Using Asterisk to Predict Elections in Florida

Presented by



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How Did We Get Into This?

- Automated Hospital patient discharge surveys
- Our high-capacity VICIhost.com hosted contact center infrastructure
- A client running for local political office
- Another client involved in Governor campaign in another state
- The availability of Florida voter data

How do you Predict Elections?

- State-maintained public database of voters
 - Contains detailed demographics
 - Contains voting history
- Generate detailed voter demographics for last election
- Gather public and private contact data
- Match up phone and email data with voters
- Generate random sample of voters to contact
- Contact voters and ask them questions
- Analyze data, weight based upon past elections

Florida Voter File Example

• Race, Gender, Age, Party, Address, etc...

PIN	100005139	ALEXANDER M5 07/30/19	HERMAN 035 01/12/1960	N REP	4899 150	66TH AVE N 0 150.0	ST ACT	PETERS 13 68	BURG 22	337 6 6	02	
• PIN 5555	100003691 F 5430	HAMANN 5 01/16/197	BARBARA ELLEN 73 05/15/1993	N 4 DEM	4550 1 123	STAVE S #16: 0 123.0	11 ST PET ACT	ERSBUR 14 68	G 22	33701 7 7	94	1
• PIN 5557	100008076 7532	CARLSON M 501/12/19	RONALD IRVING 52 02/05/1983	N 1 DEM	L3485 320	OAKHURST RE 0 320.1	D #200-2 ACT	206 LA 13 66	ARGO 20	3377 5 5	74 94	1
• PIN	100004748	CORBETT F 508/22	EUNICE MURIEL 2/1960 01/26/1986	N 1 6 RE	.055 P/ P 214	ASADENA AVE 4 0 214.0	S #730 ACT	SOUTH F	PASADEI 69 22	NA 2. 7	33707 7	727
5558	3432											
• PIN	100006885 F	CREIGHTON 512/03/1964	MARJORIE 08/07/1982 REP	CLA 336	AIRE N 0	2150 E BA 336.1 A0	AY DR #21 CT 13	l2 LARG 67 20	O 5	33771 5		
• PIN	100007884	MORLOCK F5	JUDITH BEHREN 06/06/1968 09/2	IS N 22/1991	1230 REF	ORANGE TRE P 631 0	E CIR W 631.0	#C ACT	PALM HA 12 6	ARBOR 5 20	4	34684 4
5	556385											
• PIN	100009847	HAUCK F5	JOAN WRATTEN 02/16/1975 09/	N 14 29/1996	499 N N 6 RE	MCMULLEN BC P 608 0	OTH RD 608.1	#317 ACT	CLEARV 13 6	VATER 7 20	5	33759 5
• PIN	100011113	SCHALL M 509/27/1973	MICHAEL ROBERT 10/03/1994 RE	N 23 EP 22	316 3F 1 0	RD AVE N 221.0	ST PE ACT 14	TERSBUF 69 2	RG 22 7	33710 7		
• PIN	100019284 M 5	STEVENS 05/29/1958 11	JACK F N /15/1981 REP	2350 133 C	17TH A) 13	VEN S 3.0 ACT	ST PETERS 13 68	SBURG 22	337 7 7	04		
• PIN	100018713	TAYLOR M 506/21/1963	JAMES ROBERT I 06/21/1986 RE	N 16 EP 15	621 63 0 0	RD AVE N 150.0	ST PE ACT 13	TERSBUF 68 2	RG 22 6	33702 6	727	5557676

Voter Demographics Example

Florida's U.S. Congressional District 13

Political Party Breakdown:		Gender Breakdown:	
Republican Party =	35.7%	Male = 45.4%	
Democratic Party =	33.9%	Female = 53.1%	
Independent or NPA =	30.4%		
		Age Breakdown:	
Race Breakdown:		18 to 29 = 14.9%	
White, Not Hispanic =	84.9%	20 to 10 = 27.70	
Black, Not Hispanic =	4.8%	301049 = 27.7%	
Asian an Desifie Islanden	0 40/	50 to 69 = 37.3%	
Asian or Pacific Islander =	2.4%	70 and up = 19.7%	
Hispanic =	4.5%	16	
Other or Unknown =	3.4%		

