In [1]:
```
import numpy as np
import scipy as sp
from sklearn.model_selection import train_test_split
import gc
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
from PIL import Image
from tqdm import tqdm
from scipy.signal import medfilt
sns.set(font_scale=0)
%matplotlib inline
```

In [2]:
```
def ShowImage(img, isGrey = False):
    plt.figure(figsize=(20, 15))
    if not isGrey:
        plt.imshow(img, interpolation='nearest')
    else:
        plt.imshow(img, cmap='gray')
    plt.axis('off')
    gc.collect()
```

Алгоритм Бредли

ссылка на алгоритм - http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.420.7883&rep=rep1&type=pdf (http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.420.7883&rep=rep1&type=pdf)

Преобразование в изображение в серых тонах - https://en.wikipedia.org/wiki/YUV

(https://en.wikipedia.org/wiki/YUV)

Данный алгоритм был выбран мной, так как он дает хорошую биноризацию изображения, при этом работает очень быстро (на C++).

Все константы изначально были взяты из оригинальной статьи, но поэксперементировав с `t_proc` (в статье просто t), я изменил константу с оригинальной 0.85 на 0.9 (в данном ноутбуке изображения с константой 0.85, в итоговых избражениях порог взят 0.9 (были получены из кода на c++)). Разница в улучшении больше всего заметна на фотографии с задней стороной книги (4 пример). Результаты времени работы, а также общие соображения по результатам будут описаны в конце.

In [4]:
```
def create_grey_image(image, red_coeff = 0.299, green_coeff = 0.587):
    xr = np.copy(image[:,:,0])
    xg = np.copy(image[:,:,1])
    xb = np.copy(image[:,:,2])
    I = red_coeff * xr + green_coeff * xg + (1 - green_coeff - red_coeff) * xb
    #I = medfilt(I, 3)
    return I
```

In [5]:
```
def intagrate_image(f):
    I = f.copy()
    N = I.shape[0]
    M = I.shape[1]
    for i in range(1, N):
        for j in range(1, M):
            I[i][j] = I[i][j] + I[i - 1][j] + I[i][j - 1] - I[i - 1][j - 1]
    return I
```

In [6]:
```
def make_answer(I, F, t_proc = 0.85, s = None):
    N = I.shape[0]
    M = I.shape[1]
    if s is None:
        dh = 1 / 8 * N
        dw = 1 / 8 * M
        s = int(min(dh, dw) // 2)
    answer = np.zeros((N, M))
    for i in range(0, N, 1):
        for j in range(0, M, 1):
            imax = int(min(i + s, N - 1))
            jmax = int(min(j + s, M - 1))
            imin = int(max(i - s, 0))
            jmin = int(max(j - s, 0))
            size = (imax - imin) * (jmax - jmin)
            summ = I[imax, jmax]
            if imin >= 1:
                summ -= I[imin - 1, jmax]
            if jmin >= 1:
                summ -= I[imax, jmin - 1]
            if jmin >= 1 and imin >= 1:
                summ += I[imin - 1, jmin - 1]
            if F[i][j] >= (summ / size) * t_proc:
                answer[i][j] = 255
    return answer
```

In [33]:
```
def Get_Bradley_Binorization(number, image, red_coeff = 0.299, green_coeff = 0.587, t_pr
    F = create_grey_image(image, red_coeff, green_coeff)
    print(F[100, 100])
    I = intagrate_image(F)
    print(I[100, 100])
    answer = make_answer(I, F, t_proc, s)
    plt.imsave("Result/bradley_" + i + ".png", answer, cmap='gray')
    return answer
```

In [19]:
```
for i in tqdm(["01", "02", "03", "04", "05", "06", "07", "08", "09", "10", "11", "12", "
    path = 'Dataset/' + i + '.JPG'
    image = plt.imread(path)
    image = image / 255
    answer = Get_Bradley_Binorization(i, image)
    ShowImage(answer, True)
```

```
100%|██████████| 15/15 [24:03<00:00, 102.71s/it]
```

ИНФОРМАЦИЯ О ЗАКАЗЕ НА ПОКУПКУ ПРОЕЗДНЫХ ДОКУМЕНТОВ (БИЛЕТОВ)

ВНИМАНИЕ: ДЛЯ ПОСАДКИ В ПОЕЗД НЕОБХОДИМО ПОЛУЧИТЬ БИЛЕТ В КАССЕ ОАО «РЖД» ИЛИ НА ТРАНЗАКЦИОННОМ ТЕРМИНАЛЕ САМООБСЛУЖИВАНИЯ

Подтверждаю, что с правилами и особенностями оформления заказа, его оплаты, оформления и переоформления проездного документа (билета), возврата неиспользованного проездного документа (билета), заказанного через Интернет, ознакомлен.

Ваш номер заказа	**73170372507461**
Дата и время заказа:	03.05.2012 10:50
Номер поезда:	011ГА СКОРЫЙ (Москва Пав – Луганск).
Маршрут следования пассажира:	МОСКВА ПАВ - ЕФРЕМОВ
Дата и время отправления поезда:	05.05.2012 18:50
Дата и время прибытия поезда:	06.05.2012 00:55
Номер вагона:	10
Тип вагона / класс обслуживания:	ПЛАЦКАРТ (ЗП) У0 С БЕЛЬЕМ
Перевозчик:	УЗ ДОН
Кол-во мест / Номера мест:	2 / 051, 052
Дополнительная информация:	ВРЕМЯ ОТПР И ПРИБ МОСКОВСКОЕ;

ИНФОРМАЦИЯ О ПРОЕЗДНЫХ ДОКУМЕНТАХ

Тариф	Стоимость, руб	ФИО	Тип и номер документа
Полный	532,50	СЕМЕНОВА АЛЕКСАНДРА ВЛАДИМИРОВНА	ПН*****4700
Полный	532,50	СЕМЕНОВА ЕЛИЗАВЕТА ВЛАДИМИРОВНА	ПН*****2389

Стоимость заказа: 1065 руб.

Я согласен с реквизитами поездки и подтверждаю, что персональные данные пассажиров верны.

Дата и время формирования бланка заказа: 03.05.2012 11:39:35

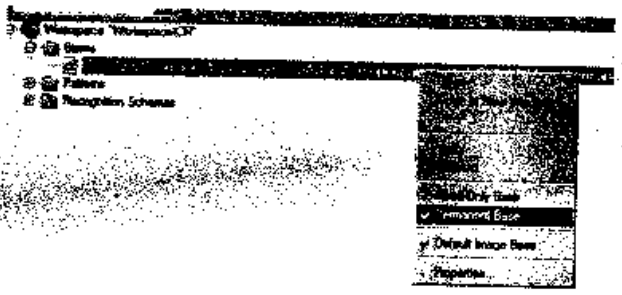
5. Все остальные галки должны быть выключены.
6. Нажать Ok.

