

#### **Questionnaire**

(The correct answer for the experimental group is marked in red)

Question starts: intro

Q0 Hello, thank you for participating in my survey on evaluating speech synthesis features. The purpose of this survey is to explore the effects of synthesizing a variety of speech features, including emphasis and speech rate adjustment, and to evaluate their performance in Chinese, English, and Spanish. Please note that you do not need to be fluent in Spanish, just answer the questions based on your intuition. Your feedback is very important for me to better evaluate this speech synthesis technology. I look forward to hearing from you!

您好,感谢您参与我的语音合成特征评估调查。本调查旨在探索包括强调、语速调整等多种语音 特征的合成效果,并评估它们在中文、英文和西班牙语中的表现。请注意,您无需精通西班牙语, 只需根据您的直觉回答相关问题即可。您的每一项反馈对我来说都非常重要,有助于我更好地评 估这项语音合成技术。期待您的真实感受和宝贵意见!

**Question ends: intro** 

**Question starts: chinese-1-emphasis** 

Q1 Which part of the sentence do you think is emphasized? 您认为句子中的哪部分是强调的?

- 今天下午我有 (This afternoon I have) (1)
- 两个小时的英语课 (English class for two hours) (2)
- 和两个小时的汉语课 (and then two hours of Chinese) (3)

**Question ends: chinese-1-emphasis** 

**Question starts: chinese-1-normal** 



**Question ends: chinese-2-normal** 

Q2 Which part of the sentence do you think is emphasized?

您认为句子中的哪部分是强调的?
○ 今天下午我有 (This afternoon I have) (1)
○ 两个小时的英语课 (English class for two hours) (2)
○ 和两个小时的汉语课 (and then two hours of Chinese) (3)
Question ends: chinese-1-normal
Question starts: chinese-2-slow
Q3 Which part of the sentence do you think is spoken more slowly? 您认为句子中的哪部分是语速放慢的?
○ 他看起来 (He looks like) (1)
○ 像个运动员 (a sportsman) (2)
○ 但是其实 (but) (3)
○ 是个作家 (he is a writer) (4)
Question ends: chinese-2-slow
Question starts: chinese-2-normal
Q4 Which part of the sentence do you think is spoken more slowly? 您认为句子中的哪部分是语速放慢的?
○ 他看起来 (He looks like) (1)
○ 像个运动员 (a sportsman) (2)
○ 但是其实 (but) (3)
○ 是个作家 (he is a writer) (4)



Question starts: chinese-3-mix Q5-1 Which part of the sentence do you think is emphasized? 您认为句子中的哪部分是强调的? ○ 我宁愿呆在家里 (I'd rather stay home) (1) ○ 也不要 (than) (2) ○ 在这种天气 (in this weather) (3) 〇 中出门 (go out) (4) Q5-2 Which part of the sentence do you think is spoken more slowly? 您认为句子中的哪部分是语速放慢的? ○ 我宁愿呆在家里 (I'd rather stay home) (1) ○ 也不要 (than) (2) ○ 在这种天气 (in this weather) (3) 〇 中出门 (go out) (4)

Question starts: chinese-3-normal

Question ends: chinese-3-mix



## Q6-1 Which part of the sentence do you think is emphasized? 您认为句子中的哪部分是强调的?

〇 我宁愿呆在家里 (I'd rather stay home) (1)
○ 也不要 (than) (2)
○ 在这种天气 (in this weather) (3)
〇中出门 (go out) (4)
Q6-2 Which part of the sentence do you think is spoken more slowly? 您认为句子中的哪部分是语速放慢的?
〇 我宁愿呆在家里 (I'd rather stay home) (1)
〇 也不要 (than) (2)
○ 在这种天气 (in this weather) (3)
〇 中出门 (go out) (4)
Question ends: chinese-3-normal
Question starts: chinese-4-synthesis

## qualtrics<sup>™</sup>

07-1 Do you think this speech sounds natural? 您认为这个语音听起来自然吗?
○ 5 Excellent 优秀 (1)
○ 4 Good 良好 (2)
○ 3 Fair 一般 (3)
○ 2 Poor 较差 (4)
○ 1 Bad 差 (5)
07-2 <b>Do you think this speech sounds clear?</b> 您认为这个语音听起来清晰吗?
○ 5 Excellent 优秀 (1)
○ 4 Good 良好 (2)
○ 3 Fair 一般 (3)
○ 2 Poor 较差 (4)
○ 1 Bad 差 (5)
Question ends: chinese-4-synthesis
Question starts: chinese-4-gt

# qualtrics<sup>™</sup>

Question starts: english-1-emphasis

Q8-1 Do you think this speech sounds natural? 您认为这个语音听起来自然吗?	
○ 5 Excellent 优秀 (1)	
○ 4 Good 良好 (2)	
○ 3 Fair 一般 (3)	
○ 2 Poor 较差 (4)	
〇 1 Bad 差 (5)	
Q8-2 <b>Do you think this speech sounds clear?</b> 您认为这个语音听起来清晰吗?	
○ 5 Excellent 优秀 (1)	
○ 4 Good 良好 (2)	
○ 3 Fair 一般 (3)	
○ 2 Poor 较差 (4)	
〇 1 Bad 差 (5)	
Question ends: chinese-4-gt	



