

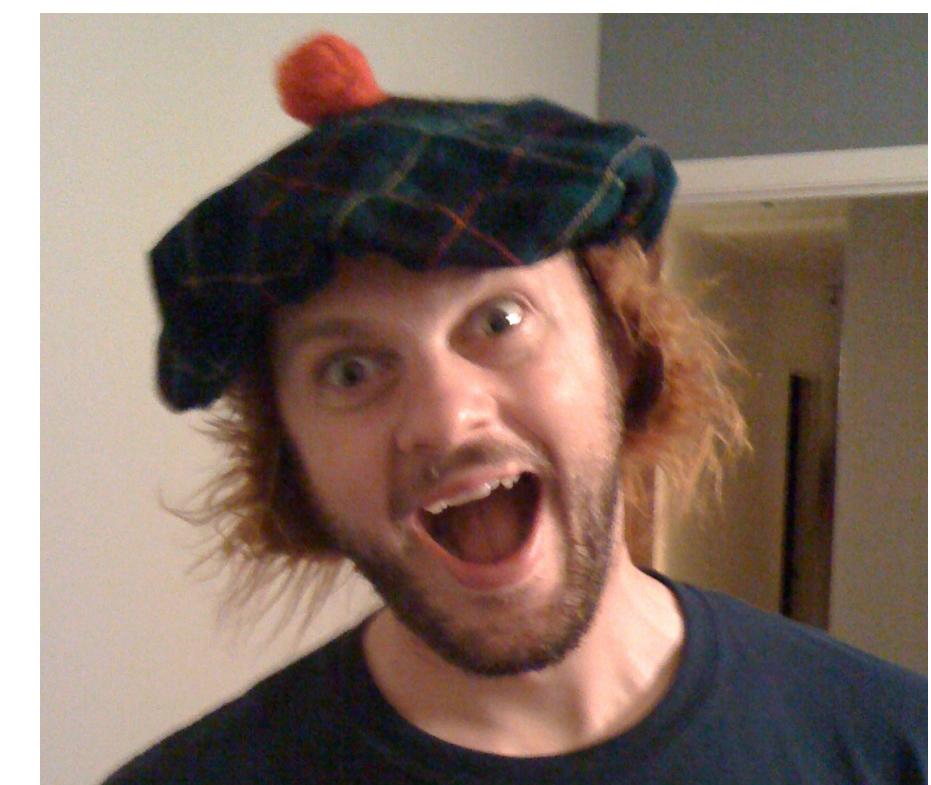
Keyboard layout as part of language documentation: the case of the Me'phaa and Chinantec keyboards