12. Выделить все изображения из пакета и выбрать команду Tools->Re-recognize. Распознавание для создания баз нужно делать только с помощью этой команды.
13. После того, как распознавание будет закончено, файлы с базами символов появятся в папке WinRelease, откуда была запущена FlexiCapture.exe. Файлы имеют расширение *.bas. В большинстве случаев это единственный файл – "boxed.bas".
14. Готовый файл базы нужно удалить из папки WinRelease, предварительно скопировав в папку \\Untrevu\abbyy\R&D Department\FormReader\Images\Bases\Dirty и присвоив ему название по следующему шаблону: СокращенноеНазваниеЯзыка_ICR_ТипРазметки_Nстр_Nстр_ALL. Например: PT_ICR_Boxed_001_100_ALL.bas (№ страниц – такой же, как в названии проекта).

Разбиение файла базы на мелкие части для облегчения верификации.

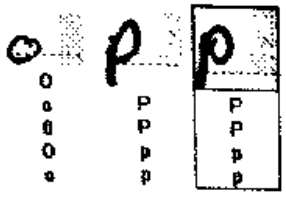
Вся работа с базами ведется через программу UnifiedTeachHP.exe: находится в WinRelease технологический билд 11 версии (последний). Далее базу необходимо предварительно быстро почистить:

15. Запустить UnifiedTeachHP.exe, создать/открыть существующий Workspace и открыть базу СокращенноеНазваниеЯзыка_ICR_ТипРазметки_Nстр_Nстр_ALL.
16. Выставить следующие атрибуты у базы:



1. Снять галку Read-Only Base;
2. Поставить галку Premanent Base.

17. Пометить как unknown все явно мусорные символы;
Пометить как unknown символы, которые хоть и ясно читаются глазами, но к которым приклеился мусор от серого фона. Например:



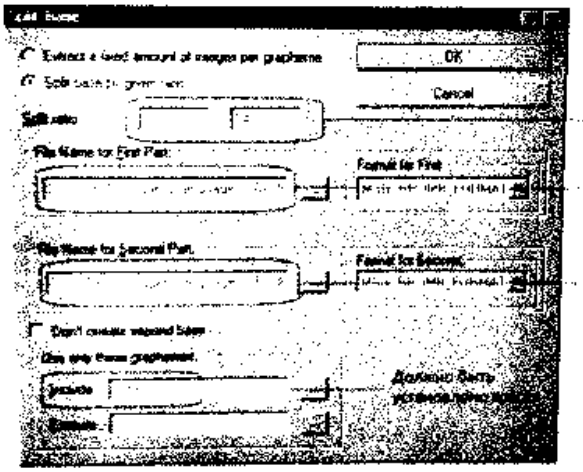
Допустимо наличие одной-двух точек, если они не растягивают рамку графемы.

18. Затем разбить эту базу на две базы. Первая база с чистыми символами будет называться так:
СокращенноеНазваниеЯзыка_ICR_ТипРазметки_Nстр_Nстр
Например. PT_ICR_Boxed_001_100.bas
Вторая база с UNKNOWN будет называться так:
СокращенноеНазваниеЯзыка_ICR_ТипРазметки_Nстр_Nстр_ UNKNOWN
Например. PT_ICR_Boxed_001_100_UNKNOWN.bas

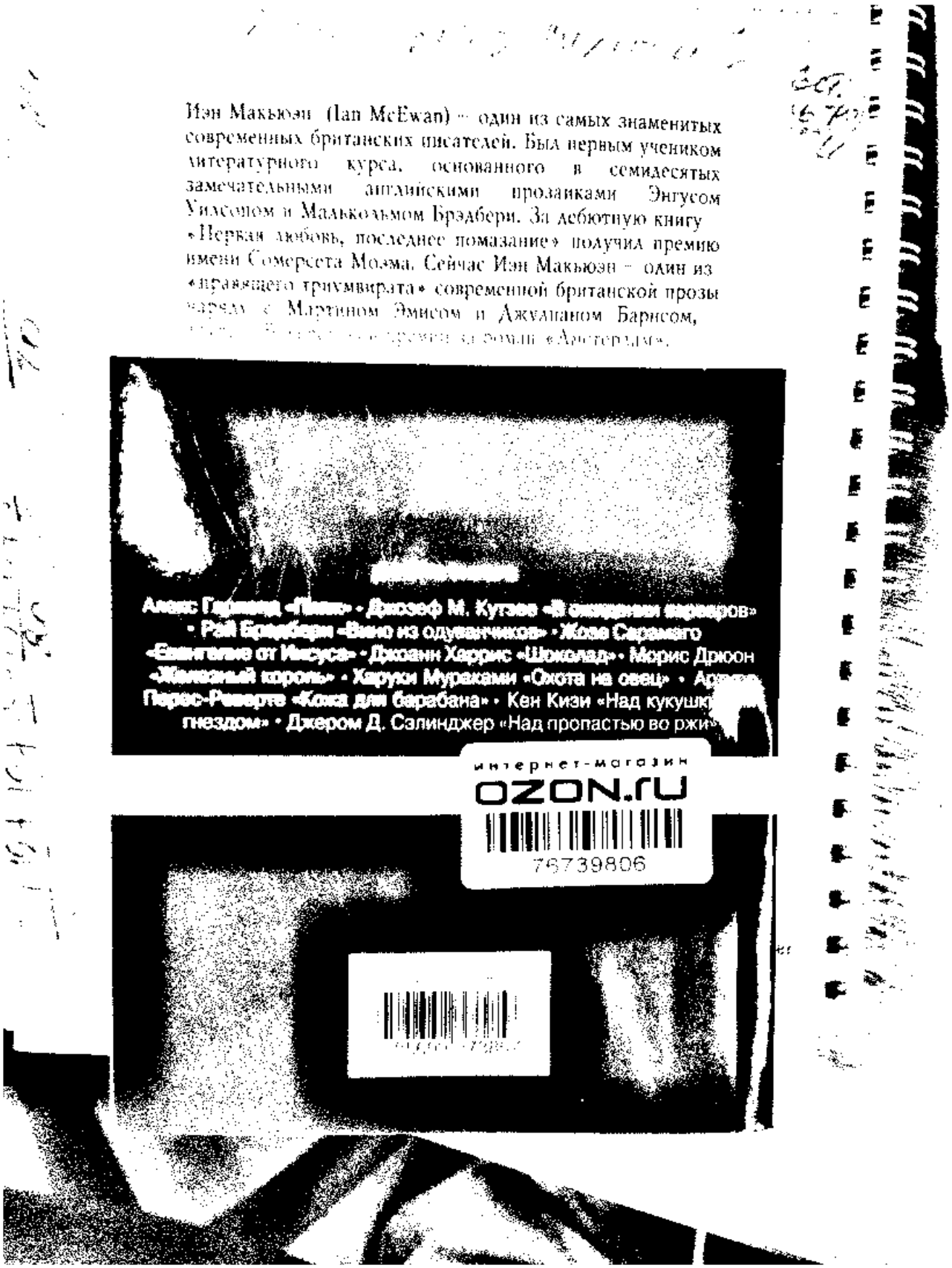
Далее необходимо разбить получившуюся с одного пакета базу с чистыми символами на несколько мелких, объёмом не больше 2 тыс. символов, чтобы верификатор мог проверять целую часть за один раз не сохраняя ее по ходу работы, а делая это только один раз, в конце.

