about the shaky images. Three in five audience members polled said the *Geelong Advertiser* should continue such experiments. Newspapers need innovators like Peter Judd and his team.

The experience was actually very exciting. During a 20-minute media conference I sent back half a dozen good pieces of video. Each arrived within minutes of being sent. It was almost live and I got the only individual interview with Darren Milburn, despite the announcement from his minder that Milburn would give no individual interviews. I sidled up alongside as he walked back to the stadium, told him who I worked for and asked for a chat. He said yes, and seemed amused at being interviewed by someone with a tiny mobile phone. I walked away with 20 seconds of exclusive interview.

My basic kit consists of a Nokia mobile phone and a battery charger. Add a foldaway Bluetooth keyboard and the mobile phone becomes a laptop. A Nokia keyboard sells for about $US100. High-end Nokia phones such as the N95, N96 and N97 also have a high-quality audio recorder. Reporters can record radio interviews and send them to the newspaper's web site as an MMS attachment.

Think of the mojo as a Swiss army knife. If you have to fend for yourself in the news jungle, better to have this tool rather than nothing. A mojo is perfect for breaking news and getting multi-media onto a web site from the scene. If the story gets too big for one person, the reporter simply phones for reinforcements.

The mojo gives news organisations the perfect way to deliver multi-media forms of breaking news. A mojo also lets newspapers compete with television in getting video online, particularly as the quality of phone cameras improves.

Nokia says they will produce phones capable of high definition television in a couple of more years. Lessons learned from this mojo experiment are discussed at the end of this chapter.

Meanwhile, we head to Manila to discuss another form of mobile journalism, at Inquirer.net in the Philippines. This country was chosen to demonstrate that it is possible to be a mojo even in countries with poor Internet connections and under-developed telecommunication networks.

MOBILE JOURNALISM IN THE PHILIPPINES
Internet penetration in the Philippines was one of the lowest in Asia in mid 2007 – 7.8 million internet users in a population of 87 million. These numbers have improved in recent years. The country had about 25 million Internet users by June 2009, though broadband numbers remained low with under 300,000 as of mid-2009.

Each year over 9 million overseas Filipinos send home about $US13,000 million. These expatriates have a major impact on the country's disposable income. They have become a major target for online advertisers in the Philippines, because print media cannot reach them. The Inquirer.net, part of the Philippine Daily Inquirer Group, has worked hard to service that audience, and is making money.

About 40 per cent of the site's audience are American-based Filipinos. Another 30 per cent are Filipinos scattered elsewhere around the world. The rest are locals. The main online

Screen shot of home page

JV Rufino, former editor in chief of Inquirer.net, courtesy Inquirer.net.

advertisers are real estate companies selling condominiums and residential property. Expatriate Filipinos buy them in preparation for retirement or for when they visit home, J V Rufino, Senior Vice-President for mobile at the parent company and a former editor-in-chief of Inquirer.net.

To ensure plenty of fresh content, a pool of 15 reporters file from the field using mobile phones. Many seldom come to the office. Another 10 editors are based in the office, which is separate from the newspaper newsroom. Reporters gather multi-media news with mobile phones and small digital cameras, sending text, still photographs and video wirelessly.

One of Inquirer.net's reporters, working as a mojo, interviewed the author soon after I arrived on my second visit to Manila, in March 2007. Erwin Oliva conducted the interview in a café and video was on the web within minutes. The video is also on YouTube and can be found at *http://www.youtube.com/watch?v=unb3F4Rzrso*

Erwin Oliva became the country editor for Yahoo! in the Philippines in mid 2009.

With breaking news, reporters are trained to write one or two paragraphs and submit the story as soon as possible. After editors check it, each news alert goes to the mobile phone of about 30,000 subscribers. Each pays 2.5 pesos per alert. Rufino

Irwin Oliva, courtesy Inquirer.net

said 30,000 was an accurate figure because staff culled the list to ensure that only people with credit on their phones remained subscribers. People in the Philippines send vastly more text messages than they make phone calls, because SMS' are free or cost a maximum of US 2 cents each.

Joey Alarilla, a former columnist at the Inquirer.net, said the site had followed the advice of Rob Curley, currently vice president for online at the *Las Vegas Sun*, to "own breaking news". "For online sites to become more relevant they had to deliver local news as it happens. And Inquirer.net had practised that philosophy over the years", Alarilla said. Rufino described breaking news as a different discipline compared with the newspaper's

Screen shot of home page

coverage of news. "A print reporter would wait until the end of the day [4pm] to begin writing. But my staff are multi-media reporters, in the sense that they are taking photographs, and while they're taking photos they're taking videos during the press conference and all the while they're still writing the story." "Breaking news on the web was very "blow by blow," Rufino said, while the parent newspaper, *The Philippine Daily Inquirer*, provided analysis of the previous day's events.

Inquirer.net operates more like a wire service than a newspaper, gathering news on a 24-hour cycle. Soon after midnight content from the print edition of *The Philippine Daily Inquirer* is placed on the web site. Editors arrive early to post

new stories in anticipation of the surge in traffic from 9am as people get to work. Most offices have internet access, compared with one in 10 households. Traffic to the site escalates throughout the morning, and slides after lunch as people resume work.

Early each day Inquirer.net editors brief the site's reporters, all of whom work independently of the print edition, on how a story should be developed, or at least where to find other stories not covered the previous day. For specialised sections such as Infotech, reporters are assigned events to cover or encouraged to propose possible story leads during the week, while an editor finds available multi-media materials that could accompany articles.

As stories break, Inquirer.net reporters send details immediately using mobile phones. When Rufino was Editor-in-Chief he promised reporters they would get the most up-to-date equipment. Reporters all use wireless email devices such as the Blackberry and the latest Nokia phones for taking still pictures and videos. These reporters also contribute to a pool of knowledge about the best suite of tools for mobile newsgathering.

Rufino said his team of multi-media reporters was a "test lab" for the future of *The Philippine Daily Inquirer newspaper*. He keeps the team small and hires innovative people. Inquirer.net posts about 300 stories a day – about 120 from the team of breaking news reporters, and the rest from the newspaper's staff.

Jeff Jarvis

Professor Jeff Jarvis teaches at the Graduate School of Journalism at the City University of New York, and writes the Buzzmachine blog. He believes mojo changes the relationship between audiences and news organisations. "When it is live, producers don't have time to edit, package, vet and all the things that news organizations have always done. The news is direct, from witness to the world." This makes this transaction interactive," Jarvis said. "The audience can interact with the reporter. We can ask questions and share information and suggest they go shoot this instead of that. Life becomes a 24-hour news channel," he said. "And we see news through the eyes of witnesses."

Manila has some of the worst traffic jams in Asia. The author has suffered more than his share of them. Any journalist with a good video story will know the frustration of being caught in a traffic jam and unable to file the story.

Inquirer.net reporters avoid these problems by knowing where to find wi-fi networks. They file video stories from their laptops or mobile phones by visiting cafes or restaurants or other locations that supply "free" wi-fi to people who buy a cup of coffee or a meal. The author has filed audio and video stories from coffee shops in Manila's malls.

Meanwhile, back in the office Inquirer.net's editors tag all stories by key word, based on the news industry text format (NITF) list of key words regulated by the International Press Telecommunications Council. A list of key words appears on the site as a "tag cloud." Rufino's team designed the software. Tags that have more articles associated with them appear in a bigger type size. A quick look at that page provides an editor with a quick content analysis. "I can tell at a glance if we're doing too many stories on crime, or not doing enough on another topic."