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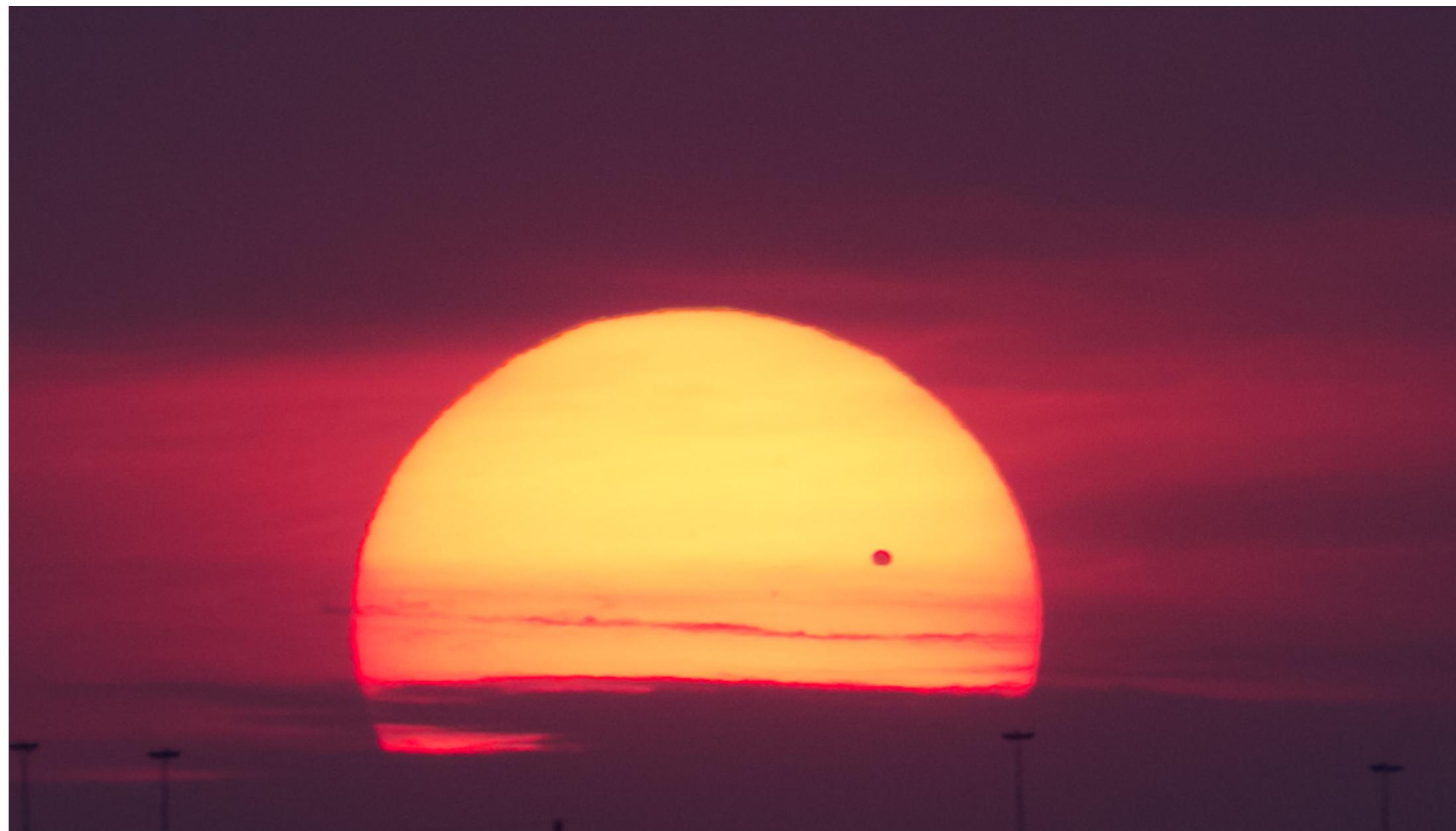
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<http://bit.ly/KZ2yZM>

The Right Tools?





The Right Tools



Polarized Sun-Glasses

What does this have to do with Language Endangerment?

- What is the effect we want to have on the speakers of an endangered language?

Keyboards

What is the Design Process?

What is the User Experience?



Mephāa
[tcf],[tpx],[tpl],[tpc]

Sochiapam
Chinantec [cs]