Как разбить большую базу на маленькие:

19. В меню Edit выбрать команду Split Base.
20. Базу нужно поделить на куски в среднем по 2000 графем. В зависимости от этого рассчитываем пропорцию, в которой будем делить базу. Если база размером около 30 тыс. графем, то делить ее нужно на 15 частей. Пример настроек диалога SplitBase:



21. Split base by given ratio разбивает базу на части в соответствии с заданными пропорциями. Если базу нужно поделить на 15ть частей, то нужно проделать 14ть шагов:
    1. 1:14
    2. 1:13
    3. 1:12


Иэн Макьюэн (Ian McEwan) – один из самых знаменитых современных британских писателей. Был первым учеником литературного курса, основанного в семидесятых замечательными английскими прозаиками Энгусом Уилсоном и Малькольмом Брэдбери. За дебютную книгу «Первая любовь, последнее помазание» получил премию имени Сомерсета Моэма. Сейчас Иэн Макьюэн – один из «правящего триумвирата» современной британской прозы
Алекс Гарленд «Пляж» • Джозеф М. Кутзее «В ожидании варваров» • Рэй Брэдбери «Вино из одуванчиков» • Жозе Сарамаго «Евангелие от Иисуса» • Джоанн Харрис «Шоколад» • Морис Дрюон «Железный король» • Харуки Мураками «Охота на овец» • Арт
Перес-Реверте «Кожа для барабана» • Кен Кизи «Над кукушкиным гнездом» • Джером Д. Сэлинджер «Над пропастью во ржи»
интернет-магазин
OZON.ru
76739806

Charlie Tibby

d live the *loft life*. It was in a munity of sympathetic artists ali ing in the same space. It *seemed her wonderful But then* I realised I dn't move in. It's perfect for a *chelor* **but not if you're** going to **e with someone.** *If* **you're in a ationship you have to be able to im doors. Or in this house** I **can go** *another floor.* **But in an open plan ice** *it would have been a* **disaster, so, I've** *got a lot* **of stuff.** 1 **read** [a 'ce by] **Daniel Liebeskind's wife,** 10 **wrote something about niwalism. And, as** Γ**ᴛ supposedly** ** master of* **minimalism, it sparked ' interest. She said: "The art of nimalism is cupboard s." But there ™inhoard space** fin **the**

Do you have any houses overseas?

I've got a house in Gascony, France. I bought it in 1989. It's a stone farmhouse with converted barns, a huge amount of grassland and a swimming pool. It's great for family holidays. If you half close your eyes you can imagine you're in Tuscany but if you open them you know you're not which is sad. I prefer Italy or Spain.

So you haven't found your favourite home yet?

My favourite home might be a case of wishful thinking. My ideal place would'be on the sea I stayed in a hotel on the beach in San Sebastian, northern Spain, and thought I could live there - or maybe the borderland of Barcelona, to the right of the Ramblas. It is a very curious mixture of immigrant barber shops and fancy hotels. I can imagine living there and possibly will. You're only one minute away from La Boqueria, the best food market in the world. I don't swim or sail or like sitting on beaches but I like the idea of open expanses. I like to take pictures in that area.

You are a keen photographer and your house is full of photos. Who do you collect?

I've got an italian publishing company who are about to publish a book of my photos. I'm scared of publishing them. It's like writing a piece of music and not having the nerve to play it. I've been shooting videos over a number of years. I recently had a one-day exhibition in a gallery in Diisseldorf. I liked the brevity of the exhibition. I have prints by Mike Disfarmer, who lived and worked in Heber Springs, Arkansas, in the 1930s and 1940s as well as Miroslav Tichy, who lives in a little town near Kynov, Czech Republic. Their prints face each other in my sitting room. They have **a lot** in common and a lot not in **common. Both are small-town photographers who took pictures of people. Disfarmer took photos in controlled studio settings of people in uniforms or Sunday best. Tichy was the opposite and was an outsider who had been imprisoned by communists. He made his own cameras and took pictures almost exclusively of women. They are insolent photos though not obscene. My aim is to make some kind of musical piece bringing both -Wnoranhers together. 1 find the**

GSM
INTEL GETS DEEPER INSIDE M
SEMICONDUCTOR GIANT ANNOUNCES NEW
THE MEDFIELD PLATFORM PAGE 4
SAMSUNG HITS NEW NOTE W
TABLET LAUNCH
SOUTH KOREAN VENDOR UNVEILS SECOND
CARRIERS LAUNCH SPAM REP
FOUR US OPERATORS BACK GSMA INITI

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MWOMEN BEST MOBILE PRODUCT OR SERVICE FOR WOMEN IN EMERGING MARKETS
Etisalat, Qualcomm, D-Tree International and Great Connection Inc. - Etisalat Mobile Baby

BEST USE OF MOBILE IN EMERGENCY OR HUMANITARIAN SITUATIONS
UBL Omni - transparent and efficient Cash Disbursement service after the 2009 IDPs Crisis and the 2010 Flood Crisis