Q9 Which part of the sentence do you think is emphasized? 您认为句子中的哪部分是强调的?
○ This fairy tale (1)
is easy enough for (2)
a seven year old child (3)
O to read (4)
Question ends: english-1-emphasis
Question starts: english-1-normal
Q10 Which part of the sentence do you think is emphasized? 您认为句子中的哪部分是强调的?
O This fairy tale (1)
is easy enough for (2)
O a seven year old child (3)
O to read (4)
Question ends: english-1-normal
Question starts: english-2-slow
Q11 Which part of the sentence do you think is spoken more slowly? 您认为句子中的哪部分是语速放慢的?
○ This fairy tale (1)
is easy enough for (2)
a seven year old child (3)
to read (4)



Question ends: english-2-slow **Question starts: english-2-normal** Q12 Which part of the sentence do you think is spoken more slowly? 您认为句子中的哪部分是语速放慢的? This fairy tale (1) is easy enough for (2) a seven year old child (3) to read (4) **Question ends: english-2-normal Question starts: english-3-mix** Q13-2 Which part of the sentence do you think is emphasized? 您认为句子中的哪部分是强调的? Ocold and dry (1) splendid sunshine (2) what beautiful winter weather (3) Q13-2 Which part of the sentence do you think is spoken more slowly? 您认为句子中的哪部分是语速放慢的? Ocold and dry (1) splendid sunshine (2) what beautiful winter weather (3) **Question ends: english-3-mix** 



**Question starts: english-3-normal** 

Q14-1 Which part of the sentence do you think is emphasized? 您认为句子中的哪部分是强调的?
○ Cold and dry (1)
O splendid sunshine (2)
O what beautiful winter weather (3)
Q14-2 Which part of the sentence do you think is spoken more slowly? 您认为句子中的哪部分是语速放慢的?
○ Cold and dry (1)
O splendid sunshine (2)
O what beautiful winter weather (3)
Question ends: english-3-normal
Question starts: english-4-synthesis
Q15-1 <b>Do you think this speech sounds natural?</b> 您认为这个语音听起来自然吗?
○ 5 Excellent 优秀 (1)
○ 4 Good 良好 (2)
○ 3 Fair 一般 (3)
○ 2 Poor 较差 (4)
〇 1 Bad 差 (5)



Q15-2 <b>Do you think this speech sounds clear?</b> 您认为这个语音听起来清晰吗?
○ 5 Excellent 优秀 (1)
○ 4 Good 良好 (2)
○ 3 Fair 一般 (3)
○ 2 Poor 较差 (4)
〇 1 Bad 差 (5)
Question ends: english-4-synthesis
Question ends. english-4-synthesis
Question starts: english-4-gt
Question starts: english-4-gt Q16-1 Do you think this speech sounds natural?
Question starts: english-4-gt Q16-1 Do you think this speech sounds natural? 您认为这个语音听起来自然吗?
Question starts: english-4-gt Q16-1 Do you think this speech sounds natural? 您认为这个语音听起来自然吗?  ⑤ 5 Excellent 优秀(1)
Question starts: english-4-gt Q16-1 Do you think this speech sounds natural? 您认为这个语音听起来自然吗?  ○ 5 Excellent 优秀(1) ○ 4 Good 良好(2)



Q16-2 Do you think this speech sounds clear?

### 您认为这个语音听起来清晰吗? ○ 5 Excellent 优秀 (1) O 4 Good 良好 (2) ○ 3 Fair 一般 (3) ○ 2 Poor 较差 (4) ○ 1 Bad 差 (5) Question ends: english-4-gt **Question starts: spanish-synthesis** Q17-1 Do you think this speech sounds natural? 您认为这个语音听起来自然吗? ○ 5 Excellent 优秀 (1) O 4 Good 良好 (2) ○ 3 Fair 一般 (3) ○ 2 Poor 较差 (4) ○ 1 Bad 差 (5)



您认为这个语音听起来清晰吗?

Q17-2 Do you think this speech sounds clear?

○ 5 Excellent 优秀 (1)
○ 4 Good 良好 (2)
〇 3 Fair 一般 (3)
○ 2 Poor 较差 (4)
〇 1 Bad 差 (5)
Question ends: spanish-synthesis
Question starts: spanish-gt
Q18-1 <b>Do you think this speech sounds natural?</b> 您认为这个语音听起来自然吗?
○ 5 Excellent 优秀 (1)
○ 4 Good 良好 (2)
○ 3 Fair 一般 (3)
○ 2 Poor 较差 (4)
〇 1 Bad 差 (5)



#### Q18-2 **Do you think this speech sounds clear?** 您认为这个语音听起来清晰吗?

- 5 Excellent 优秀 (1)
- 〇 4 Good 良好 (2)
- 〇 3 Fair 一般 (3)
- 2 Poor 较差 (4)
- 〇 1 Bad 差 (5)

Question ends: spanish-gt