



NDATION

## 1. What is a Database?

4

1.1 [Introduction](#) [Table of Contents](#)

**2** *What are the main features of the new system?*

2.1

( NYV^PUN WYVWVY[PVU VM `V\UN WLWWSL PU [OL <2 HYL SP]PUN ^P[O  
^OL[OLY [OL` OH]L UV[ SLM[ VY YL[\YULK [V [OL MHTPS` OVTL OUÅ\LUJ  
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## 02

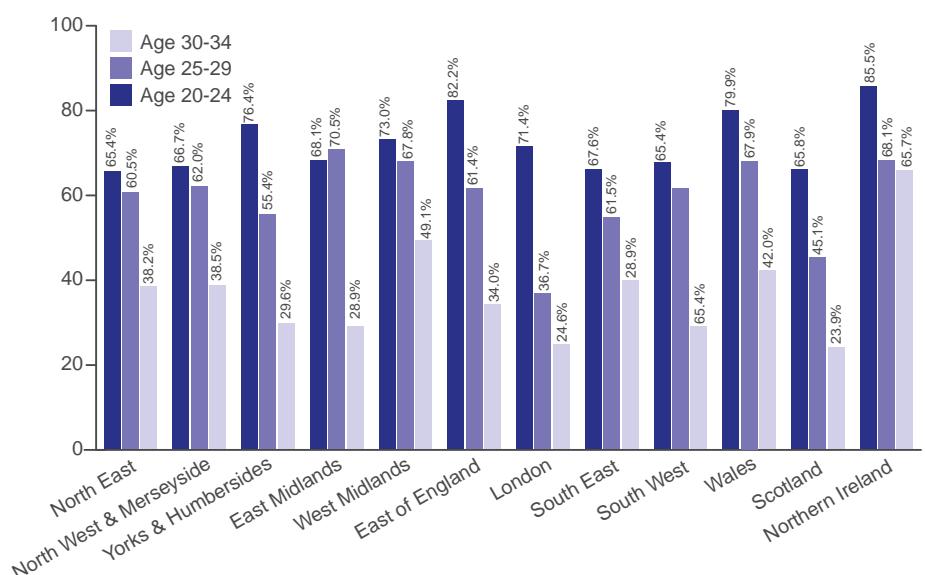
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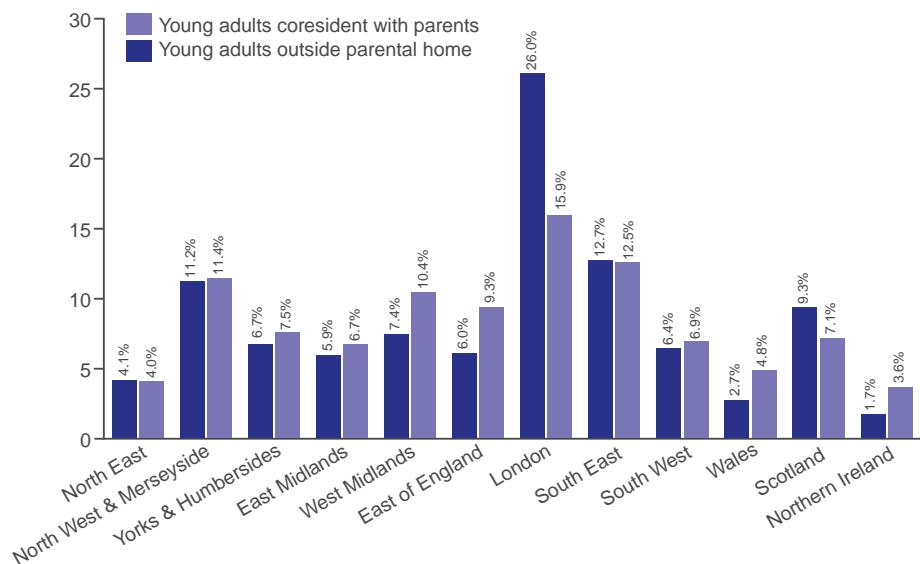
@L[ ^OPSL V]LYHSS U\TILYZ HYL JSIHYS` NYV^PUN VIJPHS Z[H[PZ[PJZ

## 2.1

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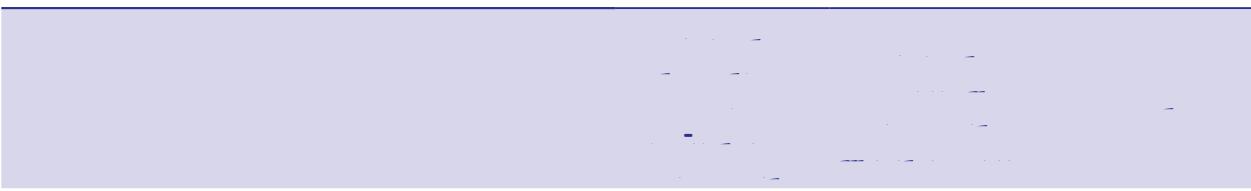
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## 2.

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4LHU HNL VM MH[OLY	56		
4LHU HNL VM `V\UN HK\S[	24	27	26
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VM OV\ZLOVSKZ ILSV^	TLKPHU PUJVTL )/*		

## 2.3

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;OPZ WYVÄSL OHZ ZL[ V\[ H KLZJYPW[PVU VM

## 3.1

;OPZ WHWLY WYLZLU[Z H SP[LYH[\YL YL]PL^ HUK MVYTZ WHY[ VM [OL ÄY  
 H[ [OL L\_WLYPLUJLZ VM SV^ [V TPKKSL PUJVTL MHTPSPLZ PU [OL <2 ^O  
 HUK LHYS` [OPY[PLZ SP]L ^P[O WHYLU[Z PU WHY[PJ\SHY ^P[O YLNHYK  
 ;OL YLZLHYJO PZ ZL[ PU [OL JVU[L\_ VM [OL NYV^PUN YH[L PU ZVTL >LZ  
 ^P[O WHYLU[Z LP[OLY JVU[PU\PUN [V SP]L PU VY YL[\YUPUN [V [OL MHT  
 I` H [OPYK PU `LHYZ! \W MYVT VM `LHY VSKZ TPSSPVU PU  
 65: H 5\TLYV\Z HUK VM[LU PU[LYSPURLK MHJ[VYZ HYL JP[LK PU [C  
 `V\UN HK\S[Z SP]L ^P[O WHYLU[Z ( YHUNL VM Z[Y\J[\YHS LJUVUTPJ HU  
 [V SP]PUN LSZL^OLYL HUK HZ PUJLU[P]LZ MVY `V\UN HK\S[Z [V Z[H` VY  
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 PU[LYUH[PVUHSS` HUK PU [OL <2 >P[OPU [OL <2 ^L JVUZPKLY OV^  
 WHYLU[HS OVTL ]HY` I` ZVJPVLJVUVTPJ JOHYHJ[LYPZ[PJZ  
 . OUÅ\LUJLZ VU [OPZ WOLUVTLUVU OPNOSPNO[PUN RL` [OLTLZ LTLYN



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L\_WLYPLUJLZ PU ZOPM[PUN SHIV\Y HUK OV\ZPUN THYRL[Z -VY IV[O SV/  
SP]PUN ^P[O WHYLU[Z WYV]PKLZ HU VWWVY[\UP[` [V YLK\JL JVZ[Z /V^L]  
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^P[O WHYLU[Z ( YHUNL VM Z[Y\J[\YHS LJUVTPJ HUK WLYZVUHS MHJ[V  
HUK HZ PUJLU[P]LZ MVY `V\UN HK\S[Z [V Z[H` VY TV]L IHJR OVTL OU[LY  
ZPTPSHY PUÅ\LUJLZ PUJS\KPUN SH[LY THYYPHNL JVTIPULK ^P[O ^VYZL