THE GREEN MOBILE AWARD
Flexenclosure - E-site

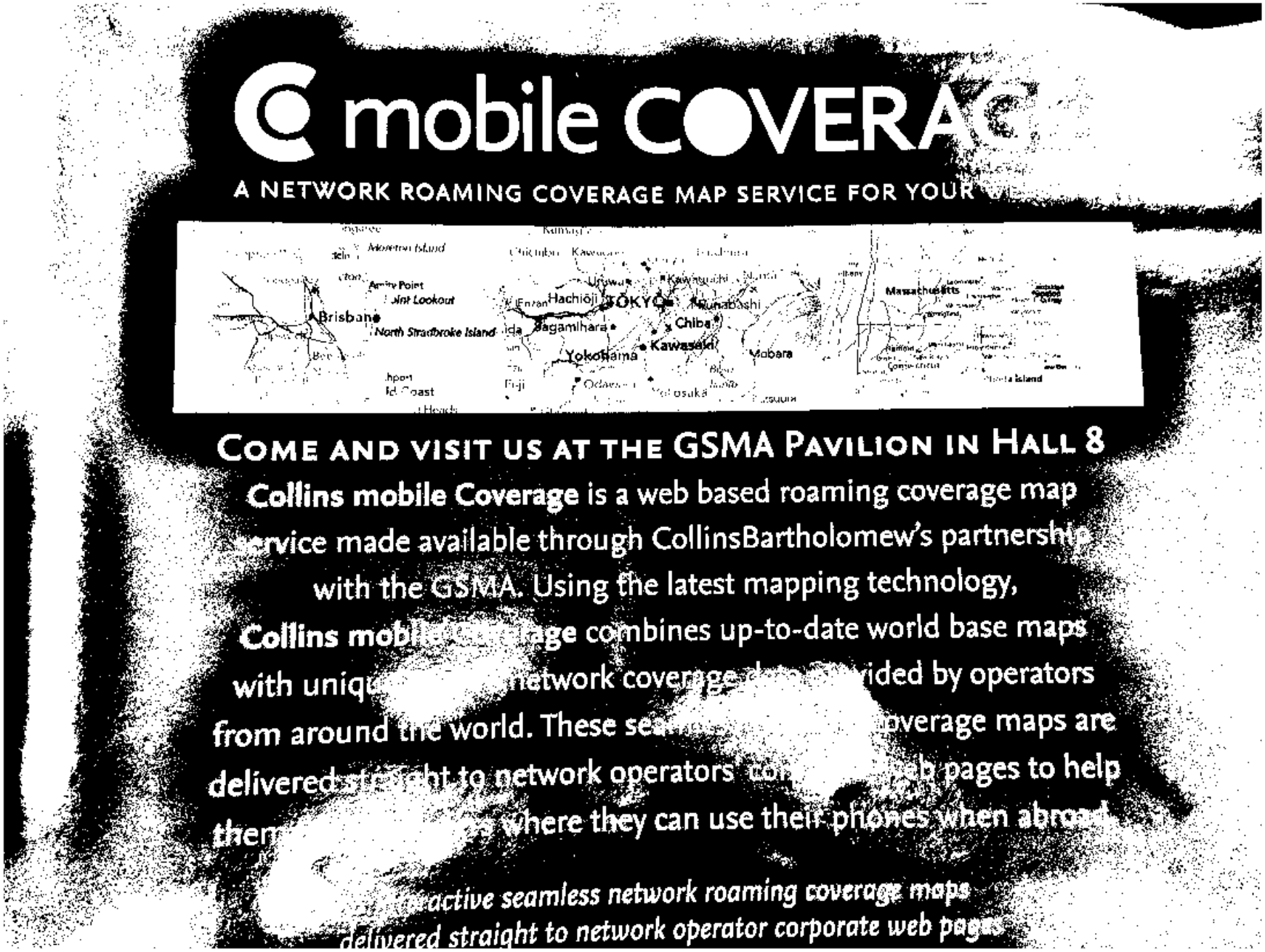
BEST MOBILE HEALTH INNOVATION
Etisalat, Qualcomm, D-Tree International and Great Connection Inc. - Etisalat Mobile Baby

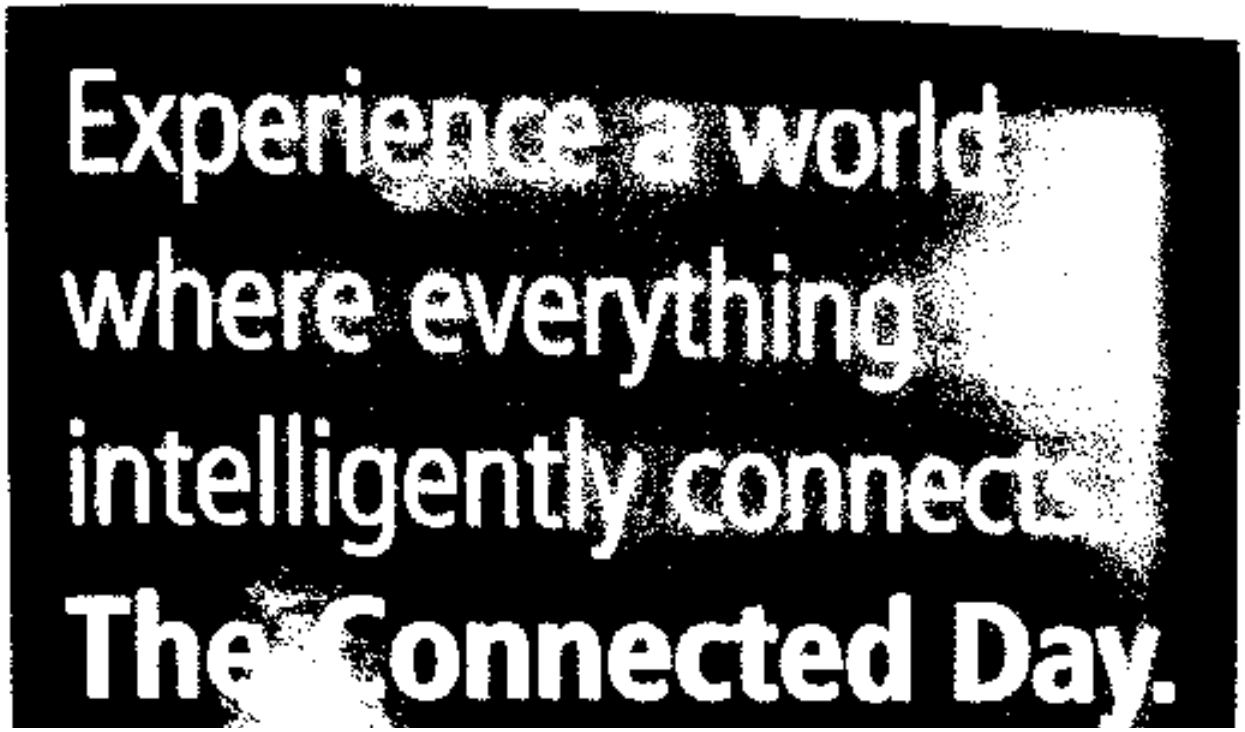
BEST MOBILE INNOVATION FOR EDUCATION OR LEARNING
OnPoint Digital - CellCast Solution