Generating a Random Voter Sample

 Random MySQL selection of voters within district to be polled, pulling proportionally representative groups in geographically proportional amounts

INSERT INTO vicidial_list

(status,vendor_lead_code,source_id,list_id,phone_code,phone_number,title,first_name,middle _initial,last_name,address1,address2,address3,city,state,email,postal_code,country_code,gen der,date_of_birth,alt_phone,province,owner) SELECT

empty_7,flag,voter_id,'121105',phone_code,phone_number,party,first_name,middle_name,last _name,district_house,district_senate,county,empty_2,race,precinct,res_zip,voted,gender,birth_ date,district_school,district_county,district_congress from voters_list where flag

IN('V','R','7','M','A','N') and county='PIN' and precinct

IN('101.0','102.0','103.0','104.0','105.0','106.0','108.0','109.0','109.1','110.0','111.0','112.0','113.0', '114.0','115.0','116.0','117.0','118.0','119.0','120.0','120.1','121.0','122.0','123.0','125.0','125.0','12 6.0','127.0','128.0','128.1','129.0','130.0','131.0','132.0','133.0','134.0','135.0','136.0','137.0','138. 0','139.0','140.0','140.1','141.0','142.0','143.0','144.0','145.0','146.0','147.0','150.0','150.1','150.2' ,'151.0','152.0','153.0','153.1','154.0','155.1','156.0','157.0','161.1','162.1','165.1','200.0','201.0',' 202.0','203.1','204.0','205.0','211.0','213.0','215.0','216.0','217.0','219.0','219.1','220.0','220.1','2 21.0','221.1','221.2','222.0','223.0','224.0','225.0','226.0','227.0','228.0','228.1','229.0','230.0','23 1.0','232.0','233.0','234.0','235.0','236.0','237.1','239.0','240.0','241.0','275.0','275.1') and party! =" and gender IN('M','F') and race IN('1','2','3','4','5','6','7','9') and birth_date!='0000-00-00' and (lata_type='S') order by RAND() limit 60000;

Why Asterisk?

- We've been using it for 12 years for all kinds of projects
- Robust and very flexible telephony platform
- Our VICIdial software uses Asterisk as its telephony core
- Scalable by adding more Asterisk servers

How Does Asterisk Fit In?

- Calls are placed through Asterisk using VICIdial Open Source Contact Center Suite
- Inbound calls from select voter phone numbers
- Asterisk dialplan, AMI commands and AGI scripting log responses to database
- The IVR portion is Asterisk dialplan generated by VICIdial

St. Pete Polls System Stats

- 4 x Asterisk servers(quad-core CPU, 4GB RAM) (Asterisk 1.4.x, 1.8.x & 11.x)
- 1 x Database server(dual quad-core CPU, 16GB RAM, MegaRAID HW RAID w/ 4 x SSD drives)
- 1 x Web server for management and PHP applications
- OpenSIPS gateways for inbound and outbound call routing
- Blended SIP carrier capacity of over 6,000 lines
- Capable of placing over 320,000 calls per day

Web-Based Configuration Admin

	HOME Timeclock Loqout (6666)	<u>Change language</u>	Saturday October 10, 2015 7:19:15 AM							
		CORD: SRR 211 01 intro cod1								
	Menu ID: SPP 211 01 intro ccd1 ?									
Campaigns	Menu Name:	Name: SPP 211 01 intro cod1								
Lists	Admin User Group									
Quality Control	Menu Prompt	sin-silencelsin-silence SPP 211 01 intro codiv	audio chooser (2)							
Scripts	Monu Timoout:									
<u>Filters</u>	Manu Timeout	15								
<u>Inbound</u>	Prompt:	NONE	audio chooser (?)							
Show In-Groups	Menu Invalid Prompt:	SPP 001 11 invalid	audio chooser (?)							
Add A New In-Group	Menu Repeat	1 ?								
Copy In-Group	Menu Time Check	0 - No Time Check Y								
Show Email Groups	Call Time:	24hours - default 24 hours calling	2) Holidays defined for this call time: 0							
Add New Email Group Track Calls in Real-Time Report: 1 - Realtime Tracking ? ? Holidays defined for this call										
								Ohan DDa	Tracking Group:	CALLMENU
Add A New DID	Log Key Press: 1 - DTMF Logging Enabled V ? Log Field: security_phrase V ?									
		SUBMIT								
RA Extensions										
	Option: 1 v	Description:	Route: CALLMENU V ?							
Show Call Menus	Call Menu: si	P_211_02_ccd5	×							
Add A New Call Menu										
Copy Call Menu	Option: 2 V Description: Route: CALLMENU V ?									
Filter Phone Groups	Call Menu: SPP_211_02_ccd5									
Add Filter Phone Group	Add Filter Phone Group									
Add-Delete FPG Number	KOUTE: CALLMENU V									
User Groups		r_211_02_ccd5	· · · · · · · · · · · · · · · · · · ·							
Remote Agents		Description:								
Admin	audio chooser									
Reports	, luaio									