Л. А. Бородин, А. С. Григорьев, А. С. Красильников, А. С. Смирнов

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[^V WHY[PLZ PU]VS]LK

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VM ÄUHUJPHS JHWHPJ[` WHYLU[Z ^PSS OH]L [V Z\WWVY[ [OLPY HK\S[ JC  
PUKLWLUKLU[ SP]PUN HSSV^PUN [OLT [V YLTHPU SP]PUN H[ OVTL VY T  
JHWHPJ[` [V VHLY Z\WWVY[ ^OL[OLY JV YLZPKPUN VY Z\WWVY[PUN ZLW  
MVY PUZ[HUJL Z\NNLZ[ [OH[ WHYLU[Z ^P[O TVYL YLZV\YJLZ HYL TVYL SF  
KLWLUKLU[ HK\S[ JOPSK [V SP]L PUKLWLUKLU[S` /LH[O HUK \*HS]LY[  
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Z[HUKHYK VM SP]PUN PUKLWLUKLU[S` ^V\SK UV[ IL HZ OPNO

;OL NYLH[LY JHWHPJ[` VM IL[[LY VH WHYLU[Z [V OLSW [OLPY JOPSKYLU  
PZ YLÅLJ[LK PU YLZLHYJO SVVRPUN H[ OV\ZPUN WH[[LYUZ HUK [YHQLJ[  
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;OL YLZLHYJO PU [OPZ ÄLSK OHZ H ^PKL YLHJO IV[O NLVNYHWOPJHSS`  
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## 4.1

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3VVVRPUN ÄYZ[ H[ -PN\YL ^L JHU THRL [OL MVSSV^PUN VIZLY]H[PVUZ  
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 ;OVYU[VU ( ( SHJR VM HHVYKHISL OVTLZ PZ MVYJPUN `V\UN )YP[ ,JVUVTPJ -VY\T O[[WZ! ^^^ ^LMVY\T VYN HNLUKH `V\UN IYP[VUZ HHVYKHISL OVTLZ \\
 ;VTHZaJa`R ( \* HUK >VY[O 5 )VVVTLYHUNPUN OVTL! \UKLYZ[HUK WHYLU[Z PU ;VYVU[V \*HUhKH 6RFLDO DQG &XOWXUDO \*HRJUDSK\ \\
 ;VZP 4 HUK .Y\UK` , 9L[\YUZ OVTL I` JOPSKYLU HUK JOHUNLZ PU 6RFLDO 6FLHQFH 0HGLFLQH \\
 ;\UZ[HSS 9 )L]HU 4 )YHKZOH^ 1 \*YV\JOLY 2 +\H` : /\U[LY \* 1 HUK >PSJV\_ : UK 7KH /LQNV %HWZHHQ +RXVLQJ \$QG 3RYHUW 9V^U[YLL -V\UKH[PVU \\
 >HYK 9 ( HUK :WP[aL . + 5LZ[SLH]PUN HUK JVYLZPKLUJL I` `V\ MHTTPS` YLSH[PVUZ 5HVHDUFK RQ \$JLQJ ¶ \\
 >HYULY , /LUKLYZVU >PSZVU \* HUK (UKYL^Z - ,0[»Z .P]L HUK ,\_WLYPLUJLZ VM 5LNV[PH[PUN -PUHUPHS HUK +VTLZ[PJ \*VU[YPI][PVUZ -RXUQDO RI )DPLO\ DQG (FRQRPLF ,VVXHV \\
 >OP[L 3 2 \*VYLZPKLUJL HUK 3LH]PUN /VTL! @V\UN (K\S[Z HUK ;O 6RFLRORJ\ ¶ \\
 >PSRPUZVU , HUK 6Y[LNH (SJÍaHY 0 ( OVTL VM VUL»Z V^U& /V\Z [PTLZ VM H\Z[LYP[` &ULWLFDO 6RFLDO 3ROLF\ \\
 >PSZVU > &DQ SULYDWH ODQGORUGV UHIXYYHPWÄRUQHWHWIRY+BXVL /V\ZL VM \*VTTVUZ 3PIYHY` O[[WZ YJÈiè@ \*VTTVUZO[[WZ YJÈiè@ -¤\*V PU,)V iÀ•@ p€0đ@ pđ Pp`0]þy • - üÄUN PÂ[WPZ PU OVTL- `/iđ•p 0þy -0 >À ` @ @ ` Q]