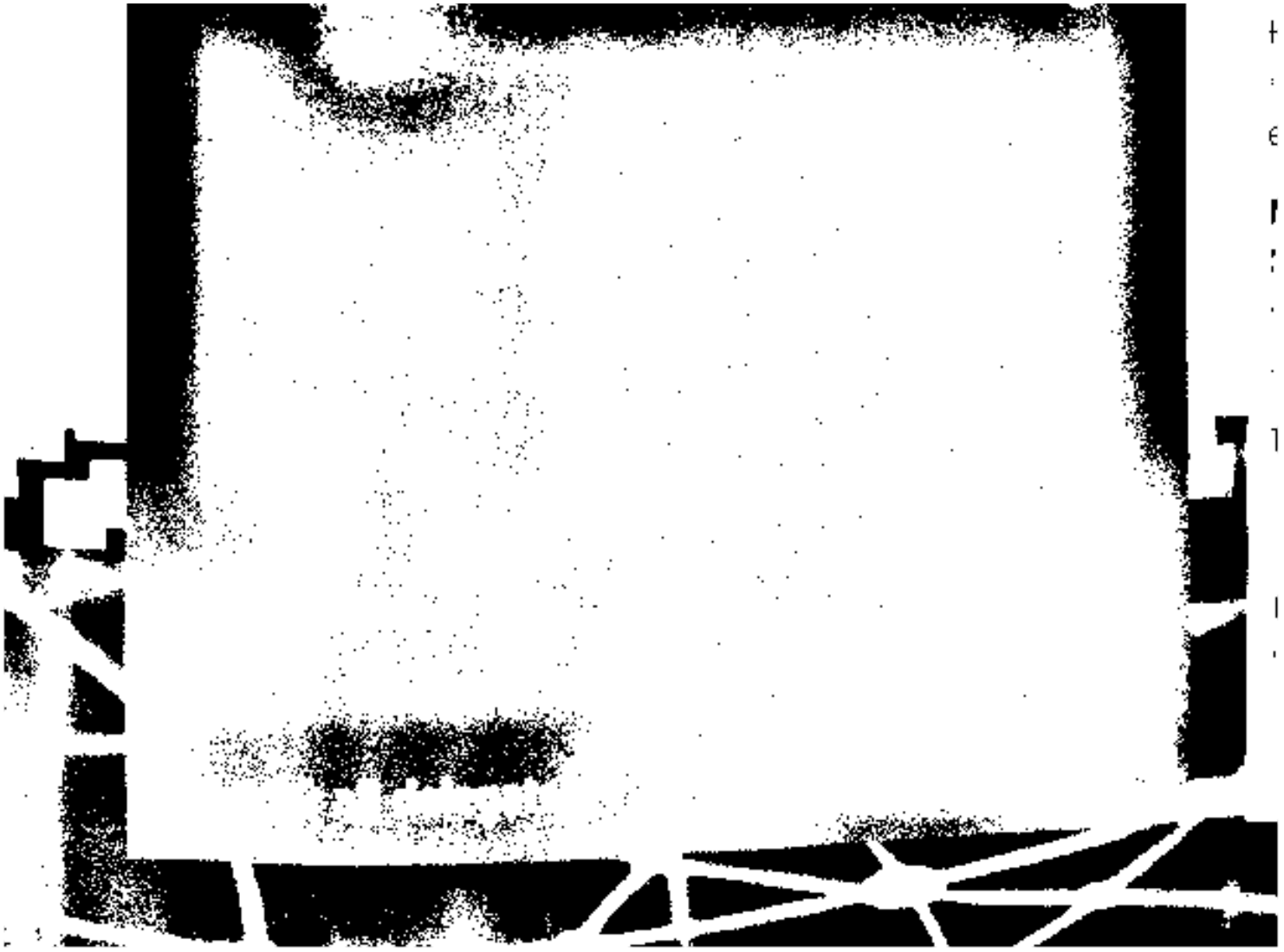
BEST MOBILE INNOVATION FOR AUTOMOTIVE, TRANSPORT OR UTILITIES
Ford Motor Company Ltd. - Ford SYNC with Emergency Assistance

BEST MOBILE MONEY INNOVATION
Etisalat, MasterCard and Oberthur Technologies - Etisalat Commerce

BEST MOBILE INNOVATION FOR PUBLISHING
Financial Times and Assanka - The Financial Times Web


mobile COVERAGE
A NETWORK ROAMING COVERAGE MAP SERVICE FOR YOUR
Brisbane
North Stradbroke Island
Hachioji
TOKYO
Chiba
Kawasaki
Yokohama
Massachusetts
COME AND VISIT US AT THE GSMA PAVILION IN HALL 8
Collins mobile Coverage is a web based roaming coverage map
service made available through CollinsBartholomew's partnership
with the GSMA. Using the latest mapping technology,
Collins mobile Coverage combines up-to-date world base maps
with unique network coverage provided by operators
from around the world. These seamless coverage maps are
delivered straight to network operators corporate web pages to help
them where they can use their phones when abroad
interactive seamless network roaming coverage maps
delivered straight to network operator corporate web pages


Experience a world
where everything
intelligently connects
The Connected Day.



There is incredible excitement around Near Field Communications (NFC) today, and the news has been awash with service launches, NFC-enabled devices and new alliances. While NFC is perhaps most closely associated with mobile payments, it goes far beyond; NFC will facilitate a wide range of new applications for consumers, such as mobile ticketing to board public transportation, the exchange of information and content, control access to cars, homes, hotels, offices and car parks and more. This is just the tip of the iceberg - the possibility for innovation is endless.

The market potential for NFC is significant - nearly 1.5 billion SIM-based handsets will have been sold worldwide between 2010 and 2016, supporting transactions of more than $50 billion globally over the same period according to Strategy Analytics, and momentum is growing.

More than forty-five of the world's leading mobile operators have committed to support and implement SIM-based NFC solutions and services. Commercial NFC deployments are already underway in France, Japan, Korea, Turkey and the UK, with trials in many other countries around the world, and we expect to see many more commercial deployments wave of innovative services. If we deliver these key attributes, then we will enable an exciting new world of contactless services.

BUILDING SUCCESS THROUGH COLLABORATION

There are many elements that must come together on both a country-by-country basis, and then on a global level, in order to drive NFC to mass-market scale.