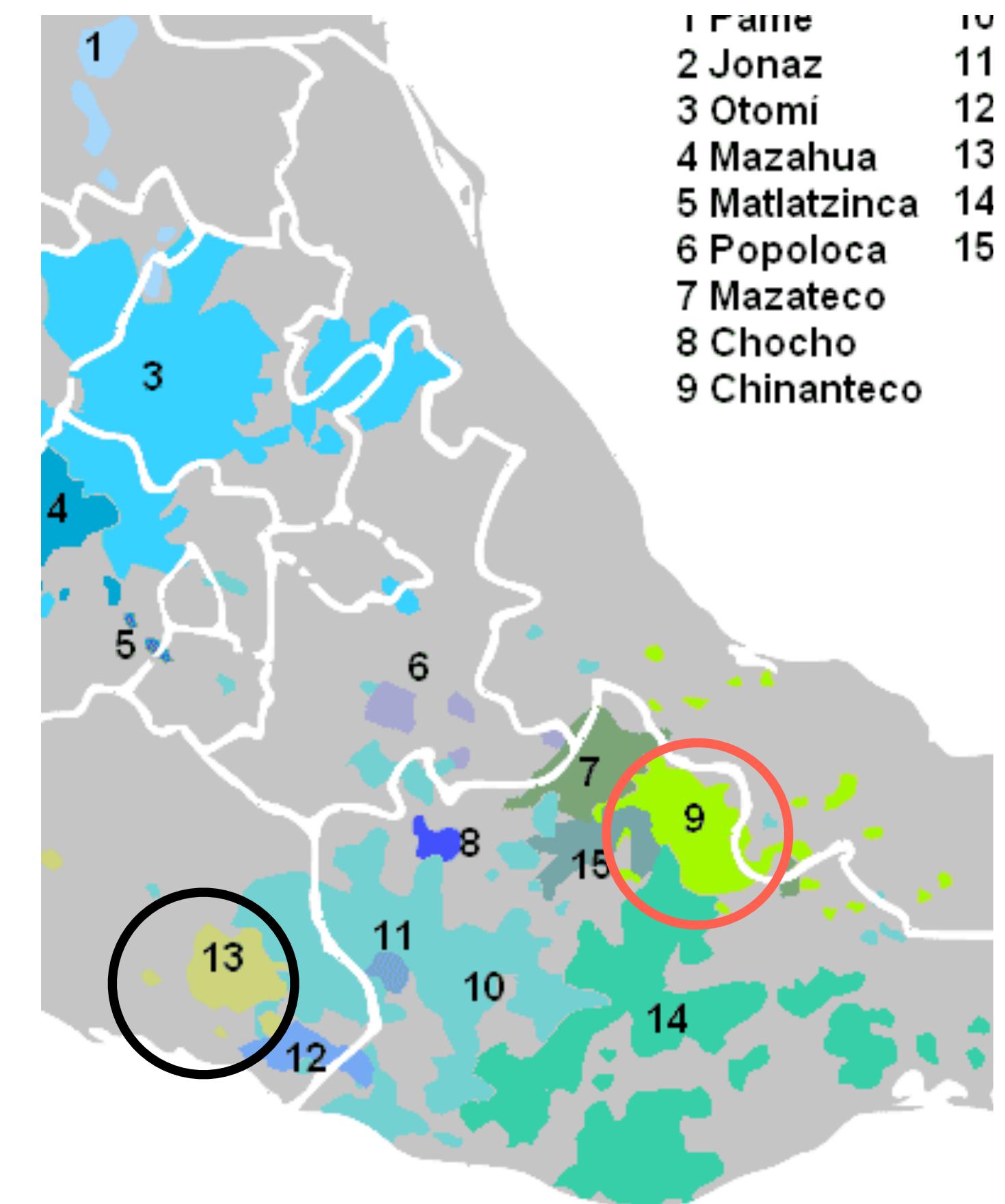


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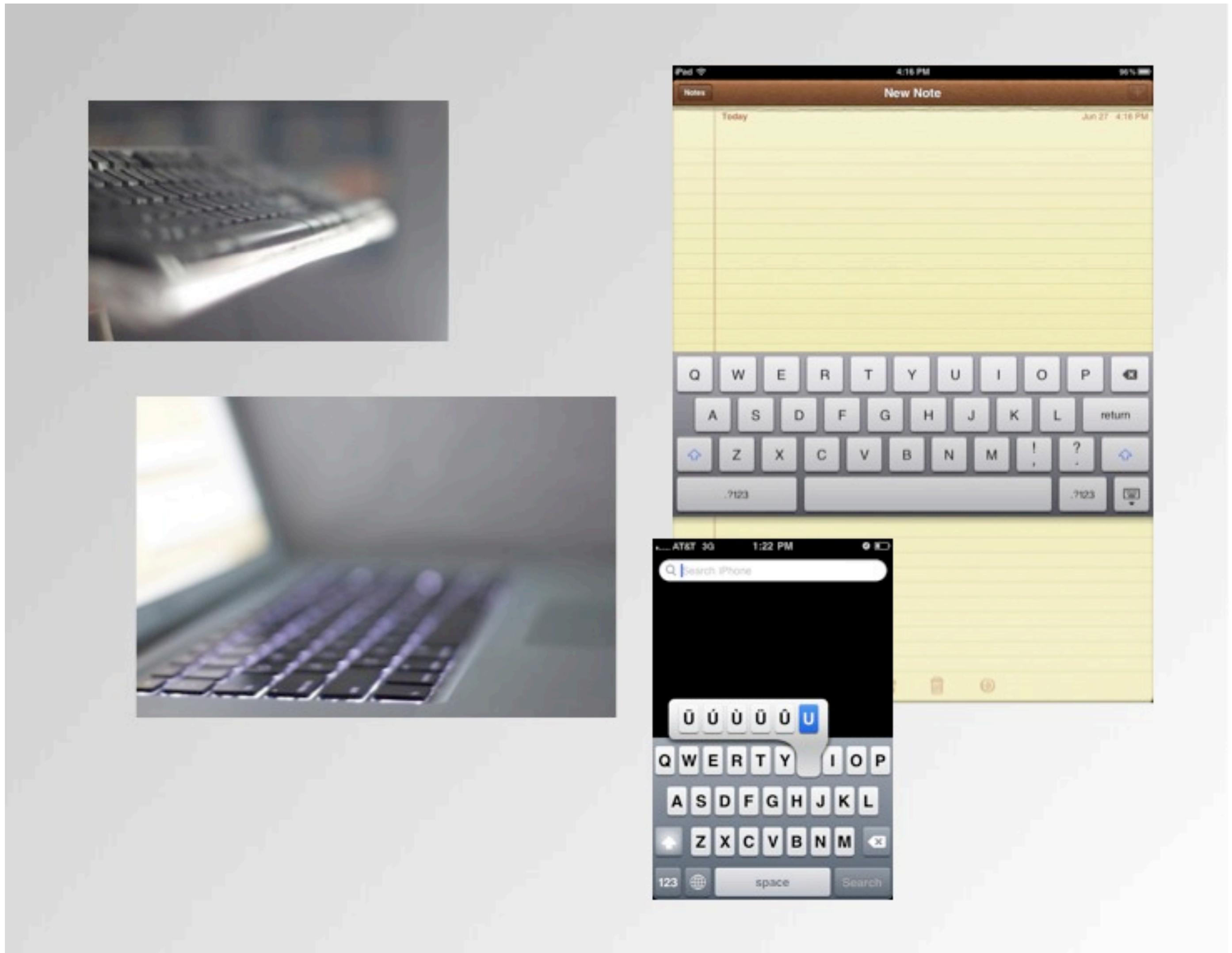
Sample Me'phaa Text

A nguin', tsáan' ninimba'la' juyaá Jesús, gajuma'la' rí phú gagi juwala' ído rí nanújngala' awúun mba'a inii gajmá. Numuu nduyaá mála' rí ído rí na'nga'la' inuu gajmá, nasngájma ne rí gakon rí jañii akian'la' juyaá Ana'ló', jamí na'ne ne rí mawajún gúkuála'. Indoó má' gí'maa rí mawajún gúkuála' xúgíí mbi'i, kajngó majráan'la' jamí ma'ne rí jañii akian'la', asndo rí náxá'yoo nitháan rí ja'yoo manindxá'la'. [Iyii' rí ni'tháán Santiágo 1:2-4]

