Using behaviour prediction to optimize in-app marketing

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www.swrve.com
#swrve_inc









Successful mobile businesses use Swrve











Know and personally interact with every user.



ANALYTICS Know how your app is growing



SEGMENTATION Know every user in real-time









MARKETING A personal conversation with every user OPTIMIZE Know the best user interactions



Swrve



Choose, for each user, the action that will have the most likely maximum positive response

Bounced -1 app open



9th purchase LTV: \$109



First app open



LIFECYCLE MARKETING





Kate has not been seen in >45 days





ENGAGED

SW/Ve

NEW



DISAPPEARING





SW/Ve

LIFECYCLE MARKETING

Interact personally with every user









= Has used app more than 5 times but is inactive for more than 7 days







Survival Analysis





Survival Analysis



Swive NH)^ZTS^01%MK.;G<5U;XMI^RT/GF81`/7QU#DXK\$]3CQ'Z+ 18`'_5(I!3V6T9).8=CKNN=M&\$'J-%%&/=K7*AD:HRJ.=<3L 2885_'/Q<3^PANY7NM8K+K''H(Maw\$N*VPMWR+%D9_076`FPA+K_01C3)KP77C1N481C43_VPA+C3 2+R3.RWZ.!@.II8:440,=9XM(0>T).RW"N'0NBI\` =\$8[)B+-!/;'2BI(ZB2H=;GMJJ"=7SQ/V6P!A0\76=SM/!NV\M7,.QL-(GNY96^+!4"+LM[CA?A/U0*`>`"04(0),1MR\$_=:Y#"] ?BB5-'/9<;3^PANY7NM8K:K''H(M@W\$N*VPMWR+%D9 @Z6 \$6\01WK2WQ0\$0"?HNM[XZH15?XZ#P#U.-DI156T\XHTA+GM<,QU01-/GT#CF4`].1%B158&G2<^46]BW%;4EM`A[+>X*07J88H+3P;`K\$(]M(0),'`:<0/B+]A'CNMZ)\$:0N;&&_I2VN?,0>S<]SP] `/:0V&_LMH91BI15&23F'8W>K=PK[K:(Z5E&659%1R.0`^GE<UY;\$2B08M>PA/!IN\7,.QL-\JJ,M0QA?"D7<JPXPG=3\XYJ3>24A<V&\)C=[2MM].X3R5M`0>9\$"NM8&J3DG=/U*,:PI/!9/06": YQN9PC1M\$M4SPK7]UK:>YY[`(59:\$2NM<))4H!XKU",23,HPPG[K1`:QT@I:B"+JL;+?M\$KI6&:&>RR(RX[;N"1P\&\$IH3]&2W\J'&T8^!.KAJW-P6IF@GK#?.I&72%(VM8Y3(4%\$-"9V3\I&91 [@IA?U69<''+,-9A'I\$MY(7]%E=>V&\5\$V.-%W)`2URLM\$+)DX'T80C[K8(20A^0/5Y38;]56?#MR>"CM\PS*.<)^RRHIYW`\6^J=I\$Z36&F%MKBUC@-^6Y0@NK8D[+?8>XB)>FSR"M0#M`"8S 'JN=Q8J;VSJ*?\$>>Y96Q+V6SQM40+NMB7I4@^LZJ%AIA?Z]F>)P(;FDJIJ.1K7S7-<[\<3I=H;8Z"V3:Q6UF67)<)IZMGG06EH3]5MA0.4G*M2>#:_LMUZA'HC&V#B<0_J(*QUS7.U%"%%%/\ <\$ZN&K<W!:6:\$>D6`RXB966G\$N`PEYKNN=#/2%_18[M\\$=0'9J?YYZU)1YHR0W=,,)^J[;@>:(>5=03*ZTXD9=(4L[AF.MZ)YX^@<:,M:&E6V6\=]6'0GA,N0Y6/VA*+SG/MAA&HARLN/!D`</pre> , W@)UU*,]GDZ&QNB)X_MM;8)KX.!VI9656Q;H@GQ<E5;<0ZRT@AL"M]9#:PGZ+5I??C"^\$(^]4AAE/2HHAL.3%2B0HK)CBE%\$/,QBAGLN-E=H[+(/!M><)^JZQ\$2&<:Z95;%0S@]:]'QH4 ^*RTQM:0:=YZ3>24B<YDHKPGZKH*&\3WEC)QE&RX^.R1P09'C^#RXW1*N/C]![9\$0<&M<#00;_`MW58POR`M0.]