Mobile industry – Mobile operators have a central role in the deployment of NFC services, but they cannot do it in isolation. They must engage their value chain, by specifying and ordering appropriate handsets, compliant SIM cards and developing the necessary

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China mobile connections, Q4 2011

	China Mobile	China Unicom	China Telecom	
Connections (m)	648.7	199.7	125.3	**973.7**
Connections, 3G* (m)	51.8	40	125.3	**217.1**
% 3G*	8%	20%	100%	**22%**
Market Share	67%	21%	13%	-
Market Share, 3G*	24%	18%	58%	-
Net Additions (m)	15.2	10.6	8.4	**34.2**
Net Additions, 3G* (m)	8.7	9.8	8.4	**26.8**
Growth, YoY	11%	19%	38%	**16%**

*Source: Wireless Intelligence • *Includes CDMA2000 1X connections as per ITU classification*

have been able to migrate more subscribers to their respective 3G networks is partly due to them being able to tap into a broader range of 3G smartphones compared to what is currently available for China Mobile's homegrown TD-SCDMA network.

Unicom has been the exclusive provider of

Unicom continued to increase its 3G market share throughout 2011 by offering considerable subsidies on its WCDMA handsets, and last month launched a three-year contract plan offering a free iPhone 4S for as little as CNY286 per month. However, the inherent risk in this strategy is borne out by the operator's most

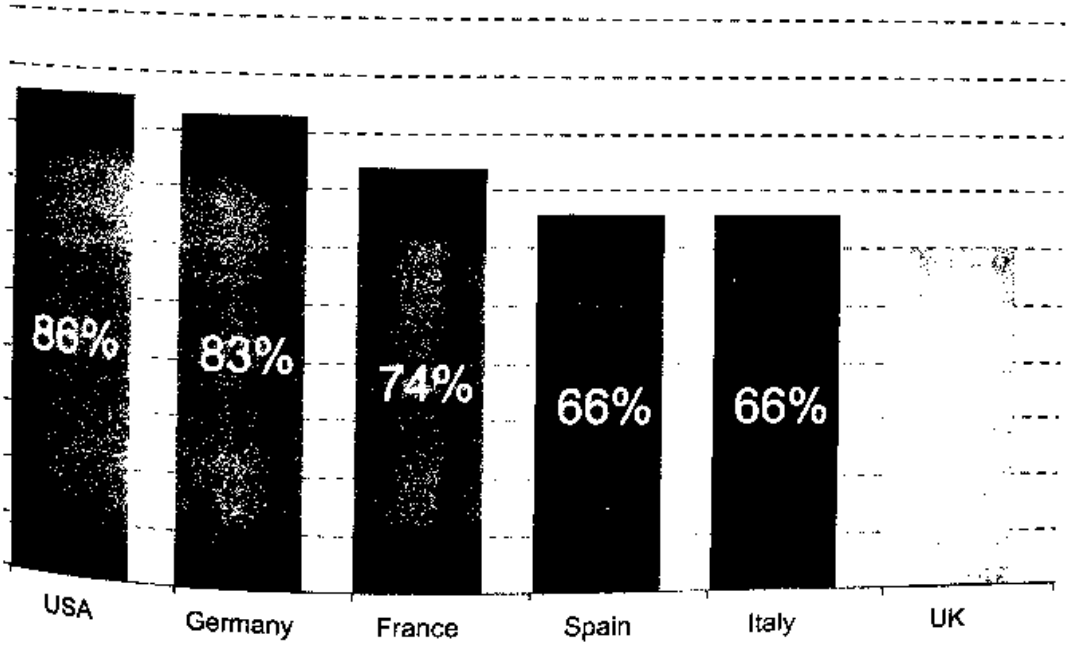
These are the questions we believe will be addressed by mass market rich media campaigns running on mobile. The term 'rich media' is quickly entering the mobile advertising lexicon and is certainly creating a lot of hype. Although potentially quite broad in definition, it generally refers to ads that are based on the benefits of HTML5 technology and offer consumers the opportunity to interact with the branded ad content itself. Essentially, a rich media ad can replicate the power of a TV ad on the device screen, delivering the TV experience combined with touchscreen interactivity that is unique to mobile.