Multi-Level Political Polling

 Polling multiple races in single call with overlapping districts:
 (State Senate, State House)

(State Senate, State House, School Board, County Board, etc...)

- Conditional IVR steps based on voter record and random pick of voters for each race
- Most races we've had in a single poll: 64 (this amounted to no more than 6 races polled per voter)



How Many People to Call?

- Depends on the target population:
 - For example, you need to call only 1/3 as many "Primary Voting Republicans" as you do "All Voters" to get about the same number of complete surveys
- Absolute minimum of 300 complete responses to all questions, no matter the total voter population, to be statistically significant
- More responses = More accurate results
- We typically start with 20,000 to call
- For Florida statewide, we start with 120,000

Live Non-Weighted Results

WVICIdial Users Campaigns	<u>Lists Scripts Filters Inbound User Groups</u>	Remote Agents Admin Reports							
STPCCS15 - St Pete CC Gen Sept 9 2	2015 V SUMMARY V SUBCOUNTS N	NO V Filter: SUBMIT MODIFY							
List Survey Stats 2015-10-10 07:16:19 TOTALS () Total leads in lists right now: 41838 Total leads called: 41456 Total responses right now: 952 (2.30%)									
If the election were held today f	or City Council District 1, would you vote for I	Monica M. Abbott or Charlie Gerdes? 591 responses							
Abbott: 19.8%	Gerdes: 38.6%	Undecided: 41.6%							
If the election were held today for City Council District 5, would you vote for Philip Garrett or Steve Kornell? 591 responses									
Garrett: 22.2%	Kornell: 38.4%	Undecided: 39.4%							
If the election were held today for City Council District 7, would you vote for Winthrop Will Newton or Lisa Wheeler-Brown? 591 responses									
Newton: 33.7%	Wheeler-Brown: 36.5%	Undecided: 29.8%							
Are you familiar with the four proposed City Charter amendments that are going up for a vote? 591 responses									
Yes: 37.6%	No: 62.4%								
e le									

Scientific Weighting of Responses

SELECT use non latin, auto dial limit, user territories active, allow custom dialplan, callcard enabled, admin modify refresh, nocache admin, webroot writable, allow emails, hosted settings FROM system settings; |SELECT count(*) from vicidial users where user='6666' and user level > 7; |SELECT count(*) from vicidial users where user='6666' and user level > 6 and view reports > 0:| |SELECT count(*) from vicidial users where user='6666' and user level > 1 and gc enabled > 0:| select campaign id question.rank from vicidial poll questions order by campaign id,rank; select vpp id,vpp name from vicidial poll percentages order by vpp id; **VICI**dial Users Campaigns Lists Scripts Filters Inbound User Groups Remote Agents Admin Reports 18: 19991009 - 30: 19851009 - 50: 19651009 - 70: 19451009 - 130: 18851009 W party: checked - W race: checked - W gender: checked - W age: checked STPCCS15 - 3 - If the election were held today for City Council District 7, would you vote for Winthrop Will Newton or Lisa Wheeler-Brown? 2015 STPETE ACTIVE VOTERS - 2015 STPETE ACTIVE VOTERS v WEIGHTING: Party Race Gender Age SUMMARY Filter: SUBMIT Poll Question Stats 2015-10-09 07:54:54TOTALS select list id from vicidial lists where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where list id IN('121105'); select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where list id IN('121105'); select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where list id IN('121105'); select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; select count(*) from vicidial list where campaign id='STPCCS15' order by list id; Total leads in lists right now: 41838 Total leads called: 41456 Total responses right now: 952 (2.30%) SELECT question, qualifier, options, list field from vicidial poll questions where campaign id='STPCCS15' and rank='3'; If the election were held today for City Council District 7, would you vote for Winthrop Will Newton or Lisa Wheeler-Brown? - select count(*) from vicidial list where status NOT IN('HIDE') and q03 IN('1') and list id IN('121105') ; select 1%Y%m%d'),q03 from vicidial_list where status NOT IN('HIDE') and ((q03 IN('1')) or (q03 IN('2')) or (q03 IN('3'))) and list_id IN('121105'); SELECT race_asian,race_black,race_white,race_hispanic,race_other,age_70,age_50,age_30,age If the election were held today for City Council District 7, would you vote for Winthrop Will Newton or Lisa Wheeler-Brown? responses: 591 (± 4.031% at 95% confidence level) Newton: 33.672% Wheeler-Brown: 36.548% Undecided: 29.780% Debug scientific counts; 591(199 216 176 0 0 0 0 0) - 589.11014250638(197.46923702233 213.37229751204 178.26860797202 0 0 0 0 0) weight factors: 4 POLITICAL PARTY -(266+52|318 - 190+0|190) Democrat: 318 | 53.80710660% | -5.447680253078 | 0.89875537643056 Republican: 190 | 32.14890017% | 2.309044857722 | 1.071823447941 Independent: 83 | 14.04399323% | 3.138635395356 | 1.2234859661319 RACE -Asian: 6 | 1.01522843% | 0.1223033787598 | 1.1204688276507 Black: 119 | 20.13536379% | -2.646022884356 | 0.86858827523791 White: 452 | 76.48054146% | 0.991273029627 | 1.0129611141697 Hispanic: 2 | 0.33840948% | 1.5153460602012 | 5.4778475478914 Other: 12 | 2.03045685% | 0.0171004057677 | 1.0084219498522 GENDER -Female: 358 | 60.57529611% | -5.904674764848 | 0.90252338586797 Male: 233 | 39.42470389% | 5.137894064128 | 1.1303216906451 AGE -18 - 29: 10 | 1.69204738% | 2.436771777209 | 2.4401321183576 30 - 49: 80 | 13.53637902% | 6.544849177307 | 1.483500732924 50 - 69: 292 | 49.40778342% | -0.783775600522 | 0.98413659657914 70 and up: 209 | 35.36379019% | -8.710155986525 | 0.75369845992956 WEIGHTED PERCENTAGES: Newton: 33.520% Wheeler-Brown: 36.219% Undecided: 30.261%

Poll Results vs. Election Results

 2014 General Election: (GREEN = predicted winner)

RACE	LAST POLL DATE	SAMPLE	POLL GAP	ELECT-GAP	DIFF	UNDECIDED	MoE	POLL WINNER	ELECTION WINNER
Governor	2014-11-02	1834	0.0	1.2	1.2	2.7	2.3	Tie	Scott
Amend 2	2014-11-02	1834	9.9	15.1	5.2	2.4	2.3	No	No
SD-34	2014-10-29	994	1.3	4.2	2.9	3.1	3.1	Sachs	Sachs
SD-22	2014-10-29	822	9.1	15.4	6.3	3.5	3.4	Brandes	Brandes
HD-21	2014-09-11	552	16.7	16.5	0.2	7.9	4.2	Perry	Perry
HD-29	2014-10-28	324	23.4	13.6	9.8	6.2	5.4	Plakon	Plakon
HD-30	2014-10-28	306	10.8	2.8	8.0	2.4	5.6	Cortes	Cortes
HD-36	2014-09-11	487	7.4	8.8	1.4	6.8	4.4	Murphy	Murphy
HD-47	2014-10-28	331	10.0	3.9	6.1	3.4	5.4	Miller	Miller
HD-49	2014-10-28	323	12.8	1.9	10.9	4.6	5.5	Plasencia	Plasencia
HD-59	2014-10-14	426	23.1	16.5	6.6	9.0	4.7	Spano	Spano
HD-63	2014-10-28	413	12.4	5.2	7.2	6.0	4.8	Harrison	Harrison
HD-65	2014-10-28	508	12.9	4.8	8.1	3.5	4.3	Sprowls	Sprowls
HD-67	2014-09-11	507	8.0	6.2	1.8	12.6	4,4	Latvala	Latvala
HD-68	2014-10-28	451	5.1	6.0	0.9	2.7	4.6	Dudley	Dudley
HD-69	2014-09-11	601	11.6	15.4	3.8	9.4	4.0	Peters	Peters
HD-89	2014-10-28	402	12.4	5.0	7.6	3.0	4.9	Hager	Hager
HD-112	2014-10-28	264	8.8	1.9	10.7	7.8	6.0	Leyva	Rodriguez
HD-115	2014-09-11	316	15.2	17.2	2.0	7.8	5.5	Bileca	Bileca
PIN-CCd2	2014-10-24	3089	1.1	2.5	1.4	6.9	1.8	Gerard	Gerard
PIN-GL-ref	2014-10-24	3089	12.2	23.7	11.5	1.8	1.8	No	No
PIN-Gov	2014-10-24	3089	10.8	11.2	0.4	1.2	1.8	Crist	Crist

Accuracy, Anomalies and Outliers

- Check language of voters, if over 20% different, then offer prompts in that language, or target that population with that language
- Low sample size = Low accuracy
- Some results from a poll are dead-on, yet another race on same poll could be way off
 - November 2014 in Pinellas County, Florida:
 - Very large sample size over 3,000 respondents
 - 2 races very accurate (0.4% and 1.4% off actual results)
 - 1 race much further off (11.5%)

How is Trump Ahead in the Polls?

- Understand the demographics of who is polled:
 - "Primary Voting Republicans" make up only 23% of all voters. That is the only group being polled.
 - If Donald Trump gets 26% support in that poll, that translates into 5.98% out of all voters.
 - "Primary Voting Republicans", in Florida, are overwhelmingly older and white:
 - 80% over the age of 50 and 88% white
 - "All Voters", in Florida, are much more diverse:
 - 52% over the age of 50 and 65% white

Differences From Traditional Pollsters

- We only contact known registered voters
- We only auto-dial (and random number autodialing is illegal), although software does allow for manual dialing, and some of our VICIdial clients are traditional pollsters
- We craft our dialing lists based upon:
 - Estimated response rate per demographic
 - Geographically proportional demographics
 - Voter history (depending on type of poll)

Changes Going Forward

- National trend of continuing reduction in response rate to all kinds of surveys
- Some success adding email responses to make up for skewed demographics of land-line telephone users
- Shrinking contact list as more people change to cellphones every day
- TCPA = Past Oct. 15th, 2013,
 CAN'T CALL CELLPHONES

TCPA

(Telephone Consumer Protection Act of 1991)

- Creates rules for calling or texting cell phones
- "Auto-dialers" can't call cellphones without permission
 - "Auto-dialer" defined as a machine with ability to:
 - Store a phone number
 - Place a phone call
 - FCC changed from "implicit permission" to "express permission" October 16th 2013
- New FCC ruling published summer 2015 makes calls to cellphones by anyone even tougher

Other Applications

 Inbound community polling with live results

 brought to you by:

 STPETE.org

 St. Pete Pier Vote
 About
 Contact
 Subscribe to Email

Which direction do you think the city should go for the future of the St. Petersburg Pier?

1. Demolish Only - Demolish the existing pier and leave the waterfront without any pier structure.

Call (727) 944-1044 to vote!

2. Refurbish Existing - Refurbish the existing pier structure and call for redesign options.

3. Vote on Recent Designs - Demolish the current pier and vote on the recent design submissions like the Wave, the Lens and the Eye.

 Call for New Designs - Demolish the existing pier and call for brand new design options to be voted on.

4. Call for New Designs Demolish the existing pier and call for brand new design options to be voted on.



Vote on your Pier's Future, Dial: (727) 944-1044

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15-07-29 10:10:02 (XXX)XXX-X584: Refurbish the existing pier 2015-07-29 10:10:02 (XXX)XXX-X634: Refurbish the existing pier 2015-07-29 10:

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Thank You!

- For more information, go to:
- http://www.stpetepolls.org
- http://www.vicidial.org
- http://www.votestpete.org
- http://www.vicidial.com
- http://www.vicihost.com