Inquirer.net has a video channel on YouTube and a page, RadioInquirer.net, where it streams more than 40 radio stations. "Lots of Filipinos are on Friendster and YouTube. You can either play in the space where your audiences are, or you can ignore the whole phenomenon and wake up one day to discover that the average age of your newspaper audience is 65."

The average age of the reader of the parent newspaper, *The Philippine Daily Inquirer*, was mid-50s, Rufino said, which was not a good place to be for the future. "My site's audiences are aged 20 to 40. These are peak working years with lots of spending power. If they begin their working careers reading on the web, when they hit their prime in their late 40s and early 50s they will go to the web for news. Nowadays kids in their 20s do not read newspapers. They read but they do not read newspapers. They read online, they read blogs, but not print."

LESSONS LEARNED FROM THE FIELD
Mojo reporting in the field introduces its own range of problems. External noise can be a problem, unless the reporter has a high-quality microphone. The Poddio software discussed in Chapter One, for example, works best with an integrated microphone. Frank Barth-Nilsen's blog, MojoEvolution.com, provides a wide range of articles on how to get good audio when working as a mojo.

If using a phone's built-in microphone, beware of distant disturbances such as helicopters or traffic or construction noise because they interfere with audio. The human ear blocks noises during an interview or press conference, but the mobile phone's internal microphone captures a lot of external sound.

When bright sunlight reflects on the phone's screen it becomes difficult to frame good images because it is impossible to see the screen. This especially applies in a media scrum where the journalist is forced to hold the camera in outstretched arms above the interview subject. Even a small camera starts to feel heavy after several minutes. The answer here is an extension arm or tripod. See the section on extension arms on page 17.

With these tools it is vital to be able to ensure the record button is on. The options here are some form of remote control, or being willing to have some blurred and wasted video at the start of the video between hitting the record button and focusing on the subject. The best option is to have an editor at the office able to remove this wasted video at the start of the footage before it is put on a web site.

Several spare batteries are vital because mojo work consumes power. A typical one-hour press conference might need at least two or three fully charged batteries, depending on how the reporter covers the event. BBC journalists such as Rory Cellan-Jones and Darren Waters, who have conducted mojo trials, used a range of portable solar-powered battery chargers, such as the Power Monkey. But solar chargers take a lot longer than charging via a battery, and they require sunlight.

If speed is an issue, or you find yourself in the dark, use a battery charger like the Turbo Charge. It costs about $US45. The Turbo Charge is reviewed at *http://www.mobilewhack.com/reviews/turbo_charge_portable_battery_charger.html*

Many mobile phones allow you to change the battery, so it makes sense to carry a spare battery. One of the problems with the iPhone is that the battery is built in. This means you have to charge the battery via mains power or connect to a laptop via the USB cable, which can be inconvenient. An option is to buy a Juice case for the iPhone, which contains a spare battery and costs $US100.

I use a portable battery charger made by Exibel, called the "emergency charger". It is a slim aluminium tube containing an AA battery and a cable that plugs into the mobile phone. The "emergency charger" will provide about two hours of talk on one AA battery, comes with five cables that connect to the five most common mobile phones and costs about $US10.

Newspaper companies that embrace the mojo model need to ensure the software companies they partner with have rugged servers that can ensure reliable and quality service. When news breaks, the technology must make sure the video is

delivered. Qik and the other software tools for streaming video involve a time lag. The longer the piece of continuous video, the longer the time lag. A 10-minute piece of video takes another five minutes on top of the initial 10 to be delivered, even on the most modern 3G networks. Rather than streaming 10 minutes of a press conference or other news event, mojos should send discreet packages of video, 60 to 90 seconds each.

Frank Barth-Nilsen runs the training school at Norway's national broadcaster NRK in Norway. He believes supplying information about the reporter and the location at the start of an interview is important when doing mojo work and feeding the video to public servers. "You'll never know how other people will use your video. Putting this information at the start of an interview is an insurance of fair use, both for you and the people interviewed."

Barth-Nilsen recommends the mojo should video him or herself at the start as a way of establishing the setting for the interview. "This will give the audience a sense of presence and sort of watermarking the material as your own." When interviewing people standing still, mojos should focus on getting high quality images and audio.

Shoot in natural light as much as possible. If you have to shoot inside, put the subject sideways to a window (not in front of it) and use the light coming through the window.

Indoor interviews often look bad because of poor lighting and surrounding noise. Try to find natural light. This will increase the picture quality. If possible, find a location with little noise. The microphone on phones like the Nokia N95 and N82 are good, but they tend to pick up a lot of background noise so get as close as possible.

Avoid chasing action. Better to choose a location and let the action come to you. If possible use a tripod. The GorillaPod range of portable tripods is cheap and flexible. If you do not have a tripod, improvise. For example, hold the arm of the hand holding the camera just below the wrist with your other arm. This provides some support. A GorillaPod costs about $US10.

A piece of journalism made by a traditional television crew and a mojo interview designed for the web are very different. Yet some of the skills of journalism remain the same. Interviewing is a key skill both for a mojo and a broadcast television reporter.

A crew producing a television news package needs to think about the viewer, and ensure video and voice make sense and of high quality. Audiences have been trained to expect high production values with traditional television. But video on the web can be of lesser quality. If the news is sufficiently compelling, audiences make allowances for grainy footage.

The interview performs the same role for television and the web but a mojo approaches the task in a number of different ways. Keep all interviews short – a maximum of 40 seconds – and prepare the talent beforehand by telling them you need short answers. It is OK to give them the gist of the question beforehand.

Spend some time with the talent before you start shooting, giving them some idea of what you plan to ask them. Remember, many of these people are new to being interviewed, so they will need some time to prepare. Sometimes you might tell them what the first question will be.

Mojo interviewing is a lot like making a radio news story. The reporter supplies the facts and background, and lets the person being interviewed give their opinions, intention and/or feelings. With these interviews, focus on people's opinions.

Start the interview by introducing the reporter, setting the scene, and introducing the person being interviewed. Frame the person tightly in the viewfinder, and use your voice to introduce yourself and the interviewee.

Frank Barth-Nilsen of NRK, the Norwegian national broadcaster, believes that including this information at the start of an interview is insurance against unfair use. One option if working alone is to film yourself first when establishing the setting for the interview, and then slowly swing the camera around to show the interviewee. This will give the audience a sense of presence and "watermarks" the material as your own, Barth-Nilsen says. Avoid sudden movements because images tend to get blurred.

Most mojo interviews take place with the mojo asking the questions and holding the camera. It is an intimate experience for both parties. Aim to video the person you are interviewing on the same level as yourself. Avoid upwards angles. "Looking into people's nostril hair isn't particularly sexy," Barth-Nilsen says. A downward-focused angle is sometimes acceptable, but this removes the chance for eye contact that you get when working at the same level. Get

close so the person being interviewed fills the screen on your mobile phone (in television language, 'think close up or extreme close up'). This also ensures you get good sound. Speak slowly and clearly when you ask questions.

Keep an eye on the battery indicator of the phone. Streaming video consumes battery life quickly. Some mobile phones will beep when the battery is low. Always carry the mains charger, and if possible some spare batteries. A portable charger is also a worthwhile investment.

Mojo work is new and relatively untested. Think of it as a work in progress. It is OK to make mistakes. If a video or an interview is a disaster, throw it away and do another and then another. Remember the mantra: "No failure, only feedback." Use what works and learn from it and discard what does not.