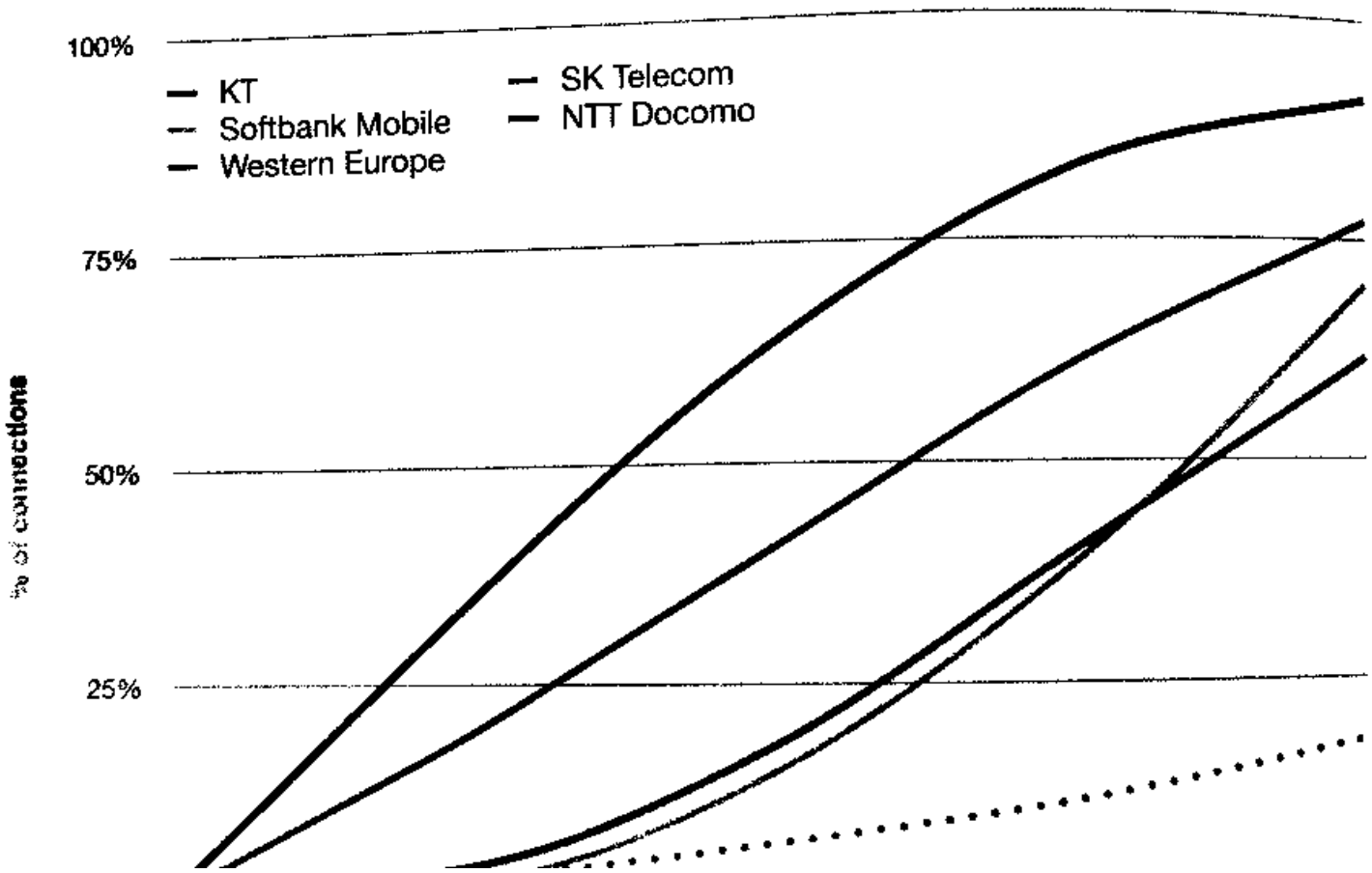
IT'S ALL ABOUT NUMBERS

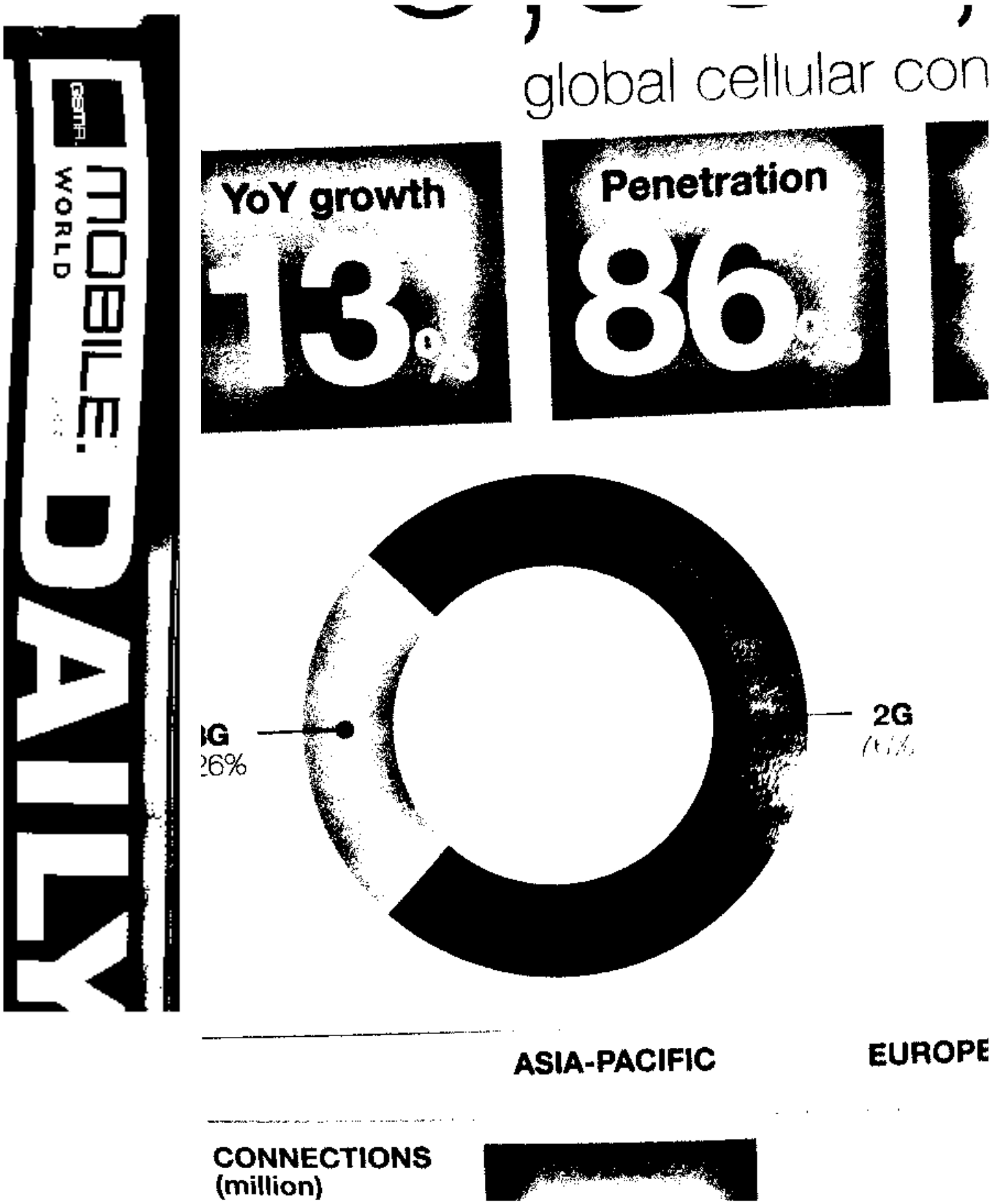
There are a number of factors that have come together to drive the potential of rich media as an advertising format. The first is mass penetration of smartphone devices. There were approximately 252 million iOS devices and 243 million Android devices globally as of the end of 2011. That's a reach of almost half a billion people. In the UK, for example, there are approximately 15 million Android and iOS smartphone devices: a quarter of the UK population is already rich media enabled. The second is standards. ORMMA (Open Rich Media Mobile Advertising), an industry wide open initiative for advertisers, has been standardised by the IAB Mobile Marketing Center of Excellence to create MRAID (Mobile Rich Media Ad Interface Definition) which defines a common API for mobile rich media ads that will run in mobile apps and web sites. This effectively provides the industry standard required for rich media to move mainstream.

Third, from a creative perspective, rich media gives advertisers complete design flexibility to deliver brands and messages and experiences. Expandable banners are the most common rich media format, whereby consumers tap on a banner and get presented with countless options and experiences such as interactive mobile pages, videos or a combination of the two.

Table 1. Android and iOS penetration in USA and EU5 countries as a percentage of overall smartphone devices; Available rich media ad impressions are now at critical mass




100%
75%
50%
25%
KT
Softbank Mobile
Western Europe
SK Telecom
NTT Docomo
% of connections


MOBILE WORLD DAILY
global cellular con
YoY growth
13.
Penetration
86
2G
ASIA-PACIFIC
EUROPE
CONNECTIONS
(million)

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Telstra CTO proposes alternative approach to app stores

A SENIOR EXECUTIVE of Australia's largest operator put forward an alternative proposal at yesterday's conference keynote session dedicated to mobile applications. Dr Hugh Bradlow, CTO of Telstra, said that customer demand would force the company to support numerous app stores and handset operating systems (OS), regardless of the various industry initiatives to reduce fragmentation.