Sample Sochiapam Chinantec Text

Hnoh² reh², ma³hiún¹³ hnoh² honh² li³ua³ cáun² hi³ quiunh³² náh², quí¹ la³ cun³ hi³ má²ca³li³ ñíh¹ hnoh² jáun² hi³ t̄³ jlánh¹ bíh¹ re² lí²t̄n² tsú² hi³ jmu³ juenh² tsí³, mí¹juáh³ zia³² hi³ cá² lau²³ ca³t̄²¹ hi³ taunh³² tsú² jáun² ta²¹. Hi³ jáun² né³, chá¹ hnoh² cáun² honh², hi³ jáun² lí¹³ li³t̄n² hnoh² re² hi³ jmúh¹³ náh² juenh² honh², hi³ jáun² hnoh² lí¹³ lí³n³ náh² tsá² má²hún¹ tsí³, tsá² má²ca³hiá² ca³táunh³ ca³la³ tán¹ hián² cu³tí³, la³ cun³ tsá² tiá² hi³ li³hniauh²³ hí¹ cáun² ñí¹con² yáh³. [Jacobo Jmu² Cáun² Sí² Hi³ Ca³t̄n¹ Tsá² *Judíos, Tsá² Má²tiáunh¹ Ñí¹ Hliáun³ 1:2-4]

A bit about Keyboards



Levels of Interface

- Visual
- Tactile
- Software
- Feed-back (output)



The Keyboards

ANSI QWERTY



Spanish ISO

The Keyboards

ANSI QWERTY



Spanish ISO

The Keyboards

ANSI QWERTY



Spanish ISO

The Keyboards

Me'phaa



Sochiapam Chinantec

Design

- Makes a product useful
- Makes a product understandable
- Is unobtrusive
- Is thorough down to the last detail

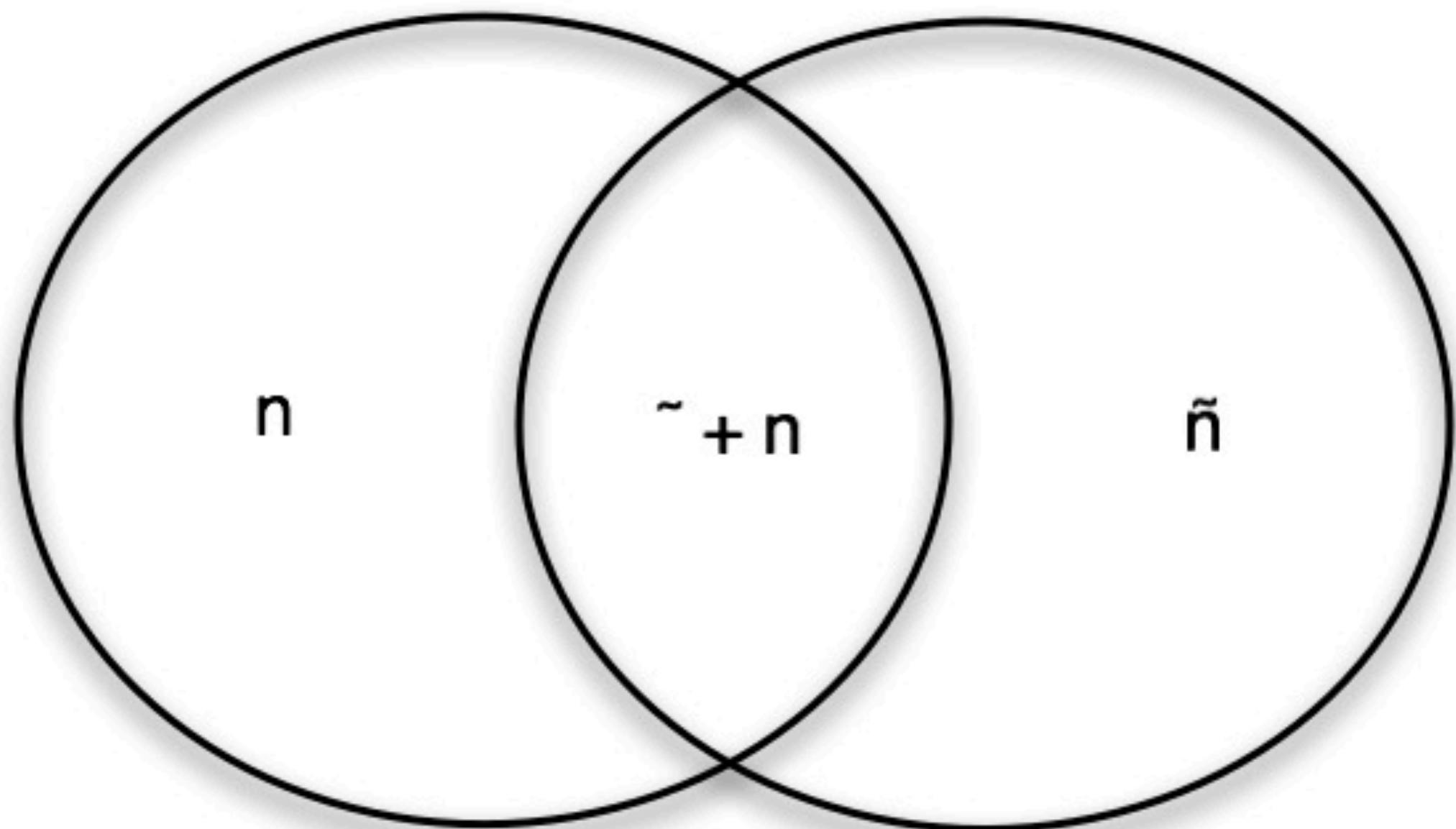
Useful vs. Usable

- the right characters in the base state
- Keys in the right places
- Related to the layout of the majority language
- Dead key feed back

This is an example of an accent ' 

Understandable?

- Visual correspondence between input and output
- The same behavior across operating systems
 - Use of Vendor keys
 - Parallels in character composition
 $\langle \tilde{n}, ', \dot{t} / \acute{a} \rangle$



How do speakers conceptualize the graphical element
and relate it back to the sound it represents?

- < ' > is used in Spanish for stress
- < ' > is used in Chinantec for stress
- < ' > is used in Melpaahaa for tone

The conceptual construction of a Character

í	í + -	í + - + '
LATIN SMALL LETTER I WITH STROKE U+0268	LATIN SMALL LETTER I WITH ACUTE U +00ED	LATIN SMALL LETTER DOTLESS I U+0131
	COMBINING SHORT STROKE OVERLAY U+0335	COMBINING SHORT STROKE OVERLAY U+0335
		COMBINING ACUTE ACCENT U+0301

Base State



“Back to normal dead key”



Shift State



Stress Dead Key



Unobtrusive

- Limitations of MSKLC
 - Keyman
 - InKey

Text Statistics							
<i>Me'phaa</i>		<i>Sochiapam Chinantec</i>		<i>Spanish</i>		<i>English</i>	
<i>Character Count</i>	<i>Word Count</i>						
16618	2856	20416	4506	9611	2165	10432	2575
Keystrokes	20588	Keystrokes	27515	Keystrokes	12715	Keystrokes	13575
<i>Keystroke to character Efficiency</i>	80.72%	<i>Keystroke to character Efficiency</i>	74.20%	<i>Keystroke to character Efficiency</i>	75.59%	<i>Keystroke to character Efficiency</i>	76.85%

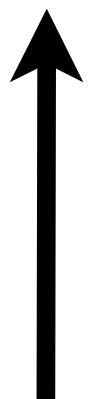


Sochiapam
Chinantec
Sample Text



Sochiapam Chinantec Full Text

Sochiapam
Chinantec
Sample Text





Me'phaa
Sample Text





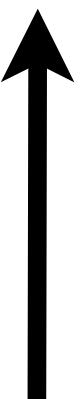
Me'phaa
Sample Text



Me'phaa
Full Text

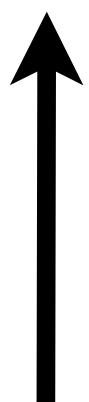


Spanish
Sample Text

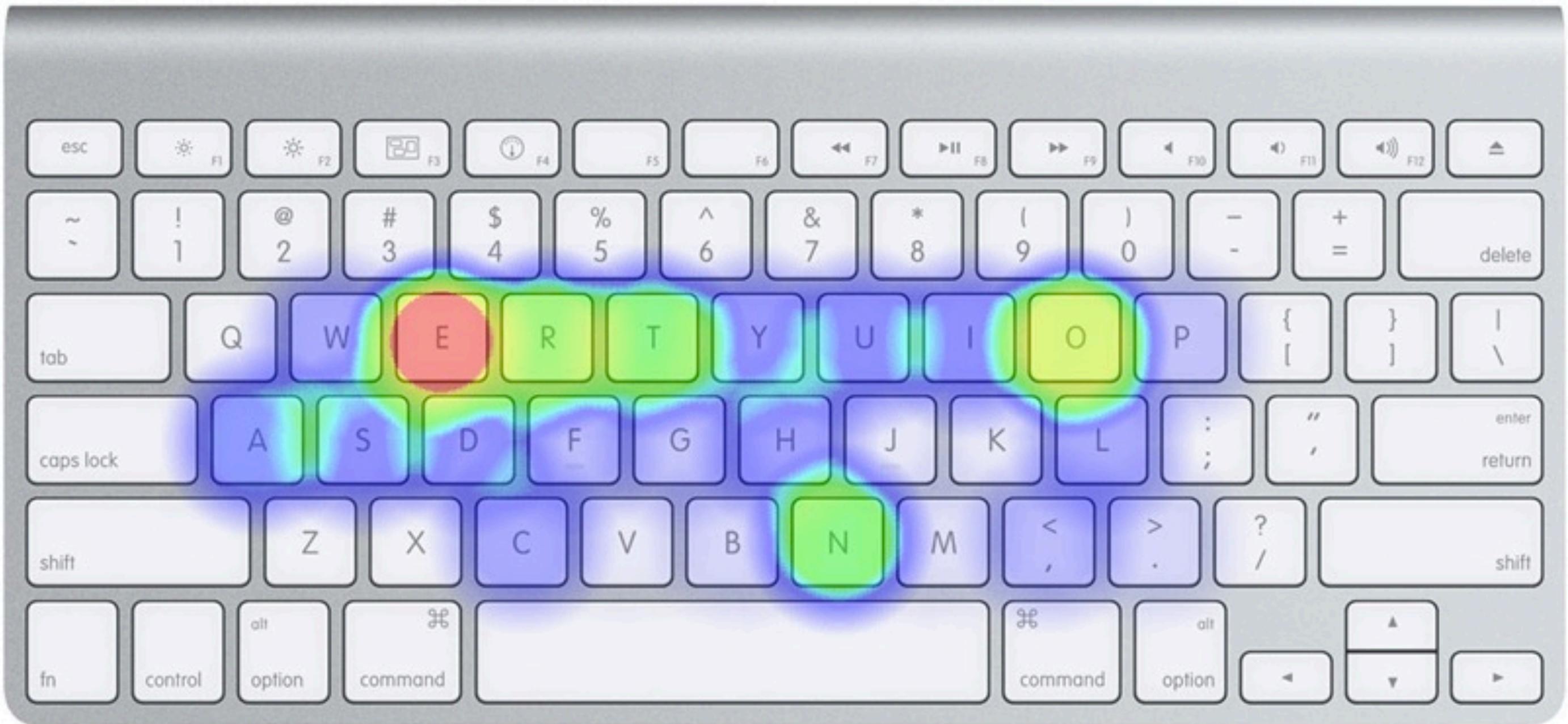




Spanish
Sample Text



Spanish
Full Text

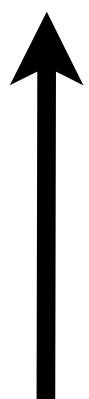


English -
QWERTY
Sample Text





English -
QWERTY
Sample Text



English - QWERTY Full Text