The next chapter describes how newsrooms will need to change to accommodate mojo work, and what new processes reporters will need to adopt when they embrace this journalistic innovation.

CHAPTER 4
WORKFLOWS FOR MOBILE JOURNALISM

SUMMARY

This chapter considers workflow issues related to working as a mojo. Because of the changing nature of newsgathering, this chapter explores newsroom structures that best support mojo work. Journalists in newsrooms designed for mojos will consist of news gatherers (reporters) in the field, and news associators (editors) back at the office. This chapter also considers how newsrooms need to work with the audience, because of the huge number of citizens with a camera on their mobile phone.

Professor Ikujiro Nonaka of Japan is considered the father of knowledge management, an important intellectual process for the modern newsroom. While writing a book about knowledge management in the newsroom I was privileged to hear Professor Nonaka talk. In a lecture in 2001 Professor Nonaka displayed images of the skeletons of a human being and a great ape.

He pointed out that the two creatures shared almost identical DNA – the building blocks of life. Their DNA was 99.99 per cent the same, he said. But they operated differently in the world because of their skeletal structure. Human beings have achieved much in the past millennia because of their ability to use technology. We are better at constructing tools than any other species.

We can do so because of the structure of our physiology. About a third of the cells in our brains are devoted to operating our hands. Humans have amazing dexterity, which allows us to build intricate tools. In other words, Dr Nonaka said, structures and flexibility dictate what is possible.

News organisations will find that unless they have appropriate structures to harness innovation, they will struggle in the knowledge age. Information is the life-blood of a knowledge-age organisation, yet we employ structures that inhibit rather than encourage the flow of data and information. Many newsrooms around the world are stuck in the quicksand of industrial-age structures.

Structures limit or enhance a news organisation's ability to flourish. Some multi-platform news organisations do not have structures in place that allow them to sell advertising in a simple way. A media buyer, for example, forced to deal with a different advertising sales representative for online, print and radio will find the experience frustrating and perhaps look elsewhere to buy advertising space.

Structures are sometimes imposed by the limitations of technology. Print-based publications have found it difficult putting the maximum number of reporters in the field because of the need for staff to produce and edit content back at headquarters. On a typical large metropolitan newspaper, for example, often only half of the total editorial staff are in the field working as reporters. Often layers of infrastructure mean that journalists spend too much time checking and editing others' stories, rather than reporting themselves.

Anyone who has worked in a newspaper newsroom knows that only about half of the editorial staff operate in the field as reporters. The rest spend their time processing content from wire services, checking reporters' stories, attending meetings, designing pages and a host of other jobs.

Editorial managers need to find ways to increase the number of people who could be reporting in the field, relative to the total number of editorial staff. This part of the chapter considers how newsgathering and reporting would take place if more reporters were based in the field, some of them working as mojos. In essence, we need new newsroom structures relevant for knowledge-age workforces.
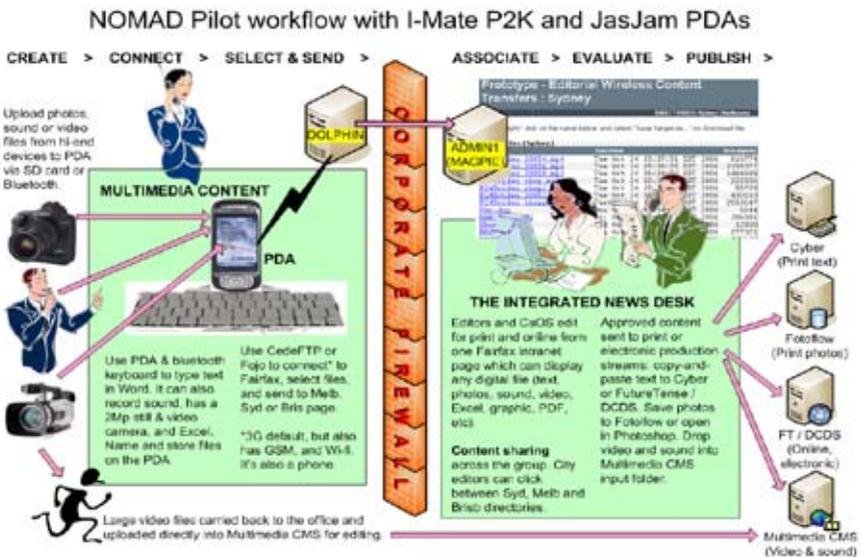
Diagram of flow of news in mojo-focused newsroom, courtesy Michael Johnson.

Mobile journalism requires new workflows both inside and outside the newsroom. The image on the previous page illustrates a suggested workflow for mojo reporting. Michael Johnson provided the image, based on research he did while working with Fairfax Media in Sydney. Johnson works as a new media and newspaper consultant. The diagram breaks neatly into two halves, divided by the vertical bar that represents the corporate firewall. On the left are all the reporters in the field.

Chapter 1 explains that not all reporters will be mojos, and suggests that mojo work is ideal for breaking news. Regardless of the kind of reporting that takes place, media houses around the world should aim to boost the number of people gathering news in the field.

Verdens Gang (VG.no) in Norway is regarded as one of the most successful online sites in the world, in terms of revenue from online advertising. It has 50 journalists compared with about 270 at VG's printed newspaper. A much higher proportion of the online journalists produce original content compared with the newspaper: 40 out of 50 online staff work as reporters, compared with 150 out of 270 editorial staff at the newspaper.

Study the diagram. Let us assume it represents a converged newsroom, where a single newsroom produces content for printed newspapers and magazines, radio bulletins, a range of online sites, and television bulletins. Not all journalists work as multi-media reporters. Many focus on craft mastery: this is where specialists in particular areas concentrate on those specialisations. So a person who is a brilliant feature writer for the print newspaper concentrates on writing excellent feature articles, perhaps for the newspaper's weekend editions because audiences have more time at weekends to absorb those beautiful words.

Other reporters will concentrate on providing content for the hourly radio bulletins, or podcasts that can be put on the web sites. And other reporters will focus on producing high-quality video for television bulletins or perhaps documentaries.

Meanwhile, a group of multi-media reporters will work across platforms, contributing content for a range of media. As discussed in the first chapter, coverage of news events will be based on the relevance and news value of each story. And multi-media reporters will operate at one of the three levels of reporting discussed in Chapter 1. But all reporters would use digital devices for reporting, such as digital tape recorders or advanced SLR cameras, and all those

devices would contain SD (secure digital) are small memory devices that can be inserted into – and easily removed from – most electronic products such as video cameras. They are used to store digital media such as audio, video or still picture files. Content such as audio reports, still images or video footage would be moved via the SD card from the reporting device to a mobile phone. Once in the mobile phone it is an easy process to transmit the content back to base.

Newsroom of de Volk-skrant in Amsterdam, by Stephen Quinn.

Newsroom of the Daily Telegraph in London, by Stephen Quinn.

While the content is being transmitted wirelessly back to base, the reporter can continue their main job, which is reporting. So the photo-journalist continues shooting more photos or gets set up for another job while the images on the SD card are being sent back to an editor in the office.

In Sydney, Fairfax Media reporters in the field have managed to shoot still images and transmit them back to base, where an editor selects the best images and puts them on the web, in the space of a few minutes. The company's best time for getting stills and text from the field to the web, via an editor, was about four minutes. The best time for getting video online, via an editor back at base, was about eight minutes.

The author worked with Fairfax media for six months in the second half of 2007 training print reporters to develop a multi-media mindset. At the time Andrew Meares was chief photographer at *The Sydney Morning Herald* before he moved to the capital-city bureau in Canberra. Meares has always been a pioneer with digital tools.

He said his life as a news photographer changed during the 1998 election campaign in Queensland while he was covering Pauline Hanson, the outspoken conservative politician. The work involved the convergence of the digital camera plus the laptop computer plus the mobile phone.

Meares said the big change was the shift from developing film in toilets and sending two pictures via slow fax lines to being able to send multiple images instantly from anywhere. "That was the first big shift, from film to digital. The technology since then has just made it easier and more mainstream with ongoing improvements in resolution and transmission speed. I am doing the same thing now but with video."

One of the biggest stories Meares covered in 2008 gained much publicity because of its exclusive nature, and because of the unique combination of events and Meares' use of a mobile phone technology. While aboard a jet at a London Airport, Meares took an exclusive photograph of a man later convicted of murder, whom police had arrested and were putting on a flight back to Australia.

Meares locked himself in a toilet on the aircraft as it was preparing to take off and transmitted his photographs via his mobile phone. One image appeared on the front page of *The Sydney Morning Herald*. Meares constructed a slideshow about his mojo experiences, and it can be seen at the online site of *The Sydney Morning Herald*:
http://www.smh.com.au/interactive/2008/national/gotcha-andrew-meares-catches-gordon-wood/

Kevin Sites is one of the best-known multi-media journalists in the world. He spent a year in 2005 and 2006 reporting from troubled areas of the world for Yahoo!, sending his reports to a web site – Kevin Sites in the Hot Zone at *http://news.yahoo.com/top-stories/hot-zone* He later published a book about his experiences, *In The Hot Zone: One Man, One Year, Twenty War*s along with a documentary, *A World of Conflict*.

Sites noted the power and impact of using different media for different forms of reporting. He said he used words for ideas and issues, video for movement and still photographs for faces. "We're not all going to be great at all of these skills. I'm certainly not; I consider myself a reporter first," he wrote. "The videography and the still photography are just a part of that. But if we put the focus on ourselves and how difficult it is for us, rather than looking at our subjects, I think we're being very selfish. We're storytellers first, that's the idea. We want to tell the stories."

Sites said the year he spent as a multi-media reporter was exhausting. But it made for better journalism compared with working in one medium. "I think I was doing both my viewers and my subjects a greater degree of justice by trying to bring multi-dimensions to the reporting process. It was more difficult, but at the same time, it didn't necessarily keep people within that one plane of understanding [video, text or still photography].

"It provided layers and those layers, I think, provided a greater degree of understanding, and as far as my subjects were concerned, a greater opportunity for their lives to be explored more fully … Reporting in all these dimensions gets us a little bit closer to the truth, I believe. It's harder for the reporter but better for the subjects and better for the viewers."

EDITORS OR ASSOCIATORS AT HEADQUARTERS

The right-hand section of the diagram describes the role of editors back at the central news desk. All content from the field goes into a single container. Think of it as a huge digital bucket holding all content from the field – text, still images, video and audio reports. Some of that content will be poor quality and not worthy of being used.

Diagram of flow of news in mojo-focused newsroom, courtesy Michael Johnson.

The editors back at headquarters have a much better overview of what is happening. They function like the producer of individual stories in a television newsroom. These multi-media editors or producers assess the content in the news bucket and select the most appropriate still images, text, audio and video for telling each news story. If they decide a particular news story needs fuller multi-media treatment, they can request more content from the reporter in the field, or assign extra reporters.
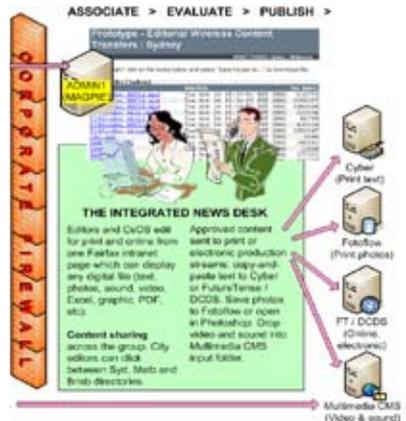
A chief editor oversees the work of individual story editors. An effective multi-media newsroom is like a symphony orchestra. An orchestra consists of separate sections such as the string or brass sections, and each section has a leader, but the orchestra needs someone to ensure harmony. Think of the chief editor as the conductor.

The multi-media editor or producer for each major story is responsible for pulling together all of the strands that make up the story, and finding the best content and way to tell the story. They also decide each story's destination.

A modern newsroom, courtesy of Innovation International

Chapters 1 and 2 noted that specific media platforms are best for telling certain kinds of stories. Each medium has strengths that make up for the weaknesses of the other mediums. Print is ideal for analysing a company's annual report or a treasurer's budget. But print cannot describe an evolving story that contains lots of emotion and action. Similarly, video is ideal for showing movement and action, and describing events, but television news stories contain little detail.

Thus the multi-media editors or producers who operate near the central desk need to understand the strengths and weaknesses of the various media platforms, to be able to choose the most appropriate way to tell each story.

These editors assess the value of a range of content, pulling together the various strands of the story using content from the news bucket, and then choose which story goes on which specific platforms.

Journalists in these roles need training to understand the strengths and weaknesses of the various media.

The newshub of the Daily Telegraph in London, by Stephen Quinn.

The central command desk also performs other functions. All of the key editors sit in one place, so communication is enhanced. Telegraph Media in London occupies the singe largest open plan newsroom in the United Kingdom. Its central command desk is like the hub of a bike wheel with nine spokes branching from the hub. Each spoke represents a specific section of the news organisation: business, sport, home news, international news, online, design, photojournalism, features, and production.

The heads of each section sit at the central desk, with a chair that swivels to allow them to attend news conferences around the central desk, yet also turn around to control their section that emanates from the central hub. Meetings can be held frequently and quickly, leading to more efficiency, and communication is enhanced because all the key players are near each other.

EMBRACE SOCIAL MEDIA
About half of the 4.2 billion mobile phones around the globe contain a camera. Even if only a tiny fraction of these cameras are used, they still outnumber

all of the journalists around the world. It stands to reason that sensible news organisations would encourage contributions from their audiences. The key issues are how to handle the flow of information, and how to reward contributors. News organisations that fail to reward contributors are greedy and stupid. Rewards can consist of things other than money.

When major news events like the December 2004 Asian tsunami or the July 2009 hotel bombings in Jakarta occur, many news organisations use stories, photographs and video taken by amateurs to supplement coverage. Yahoo's news division often publishes images originally posted on Flickr, the company's photo-sharing site. For example, it created a slide show of images from Thailand after the coup there in September 2006.

News organisations need to have structures and processes in place to solicit and then accommodate content from the audience.

The BBC's user-generated content hub manages thousands of emails and pictures sent to the BBC every day. It represents probably the best example of how to embrace audience contributions. Matthew Eltringham runs the user-generated content hub as Assistant Editor for Interactivity. He set up the hub in early 2005 as a pilot project, just before the terror attacks on London in July that year. It now runs as a 24/7 operation providing content for every part of the BBC's news operation.

The user-generated content hub consists of a team of 23 journalists based in the BBC's multi-media newsroom in London. It works across all three platforms – television, radio and online, Eltringham said. "On an average day we get around 10,000 to 12,000 emails, as well as hundreds of pictures and video clips, sent to us from all over the world. These emails provide a fantastically rich source of content for all the BBC's news output. Our job is to mine it for the best bits and make the most of them for the BBC's news output."

Eltringham said the material sent directly to the user-generated content hub represented only a tiny fraction of the conversations and content online at any one time. "So we are increasingly moving the focus of our work into the much wider and wilder world of the web itself."

Coverage of the US elections in 2008 by citizen journalism organisations like the Sayfie Review (*http://www.sayfiereview.com/*) included live video streaming via Qik from polling stations across Florida. "The standards of broadcasting were

mixed – but they got their facts right and provided an incredible source of local information for anyone who logged in," Eltringham said.

The user-generated content hub has focused on joining social media and social networks across the web. Twitter has become a well-established and valuable source of comment and content. "We first discovered the value of the micro-blogging site during the Tibet uprising of March 2008, when we used it to find an eyewitness in Lhasa," Eltringham said. "Since then it's become *de rigeur* to use Twitter in any breaking news environment. It first came to mainstream attention during the Mumbai terror attacks in November 2008."

The BBC reported the Burma uprising of 2007 through a mix of content coming to the user-generated content hub and content hub reporters found on Burmese blogs and social networks. Hub reporters also joined Seesmic, Qik and 12 Seconds. These are video streaming sites and chat rooms with growing global communities. They all provided the hub with great video contributions, Eltringham said.

In Norway, the success of the Schibsted Company shows the benefits of embracing social media and being part of the community. The media group has headquarters in Norway and owns media houses in 22 European countries. Editorial executives realised early the power of embracing social media.

VG's Editor-in-Chief, Espen Egil Hansen, said communication with audiences should make up at least 20 per cent of each reporter's workload. How many newspaper reporters around the world welcome that level of personal contact with their audiences?

Well-known reporters have effectively become a "brand". By-lines on the online site include links to each reporter's Facebook profile and Twitter account. Reporters recommend stories to Facebook "friends" and Twitter "followers".

Mainstream media in the United States have also provided ways to let audiences submit video, still images and text via their mobile phone. CNN introduced its I-reports section for audience-submitted material in August 2007. Some submissions are included in mainstream news broadcasts. CNN's I-report was forced to expand the site to accommodate the volume of material submitted. I-Report's site offers a range of tools for helping novice reporters, called the Toolkit.

Mitch Gelman, Executive Producer of CNN.com, said audiences could offer their perspectives on a story from the inside. "Even the best reporters in most cases are approaching the story from the outside in. We feel as a news organisation we need to provide both to offer full coverage to our audience."

Reuters has also established a site for accepting content from audiences, as has Yahoo! News, CBSeyemobile.com, and the Fox network in the United States. Yahoo! News has a training site for its audience-generated contributions called YouWitness News.

The next chapter looks to the future. It considers some of the key issues in the new world of mobile journalism, such as the dangers of speed and the potential for video to spread like a virus on the Internet at amazing speed.

CHAPTER 5
THE FUTURE NOW

SUMMARY
This final chapter reflects on key issues such as privacy and ethics that will impact on the work of mobile journalists, and considers the potential legal difficulties of reporting live with a mobile phone. Examples of how mobile video has impacted on journalism in the Asian region are provided. The chapter provides an overview of the technical aspects of mobile telephony because mobile journalists need to understand how the technology works. It ends with a look at possible revenue models to pay for mobile forms of journalism.

Videos taken with the camera on mobile phones are increasingly making news, often at the expense of people's careers. This became very apparent to a group of people in the Philippines in 2009.

In May that year a scandal erupted involving a prominent plastic surgeon, Dr Hayden Kho, and a collection of models and actresses who were his girlfriends. Videos of Kho having sex with his girlfriends appeared on the web and were circulated by mobile phone over several months. The author of this book has seen some of the videos distributed by mobile phone. The videos were also copied onto digital videodiscs (DVDs) and sold on city streets.

One of the former girlfriends, actress-model Katrina Halili, accused Kho of putting videos of their sexual encounters on the internet. Kho admitted filming the sexual encounters but denied uploading the videos. He said mutual friends allegedly made copies from his laptop.

One of Kho's lawyers, Lorna Kapunan, said Kho told her that he had apologised to Halili for the pain and public humiliation he caused. Kapunan said that while Kho had admitted his guilt in making the sex videos himself, he was innocent of uploading the videos on the Internet and the distribution of DVD copies of the videos.

In September 2009 the Philippine Medical Association (PMA) suspended the surgeon from practising medicine for one year. Lawyer Lorna Kapunan said the suspension from medical practice referred only to Kho's membership of the PMA.

"This incident has had a mental and emotional effect on my being – as well as, I am sure, on those who find themselves as victims of this episode," Kho said in a one-page statement released by his lawyers soon after the suspension of his medical licence.

The case received a huge amount of publicity and involved a wide cast of characters. A Google search using the phrase "Hayden Kho scandal" produced more than 4.53 million references. The story came about because of the ease with which digital video can be circulated on the web and mobile phone. It also highlights many of the issues related to the growth of the number of cameras on mobile phones.

The National Commission on the Role of Filipino Women (NCRFW) described the filming of sexual encounters as abuse against women. Commission Chair Myrna Yao denounced the filming by Kho: "We would assume that a man's discreet filming of his own sexual encounters and sharing it with others would be for the purpose of bragging about his sexual prowess, if not for his shot at fame, at the expense of his partner. While it is true that both the man and woman are publicly exposed in the video, we should be reminded that the man made the choice to be filmed, while the woman did not," Yao said.

Meanwhile, Philippines Justice Secretary Raul Gonzalez said filming video on a mobile phone and distributing it could violate the country's anti-wiretapping law. Section 1 of the Republic Act 4200 says:

"It shall also be unlawful for any person, be he a participant or not in the act or acts penalized in the next preceding sentence, to knowingly possess any tape record, wire record, disc record, or any other such record, or copies thereof, of any communication or spoken word secured either before or after the effective date of this Act in the manner prohibited by this law; or to replay the same for any other person or persons; or to communicate the contents thereof, either verbally or in writing, or to furnish transcriptions thereof, whether complete or partial, to any other person: Provided, that the use of such record or any copies thereof as evidence in any civil, criminal investigation or trial of offenses mentioned in Sec. 3 hereof, shall not be covered by this prohibition."

In July 2009 the National Bureau of Investigation filed criminal charges against two brothers for allegedly putting the sex videos in the Kho case onto the internet. Palmer Mallari, executive officer of the bureau's Anti-Fraud and Computer Crimes Division, said seven sex videos were sent as attachments in

anonymous emails to the site between 15 May and 17 June 2009. In June Salve Asis, a reporter with the *Philippine Star*, wrote that versions of the sex videos being circulated via mobile phone were worse than any hardcore porn film.

This case study highlights some of the key legal and ethical issues that mobile journalists and their media executives will need to resolve in the near future. At least 2,000 million mobile phone cameras are available worldwide, and the number is growing. It is very easy to shoot and circulate video.

Michael Richards, the actor who played Kramer on the long-running television series Seinfeld, was filmed at a Hollywood nightclub on 17 November 2006, shouting racist remarks at the audience. Richards was doing stand-up comedy at the Laugh Factory in West Hollywood. Kyle Doss, an African-American, told the TMZ.com web site he and some friends were heckling Richards when the comedian got angry.

Richards abused the audience for three minutes. The event was captured on a mobile phone. Most of the audience left soon after. The video was posted on TMZ, the celebrity news site, at
http://www.tmz.com/2006/11/20/kramers-racist-tirade-caught-on-tape
It is the same site that claimed the exclusive story of the death of Michael Jackson. Some critics have suggested that release of the mobile phone video damaged Michael Richard's career.

While at a gathering of world leaders in Davos in January 2008, blogger and academic Jeff Jarvis recorded video of long-time White House aide David Gergen "boogying" on the dance floor. Jarvis also filmed a former adviser to former President Richard Nixon: "As Henry Kissinger stood before a computer recording a video for YouTube, I stood next to him recording the event myself. I went unnoticed," Jarvis wrote on his blog. Videos mentioned here are at
http://www.buzzmachine.com/mojo/

These incidents highlight a huge change brought about by mobile phones equipped with a camera. These phones are small, unobtrusive and unthreatening, Jarvis wrote on his blog, Buzzmachine.com. People don't feel as if they are talking to a camera and, in turn, to thousands or millions online. The mobile phone makes recording people seem casual. It is more candid. As Jarvis points out in his blog, "life is perpetually on the record".

Matt Cowan, formerly a broadcast journalist with Reuters, joined a mobile journalism trial with Reuters. He described mojo as easy to do: "As someone who is used to working with a big camera, this is a different kind of experience. It fits in your pocket. What's amazing is that you can sidle up to someone and take pictures and video, which people find surprising. It has real potential to capture people's thoughts in places where you would not have a full crew. Its portability is what makes it so exciting." The new technology helped broadcast journalists, Cowan said, because it was less intrusive than traditional cameras and microphones.

Nic Fulton, Chief Scientist at Reuters Media, said mobile journalism helped Reuters' reporters create complete stories and file them for distribution "without leaving the scene". A series of video interviews with Fulton on YouTube are available in the readings at the end of this book.

In recent years the mobile phone has provided Asian news organisations with video of major events, including the suppression of public protests in Myanmar in September 2007, land rights protests in Kashmir in August 2008, the hotel shootings in Mumbai in November 2008, the aftermath of the Iranian election from June 2009, and riots in Urumqi in Northwestern China in July 2009.

When protests and riots occur, many repressive regimes throttle down the speed of the Internet so that broadband becomes slower than dial-up. In some Asian countries, authorities have contingency plans that involve closing parts of mobile phone networks if protests get too large. This certainly happened in Iran after the dispute national elections there in June 2009. But people captured video on their mobile phones, and found ways to distribute that video.

Probably the best-known video from the protests in Iran involved the death of Neda Agha-Soltan, aged 27. The video circulated in Iran and around the world and stirred wide outrage in a society infused with a culture of martyrdom. It was shot with a mobile phone. Opposition web sites and television channels, which Iranians viewed via satellite dishes, repeatedly aired the video, which showed blood gushing from her body as she died. The video can be seen at
http://www.youtube.com/watch?v=76W-0GVjNEc&skipcontrinter=1
(warning: the video is graphic).

ETHICAL ISSUES

What are the ethics of showing video of the bloody death of an innocent student? Is it fair to show her last minutes on film? Journalists who belong to professional organisations in Asia probably follow that organisation's code of ethics. But not all journalists are members of professional bodies. Any code of ethics beyond a professional code will be a personal code, and that code will vary from culture to culture.

It is impossible to comment on individual codes of ethics for journalists in the entire Asian region. Suffice to say that journalism educators need to ensure thorough training in ethics for all aspiring journalists, and media organisations need to provide regular briefings and updates on ethical issues for their staff.

LEGAL ISSUES

As the Kho case above shows, technology makes it possible to film and distribute video quickly and widely. Journalists throughout the Asian region need to understand the laws as they relate to shooting video. This necessitates a thorough knowledge of defamation law, and related laws of privacy and trespass. Journalists need to know when and where they can shoot video.

In most countries it is acceptable legally to film in public places, but not in private places. Confusion exists as to what defines a public place. A city street is obviously a public place. So is a beach or a park. But when does a city street end and a private house or block of apartments start? At the door? At the gate? On the verandah or balcony? Many people spend time in shopping malls and car parks. Is a shopping mall a public place?

THOUGHTS ON THE QUALITY OF VIDEO

Chapter 1 talks about three levels of multi-media reporting. Mojo is the simplest and involves breaking news. Often the video taken with a mobile phone is grainy or shaky, and low quality. Most audiences will tolerate poor-quality video if the event is sufficiently newsworthy. Video journalists tend to carry better quality cameras and use tripods to get better quality video.

These VJs are discussed briefly in the first chapter. They carry more expensive cameras and lenses. If image quality is important, it is possible for mojos to use compact cameras to shoot better-quality footage of breaking news, if they can remember to carry a camera at all times. People carry a mobile phone with them at all times, but they are less likely to have a video camera in their bag or pocket. In the past, video cameras have been too bulky and expensive.

Now they can carry a Flip camera. It is probably the best tool for mobile journalists who want better-quality images. The Flip camera is easy to use and relatively inexpensive. The most recent model is the Flip Mino, which became available in mid-2009. It shoots high definition video. It is also very easy to operate because it only has a small number of buttons. It is small – less than 150 grams and smaller than the size of a packet of cigarettes. A Flip Mino can be purchased online at places like Amazon.com for less than $US200. It is very easy to post video on the web, to places like YouTube.

HD Mino version, courtesy of Cisco.

YouTube, which Google owns, is by far the most popular video destination on the internet. In July 2009 American internet users watched 21.4 billion online videos. This was a huge 88 per cent increase compared with the same month a year earlier, when 11.4 billion videos were viewed, according to research firm comScore. In July 2009 YouTube handled 8.9 billion of the 21.4 billion videos watched, or 42 per cent of all videos viewed online, according to comScore.

Early model of the Flip taken in 2007, courtesy of Cisco.

The July 2009 figures represented the largest audience and the highest number of views the research firm had noted to date, as at the time of writing this. The previous record had occurred the previous month, driven by coverage of high-profile stories such as the death of Michael Jackson.

TECHNICAL INFORMATION

Journalists who use mobile phones for reporting need to understand the technical aspects of mobile telephony. A modern mobile phone is like a computer. It has a circuit board, a battery, a microprocessor and memory chips, along with other elements associated with a phone such as the speaker, dial-pad and antenna.

How does a mobile phone work? Signals from a mobile telephone are received at a nearby base station. In the case of a portable phone such as a cordless landline phone, the base station makes the connection to a wired landline. The same applies when connecting the call to a landline network. Mobile phone connections via GSM networks involve technologies such as microwave radio or switching facilities to connect the call.

GSM or "global system for mobile communication" is becoming an international standard, and is widely used in Europe and Asia. Many mobile phone companies have agreements with other companies to allow roaming and international use, so GSM has become a popular network standard.

All mobile phones on a GSM network have SIM cards. A SIM, or "subscriber identity module" card, stores information the phone needs to work such as the phone number and account data. SIM cards can be easily removed and put into another phone without losing any data. Many reporters buy prepaid SIM cards in Asian countries so that when travelling they always have a local number.

When a journalist turns on their mobile phone, a unique code associated with the mobile phone is located on a special frequency at the base station. In the United States this is called a "system identification code" or SID. If reporters are out of range of a base station or cell tower their SID cannot connect. When in range and when the mobile phone is on, it is possible to locate any user's physical location both on the network and on the ground.

A more recent mobile phone technology known as 3G, for "third generation," enables multi-media on mobile phones plus fast connections and audio-video options. Japan and South Korea are well ahead of the rest of the world and have launched "fourth generation" or 4G networks that enhance multi-media services and increase data speeds even more.

One of the pioneers of the use of advanced technology for reporting has been Kerry Northrup. He set up the Newsplex, the newsroom of the future, at the University of South Carolina at Columbia and helped raise most of the money needed to build the Newsplex (*www.newsplex.org*). Northrup also pioneered the NewsGear suite of tools best suited for multi-media reporting. You can find examples of the 2008 edition of NewsGear by doing a web search using the keyword NewsGear2008.

Photos by Stephen Quinn

Newsplex also pioneered the use of mobile journalism in another context: the mobile car. Here is an example of the Newsplex car used

by a broadsheet daily
newspaper, de Volkskrant,
in the Netherlands.

Mobile phones that run
software applications,
connect to the Internet and
send data such as images

Photos by Stephen Quinn

and sound are known as smart-phones. They
can also make and receive voice calls and send MMS or text messages. Many
also include global positioning by satellite, or GPS technology. Video streaming
services described in the second chapter, such as Bambuser and Qik, use GPS
to indicate where still images and video are taken. One of the first journalistic
examples of using GPS can be found at the web site of Al-Jazeera Labs at
http://labs.aljazeera.net/

Reporters Baiba Ould Mhadi and May Ying Welsh did a story about the Tuareg,
a race of nomadic animal herders indigenous to the Sahara desert. The Tuareg
are among the world's poorest people, yet they sit atop some of the largest
uranium reserves on earth. The Al-Jazeera reporters followed the Tuareg through
the Sahara to explore how mobile phones could be used to capture high quality
images that were geo-tagged to show the exact location of where the shot
was taken.

They used a standard Nokia N95 mobile phone and its GPS function to plot the
route of the journey through the Sahara on an interactive map. The N95 has
a five-megapixel camera capable of taking stills and video at 30 frames per
second. It also has a digital stereo microphone. You can read the story at
http://labs.aljazeera.net/content/sahara-journey-through-tuareg-rebellions-niger-and-mali

The Head of Mobile reporting at Al-Jazeera labs, Safdar Mustafa, appeared in a
video on YouTube describing how reporters at Al-Jazeera used mobile phones for
newsgathering. See *http://www.youtube.com/watch?v=2W9q3q_SVZI*

In Japan and South Korea, the vast majority of mobile phones are smart-phones.
People watch broadcast television on their mobile while they check email or surf
the web, even on a speeding train or an underground subway.

In other parts of Asia, such as India, considerably more people have mobile
phones than computers. India will become a leading global market for mobile
content by 2013, according to the report India: *Birth of a mobile content*

superpower 2009–2013, published in September 2009. It predicts the total market for mobile entertainment and content will reach $US2.37 billion by 2013, up from $US835.78 million in 2009.

India had more than 400 million mobile subscribers as of mid-2009, with 15 million new connections each month. India will have 700 million mobile phone subscriptions by the end of 2010. This huge growth rate is fuelling new revenue in the mobile content and entertainment market, the report said, despite delays in the roll out of 3G.

"Even without 3G in place, it is the potential of the Indian marketplace that has sparked a furore within the wireless world," wrote Ed Barker, the report's main author. "This continuing growth in subscriptions, and the deployment of 3G from late 2009 onwards, is expected to deliver massive growth in mobile voice and value-added services revenues for the leading operators and content providers.

"Despite these limitations, the next five to 10 years will see a huge uptake in both 3G and content services in India. To put this into perspective, even if just 10 per cent of Indian consumers take up 3G over the next decade there will be more than 100 million next-generation mobile users on the sub-continent," Barker wrote.

Broadband infrastructures remain limited in much of Asia, and PC penetration is low compared with Europe and the United States. This suggests that wireless could drive Asian economies over the next decade. Indian students and people in the middle class are already beginning to use the mobile phone as their primary Internet access point.

In the mainly Muslim Kashmir valley of India, protests over land erupted in August 2008 into a movement for freedom from India. Hordes of young people carrying mobile phones recorded violent events and shared them with friends and on YouTube. Amjad Mir of Sen TV, a local news and current affairs channel, described mobile phone reporting as a "new trend" in Kashmir.

The BBC reported that chasing events on mobile phones had become an "obsessive hobby" with young men. "The mobile phone chroniclers are usually internet-savvy students who shoot clips and upload them on the internet," the BBC reported on the web. A search of YouTube using the phrase "Srinagar protest" produced hundreds of results. Mobile phone videos were being swapped among young people and some had reached almost "cult status", the BBC reported.

HOW TO PAY FOR MOBILE JOURNALISM

Mobile journalism is relatively inexpensive compared with traditional television journalism, but it is still a cost centre. It costs money to do any form of good journalism. This section of the chapter considers ways to help pay for mobile journalism. In mid-2009 Google announced a series of new advertising formats featuring embedded video, images and branding links that Google believes will drive innovation and growth in its core business – search – on the mobile Internet.

Google dominates the search advertising market in the United States. The research company e-Marketer estimates Google's share will be about $US12 billion in 2009, roughly half of the total American online advertising spend.

Nick Fox oversees Google's advertising quality program. The mobile search advertising industry was still very much in its infancy, he said. "I believe we are just getting started," he said. Susan Wojcicki, another Google executive, said that mobile advertising represented a "small but very fast-growing segment" of the company's advertising revenue and was expected to become an "important part of our monetization story".

Meanwhile, media companies around the world are planning to charge for their mobile phone content. Mary Beth Christie, Head of Product Management at FT.com, said development costs for the company's iPhone application launched in July 2009 had been recouped largely from advertising revenue around the products. Technology company Siemens was a sponsor. FT.com also offered a subscription package for users wanting specialist news and information.

In September 2009, Rupert Murdoch, owner of *The Wall Street Journal*, announced plans to begin charging for access to the newspaper on mobile devices such as the Blackberry or iPhone. "Starting in a month or two, people who are getting *The Wall Street Journal* on their Blackberry are going to be paying two dollars a week," Murdoch told analysts at the Goldman Sachs Communacopia XVIII Conference in New York. "Same with the iPhone." Mobile access to the *Journal* would cost $US1 a week for subscribers to the newspaper, the News Corporation Chairman and Chief Executive said.

MOBILE PHONE INNOVATIONS IN ASIA

In October 2008 Google Labs launched SMS Channels, a service that allows one person or group to send text messages to a large group of people. The service operates only in India. When a user sends a text message their mobile operator

charges the standard rate for a single message even though it goes to multiple users. After joining the service, anyone can send a text message to other members in the group. Users receive news alerts and blog updates via SMS, or a group can group-text message to each other.

The service is free. SMS Channels lets people create their own channel to publish content that others can subscribe to. Google's SMS channel is two-way. It permits SMS discussions and also enables subscribers to publish to the channel. National and local newspapers and citizen media organisations have joined Google's SMS Channel, along with international news groups such as Reuters, the BBC, and CNN India.

In Mexico, Project Zumbido failed because of the high costs of sending text messages. It aimed to connect women with HIV/AIDS for support and advice, through group-text messaging. Nigel Shardlow was one of the founders of Zygopro.com, the company that provided the two-way group messaging technology that powered the Zumbido project. He noted that the wholesale cost of SMS, used to power group services, varied greatly from country to country. "It's particularly cheap in India, for example, which no doubt partially explains why Google has chosen to launch its services there first."

The final chapter provides readings of relevant articles, and links to a range of videos about mobile journalism.

APPENDIX
RESOURCES AND READINGS

ONLINE READINGS

Mark Briggs has written a free book about multi-media, available as a pdf: *http://www.kcnn.org/resources/journalism_20/*

You can learn a lot about multi-media journalism at this site from the University of California, at Berkeley's Graduate School of Journalism. Multi-media journalist Jane Stevens wrote many of the tutorials: *http://multimedia.journalism.berkeley.edu/tutorials/starttofinish/choose/*

Mindy McAdams, Professor of Journalism Technologies at the University of Florida, has a comprehensive blog about teaching online journalism. She has compiled a series of blog posts into a free book, available as a pdf: *http://mindymcadams.com/tojou/*

The author's blog about mobile journalism has a range of information about reporting with only a mobile phone. See: *http://globalmojo.org*

Mark S. Luckie writes an excellent blog about multi-media that should be on your list of regular reads: *http://www.10000words.net/*

Michael Rosenblum writes about the potential of the VJ for reporting at *http://www.nieman.harvard.edu/reportsitem.aspx?id=100714*

RECOMMENDED VIDEOS ABOUT MOJO

A video on "How to be a mojo" can be found at *http://www.youtube.com/reporterscenter#p/f/12/JpWS-6pMzwo*

Ilicco Elia talks about the tools that make up the Reuters mojo toolkit in this three-minute video: *http://www.youtube.com/watch?v=L_OJGeamwbs*

Find other Reuters videos entitled "Reuters Mobile Phone Reporting Part 1" at *http://www.youtube.com/watch?v=lpUMxZS6muw* "Reuters Mobile Phone Reporting Part 2" at *http://www.youtube.com/watch?v=p1kVbvhp4Ik* and "Reuters Mobile Phone Reporting Part 3" at *http://www.youtube.com/watch?v=03SAMopg8Ww*

Steve Garfield, an American mojo, offers a web-based course on how to be a video blogger, sponsored by Project NML and the New Media Exemplar Library (funded by a grant from the John T. and Catherine D. MacArthur Foundation). Find the site at *http://newmedialiteracies.org/exemplars/06vlog/*

Jasmine Teo, an editor with Straits Times online multi-media and site, Stomp (*http://www.stomp.com.sg/*), talks about the ideas behind the site at *http://www.youtube.com/watch?v=bwGn8atZhVc*

Ruud Elmendorp profiles African mojo Evans Wafula, based in Nigeria, at *http://www.youtube.com/watch?v=XxznVB0kGNk*

A Helsingen Sanomat journalist talks about software called "Reporter" that allows journalists to feed content to the web: *http://www.youtube.com/watch?v=sSlL4-_OTrA*

DigitalJournal is an excellent example of online-only television provided by an innovative team. Find it at *http://www.digitaljournal.tv/*

Mojo videos shot by BuzzMachine's Jeff Jarvis are available at *http://www.buzzmachine.com/mojo/*

Nic Fulton, Chief Scientist at Reuters Media, appears in four YouTube videos about the future of journalism.
http://www.youtube.com/watch?v=iDWJFz9uZWk
http://www.youtube.com/watch?v=ym6fYN1zpWc
http://www.youtube.com/watch?v=c9psVd_FJi4
http://www.youtube.com/watch?v=0uOoEzGy7o8

Students at the University of Missouri conducted research into how journalists use their mobile phones for reporting. You can watch their report at *http://www.youtube.com/watch?v=ZUUAUTkRFqk*

READINGS ABOUT MOBILE JOURNALISM
Voices of Africa is the best site about mobile journalism in Africa: *http://voicesofafrica.africanews.com/* The site maintains a regular newsletter about their mobile reporters. You can download the file in a portable document format from the home page.

Jim Gaines edits an impressive site that focuses on the use of multi-media to tell stories at *http://www.flypmedia.com/*Gaines has written a useful blog post about working in multi-media at *http://crashingintomedia.wordpress.com/*

Good resource for information about mobile phones around the world.
Click on the country you seek information about:
http://mobileactive.org/countries

Internet data for Asia: *http://www.internetworldstats.com/asia.htm*

Details of CNN's i-Report Toolkit: *http://www.ireport.com/toolkit.jspa*

More about Yahoo's YouWitness News: *http://news.yahoo.com/you-witness-news*

Details about CBS's EyeMobile: *http://www.cbseyemobile.com/*

Read more about Fox Network's UReport at: *http://ureport.foxnews.com*

For more on African journalists' use of mobile phones, click on the "Africa mobile reports" link at *http://www.africanews.com/*

Gavin Fang, a VJ with the Australian Broadcasting Corporation in Jakarta, talks about his job: *http://www.abc.net.au/news/stories/2009/08/24/2664452.htm*

BIOGRAPHY OF THE AUTHOR, STEPHEN QUINN

Stephen Quinn is head of the division of international communication at the University of Nottingham's Ningbo campus in China. An Australian, he was a journalist for two decades with some of the world's premier news organisations before he became a university academic in 1996. Between 1975 and 1995 Dr Quinn worked for regional newspapers in Australia; the Bangkok Post; the UK Press Association, BBC-TV, Independent Television News and The Guardian in London; the Australian Broadcasting Corporation in Sydney; and daily newspapers in New Zealand as well as Television New Zealand. In 2002 and 2003 Dr Quinn was a producer with the Middle East Broadcasting Centre while running a research centre in Dubai, to re-acquaint himself with new television production technologies. Dr Quinn has been a university professor in Australia, the UAE and the United States.

Dr Quinn published dozens of book chapters and refereed journal articles, and thousands of media articles since 1997. His previous book, which appeared in March 2010, was Funding journalism in the digital age: Business models, strategies, issues and trends. The first volume of Asia's Media Innovators appeared in 2008. In 2007 with Dr Stephen Lamble Dr Quinn co-wrote Online Newsgathering: Research and Reporting for Journalism. Three books on convergence appeared in 2005-06.

In the decade to 2010 Dr Quinn presented more than 160 papers and seminars in 28 countries. More than a third were by invitation. Dr Quinn maintains industry links by contributing to newspapers, consulting for media companies and running training courses. As of late 2010 he had run more than 100 courses in nine countries. He is a consultant for Innovation International, which publishes the annual report on Innovations in Newspapers for the World Association of Newspapers, and a member of the international committee of the Online News Association.

Around the world, the mobile phone is changing the way journalists work. This ground-breaking book introduces the concept of the mobile journalist, usually described by the abbreviation "mojo". Reporters use their mobile or cell phone to break news in a variety of ways. They shoot stills or video with the mobile's camera, they capture audio with the phone's recorder, and they write stories with fold-away keyboards.

Using wi-fi or cellular phone networks, these stories, audio, images and video can be on the web within seconds of being composed. This immediacy accelerates how journalism happens, and introduces new challenges for editorial executives.

This book describes the spread of the mobile phone as a newsgathering tool in the Asian region, and offers case studies and examples from around the world. It describes three levels of multimedia reporting, and suggests that the mobile phone is an ideal tool for breaking news online. With a mobile phone and free software, it is possible to put video on the web almost live.

The mobile phone thus offers journalists increased mobility. Mojo is a way to get people into the field rather than their sitting behind a PC in the office. The mojo changes journalism because the ability to break news from the field cheaply and simply forces newsrooms to accommodate new information flows, and introduce new structures.

The author, Dr Stephen Quinn is the head of the division of international communication at the University of Nottingham's Ningbo campus in China. He has worked as a journalist in five countries.