"For example, Apple and Samsung's Bada won't go away and we'll have to work with them," said Bradlow. "We don't see the growing number of available app stores or mobile operating systems as fragmentation – but as competition. Between them we'll still be at least six to 10 mobile operating system offerings on the market in the coming years."

The problem with supporting numerous operating systems, according to Bradlow, falls over

[illegible] operators [illegible] by forcing them to develop their software on up to 1,000 different handsets [illegible] compatibility. "Developers are still struggling with the handset environment."

Turning to how Telstra would offer applications to its customer base, Bradlow said the company planned to position itself as a "shopping centre" where subscribers browse through a selection of store fronts and select apps which are supported on their handset. "We will build the shopping centre environment, which means we won't be bypassed in the value chain."

Bradlow's comments are topical in light of Monday's announcement whereby at least 24 operators around the world are to join forces to launch an open internet mobile applications platform, marking the largest united move to date by the operator community into the mobile apps space. Telstra is not believed to have signed up to the Wholesale Applications Community so far.

Cont. on P2 [1]

Huawei claims LTE device world-first

Huawei is set to [illegible] steal a march on the [illegible] device space by [illegible] unveiling what it claims the world's first tri-mode LTE modem. The Chinese vendor said the E594 device is backwards compatible with 3G UMTS and 2G GSM technology. Cont. on P3 [3]

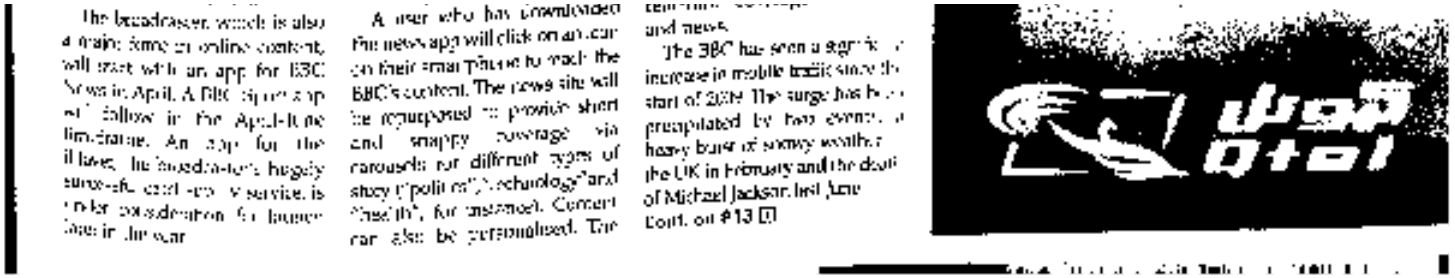
BBC pushes mobile app strategy

[illegible]

UK BROADCASTER [illegible] set to [illegible] applications [illegible] and sport that will make it easier for smartphone users in the country to access the broadcaster's content on their handsets, said Erik Huggers, the BBC's director of future media and technology, at yesterday's keynote conference session on mobile [illegible].

The broadcaster will develop the apps first for Apple's iPhone followed soon after for Blackberry and Android-based handsets. It also intends to develop versions of the apps for other smartphone operating systems. Yesterday Mobile 24 announced it is developing the BBC's iPhone apps, claiming to have won a competitive pitch involving more than twenty mobile application vendors.

[illegible] sports [illegible] will [illegible] focused on the BBC's [illegible] football coverage and [illegible] exclusive coverage of [illegible]



Время работы

```
Время Работы кода на C++:

image: Dataset/01.JPG - sec/megapixel: 0.180898

image: Dataset/02.JPG - sec/megapixel: 0.181851

image: Dataset/03.JPG - sec/megapixel: 0.182748

image: Dataset/04.JPG - sec/megapixel: 0.180665

image: Dataset/05.JPG - sec/megapixel: 0.182378

image: Dataset/06.JPG - sec/megapixel: 0.180547

image: Dataset/07.JPG - sec/megapixel: 0.180336

image: Dataset/08.JPG - sec/megapixel: 0.184976

image: Dataset/09.JPG - sec/megapixel: 0.182872

image: Dataset/10.JPG - sec/megapixel: 0.189801
```

```
image: Dataset/11.JPG - sec/megapixel: 0.183123

image: Dataset/12.JPG - sec/megapixel: 0.182579

image: Dataset/13.JPG - sec/megapixel: 0.189904

image: Dataset/14.JPG - sec/megapixel: 0.182623

image: Dataset/15.JPG - sec/megapixel: 0.180961
```

In [41]:
```
times = np.array([0.181851, 0.182748, 0.180665, 0.182378, 0.182378, 0.180547, 0.180336,
         0.183123, 0.182579, 0.189904, 0.182623, 0.182623])
```

In [42]:
```
len(times)
```

Out[42]: 15

In [43]:
```
np.mean(times)
```

Out[43]: 0.18329359999999997

Среднее время работы - 0.1833 сек/мегапиксель, что во много раз быстрее, чем на питоне. (Код на питоне обрабатывал 15 фото 24 минуты, то есть больше минуты на фото, а если учесть, что в тестовых фото примерно 3 мегапикселя, значит скорость питона примерно 20 сек/мегапиксель.)

Результаты.

Практически на всех изображениях осталась большая часть текста, которую может прочитать человек (отлично распознаны изображения 1, 5, 7, 10, 11, 12, 13, 14). Но где-то из-за бликов (изображения 4, 6, 8, 9, 15) и других проблем со светом (изображения 2, 3) пропала часть текста, что можно настроить в конкретных случаях разным порогом `t_proc`, но не совсем понятно, как это делать автоматически. Хуже всего были обработаны фото с большим количеством бликов и низкоконтрастные изображения. Также, в некоторых частях изображения текст не черный на белом, а белый на черном, что наверно можно инвентировать, если уметь находить контур текстового блока и смотреть на его фон. Если он черный, то инвентировать цвета внутри.

Достоинствами метода Бредли, как отмечалось в самом начале, является простота реализации и высокая скорость выполнения, а также для большинства случаев нет нужды подбирать параметры. Кроме того, метод хорошо работает с неоднородным фоном (например, 4, 6, 8, 14, 15).

Таким образом, метод Бредли представляет из себя отличный метод биноризации изображения без какого-либо машинного обучения.

In [ ]: