

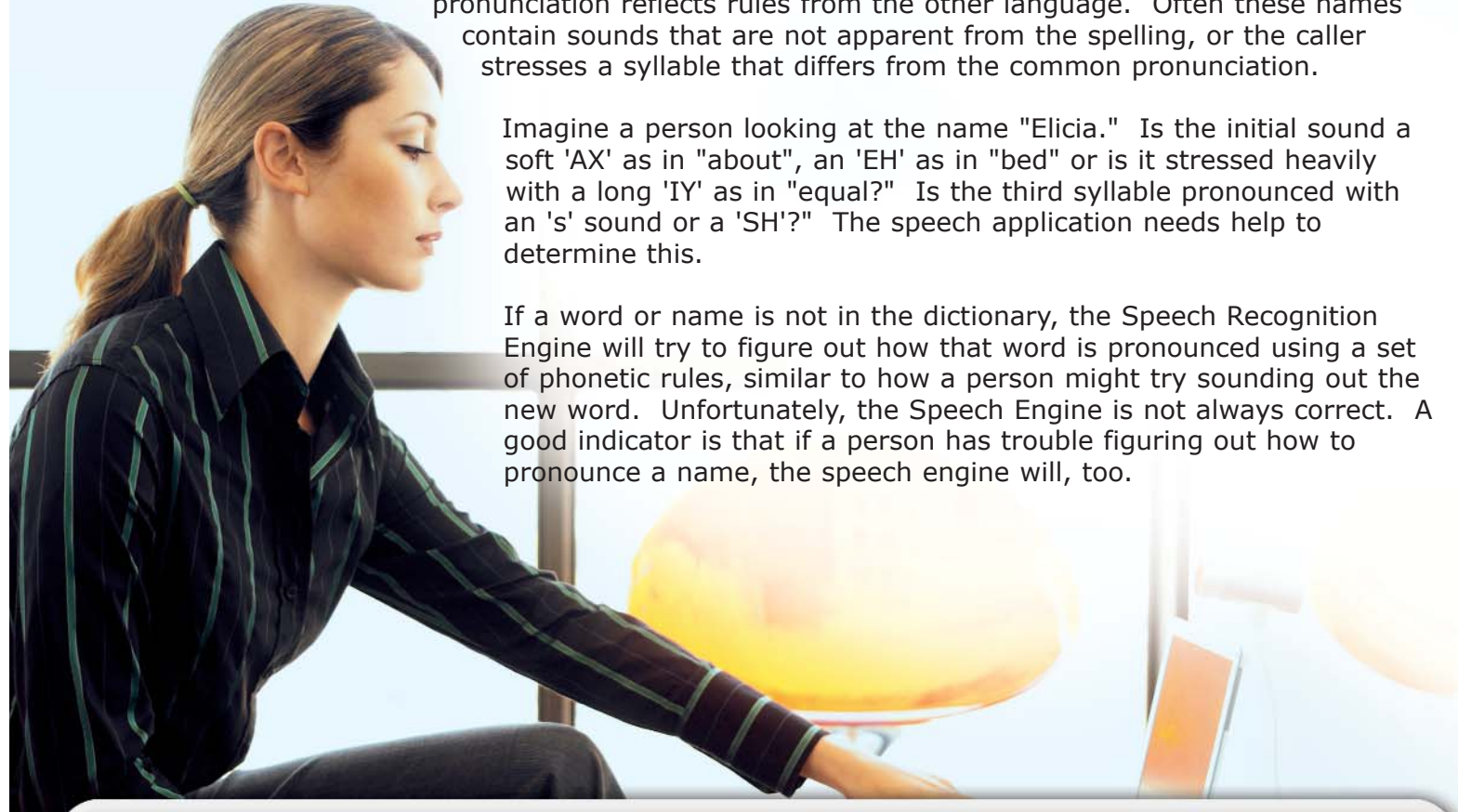
# Alternate Pronunciations

One of the most useful speech applications today is the front-end call router, however, it's also one of the most challenging applications because the system must recognize names.

Sometimes names are derived from languages other than English, and the pronunciation reflects rules from the other language. Often these names contain sounds that are not apparent from the spelling, or the caller stresses a syllable that differs from the common pronunciation.

Imagine a person looking at the name "Elicia." Is the initial sound a soft 'AX' as in "about", an 'EH' as in "bed" or is it stressed heavily with a long 'IY' as in "equal?" Is the third syllable pronounced with an 's' sound or a 'SH'?" The speech application needs help to determine this.

If a word or name is not in the dictionary, the Speech Recognition Engine will try to figure out how that word is pronounced using a set of phonetic rules, similar to how a person might try sounding out the new word. Unfortunately, the Speech Engine is not always correct. A good indicator is that if a person has trouble figuring out how to pronounce a name, the speech engine will, too.



## Phonemes

The unit of sound the recognition engine actually recognizes is the phoneme. All phrase formats are ultimately translated into phonetic spellings for decoding. These phonetic spellings can be directly entered if surrounded by curly braces.

The phonetic alphabet used by the American English language model is below.

Phoneme	Example 1	Phonetic Spelling 1	Example 2	Phonetic Spelling 2
<b>Vowels</b>				
AA	barn	B AA R N	top	T AA P
AE	bat	B AE T	crab	K R AE B
AH	what	W AH T	cut	K AH T
AO	more	M AO R	auto	AO T OW
AW	cow	C AW	house	HH AW S
AX	about	AX B AW T	dial	D AY AX L
AXR	butter	B AH DX AXR	career	K AXR IH R
AY	type	T AY P	life	K AY F
EH	check	CH EH K	mess	M EH S
ER	church	CH ER CH	bird	B ER D
EY	take	T EY K	hall	HH EY L
IH	little	L IH DX AX L	rib	R IH B
IX	action	AE K SH IX N	women	W IH M IX N
IY	team	T IY M	keep	K IY P
OW	loan	L OW N	robe	R OW B
OY	hoist	H OY S T	joy	JH OY
UH	book	B UH K	look	L UH K
UW	flew	F L UW	who	HH UW
<b>Consonants</b>				
B	web	W EH B	bear	B EH R
CH	chair	CH EY R	statue	S T AE CH UW
D	reed	R IY D	dark	D AA R K
DH	with	W IH DH	other	AH DH ER
DX	forty	F AO R DX IY	butter	B AH DX AXR
F	four	F AO R	graph	G R AE F
G	peg	P EH G	exam	IH G Z AE M
HH	halt	HH AO L T	Jose	HH OW Z EY
JH	cage	K EY JH	Jack	JH AE K
K	coin	K OY N	back	B AE K
L	late	L EY T	really	R IH L IY
M	lemon	L EH M AH N	mail	M EY L
N	night	N AY T	any	EH N IY
NG	ring	R IH NG	ankle	AE NG K AH L
P	pay	P EY	beep	B IY P
R	rest	R EH S T	prior	P R AY ER
S	sit	S IH T	bass	B AE S
SH	blush	B L AH SH	sure	SH UH R
T	raft	R AE F T	taped	Y EY F T
TH	three	TH R IY	youth	Y UW TH
V	van	V AE N	river	R IH V AXR
W	swap	S W AA P	wing	W IH NG
Y	yes	Y EH S	year	Y IY R
Z	arms	AA R M Z	blaze	B L EY Z
ZH	Asian	EY ZH AH N	genre	ZH AA N R AH

## Steps for Developing a Smooth Call Router:

- 1 Figure out who the incoming callers are.** Are they strangers, people who know the employees, or a combination of both? In other words, will the callers know how to pronounce the name correctly, or will other likely pronunciations need to be added? Do the callers refer to employees by first or last name only, and are they familiar enough to know people's nicknames?
- 2 Find out what the Speech Engine thinks is the correct pronunciation, or whether other pronunciations are needed.** You can use the Phonetic Speller located in the Speech Platform to see how the Speech Engine determines the pronunciations of the names, without having to run the Speech Engine itself.
- 3 Add the new pronunciations for names into the grammar.** Here's an illustration of this process: The name "Paty" (pronounced "Patty") is not a common spelling and is not in the Speech Engine's dictionary. When typing it into the Phonetic Speller, the system returns 'P EY DX IY' which sounds something like "Paydee", instead of the correct 'P AE DX IY'. To add a new pronunciation, the phonemes will need to be made within a set of curly braces. Adding a colon followed by the true spelling of the name helps readability, so it's a good idea to include it. The final entry of {P AE DX IY: Paty} as an alternative pronunciation should help the system's performance, since now callers who say "Patty" will be more likely to be recognized, instead of the incorrect {P EY DX IY}.

**Considering alternate pronunciations and spellings at the outset will help avoid errors and frustration later!**