?4]GXEU\>5\$Y`Y-"0ZCQ2'\;I+:%\$];2R"JI'3.%\MDY\$GTWD/V2<-^:W @SRC,C_3GAY61TQM=.>IBN-U'_?@D`G<(T^D,PAU#_#`?("D>JTB.D.H\[CZUN&->\^FCWJ.:Y.2M)\4\$\IUQL?,Z@V_IMH*"%3D:[1P`:&\U_L]_?.9@`IR@TGFVP03U:"<5J,<*M]8(*IK1IB7*URHCU)LNI'J>JE"/#7"H*M\$/7"\$PSKGEV6FAD0\$1X`W#*:WOSWCUWJ"OX>5(\\76H1J.>,.EW4(Q0,4(](M24^I*V3`A1584*0ESN&8ZWHG*C'%DB\$KU"/1>`8Z+Y]56<,R;DL ?Z[_WZGS^X9QJ2TZ`[;BY0CXNDQ((FZI\$[W;,(M]8C(LZDA,1JC5!D<<UW0I-@9M`X#6B)WK5+L0'.CM];S\PBAGLN-%?:@"QRNMW9NSER8%A^@5.N-(Y[.7)BXORTM.CY/^6U/9J`` *C\$G3G?=(^8NZ)>B12TD8]EQLK[\$\$9]>@FY1R.W:W>27NBGB03MT1R2IWNMDJC2X8JC^VCCPR!1*..ZMN3"0;E@9=:=VP/*G5&X>V8035R]>4E,M?+CTWYK*QGU_.?W8ID59\2GFD= *MP:CSI&YP9%`/I<[(8<`SZKDNC=Z#ZA'CI-Z)*RLH(]5QN/+''S/^!\$*I'XJ*>MO=\6X[;-"CCHUI:<NC?K#+Y9>:FG#UVR5G+PURW>DE>\KB!`[P\`YI'1BR>KM#^V\.&@:*MZR(?;7]EJH=D]'MMDPLXYKK>B<HJ[+<H:179;_'65;\$/]ZPMX3/!\04+`*#05K\#XH\.S.(UF8_MM5PB0('^>U47ZR7"`X#B+0N>>*X\$`#Y[_]CQCR_+Z-`]\@R*J>".J"<\&4KRM/ _U6E0/P[MGN650"0#T7%L\'M@-M&&\Y3HJ7B+7D2R0WTWSN^[^+QCRL!0&J?E!-5MG49`%2<J9&%/"5U('5[M9H-Z5\$.@'KZZL-\B)/BPWR*2BI56G,K@<F-D>T[JG0STA?T6. *CCSEVPR3MZ+Q_4HT/CHOSXM4^9H4OF.IX**=\$'!FD\$"GRMII@4+<-!Y_'U799&J]/]`T%^@'NZ\$>V1FPG\29&[50\$Z3US<\$RC?L_D&#@=NM;SJ#;VIF_+1*EI\LD'?HT[/` H\$*B'U*:,>B0:HU6H5FJ)W9MG\$^JY+HW>@_(1(R/.!05PQ2FC'F8P0CV7M&RNUG]SL*?U#A)98`0?5ZLRT]^;\DG2-5B/]?/7,#04EL(*\FLI&FTH>`+S\MO[:\$A!L&^N_` *I<ZCOS55MA'KT[\T4:TCDDA(I<7`!QUS7._'\$J:.>RXTG]I#=20=:16TFB7J>E0\2N0&IMK+9\$"#@4#\V2QW(=U+&&0#_^^YY)\8E/7_I_-L;\$1YA'1M_YU6>#IB%BX^9C* $-0115 F I = 115 (H# \cdot KM'' / AH#STK770 * 25`F5`A < 6 - 10Y)$ $\pm 014 + 10Y = 1000$ $\pm 014 + 10V = 1000$ $\pm 014 + 10V = 1000$

Select Features



1st Login	Spend	#Sess	Day-1	Day-5	#Pals	•••
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Supervised Learning

Users		1st Login	Spend	#Sess	Day-1	Day-5
		1st Login	Spend	#Sess	Day-1	Day-5
		1st Login	Spend	#Sess	Day-1	Day-5
	E.	1st Login	Spend	#Sess	Day-1	Day-5
		1st Login	Spend	#Sess	Day-1	Day-5

Features

Swrve







Classify

SW/Ve











Users sorted by propensity to churn

Swrve



Regression





Algorithms

SW/ve

Support Vector Machines

Decision Trees



Real-time actions











SW/Ve





Churn prediction

SW/Ve



AUC = 0.93

purchase?

will purchase anyway





Impact of offer



-11%

Churn





Sessions



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