Lighting Control based on Colors Associated with Lyrics at Bar Positions

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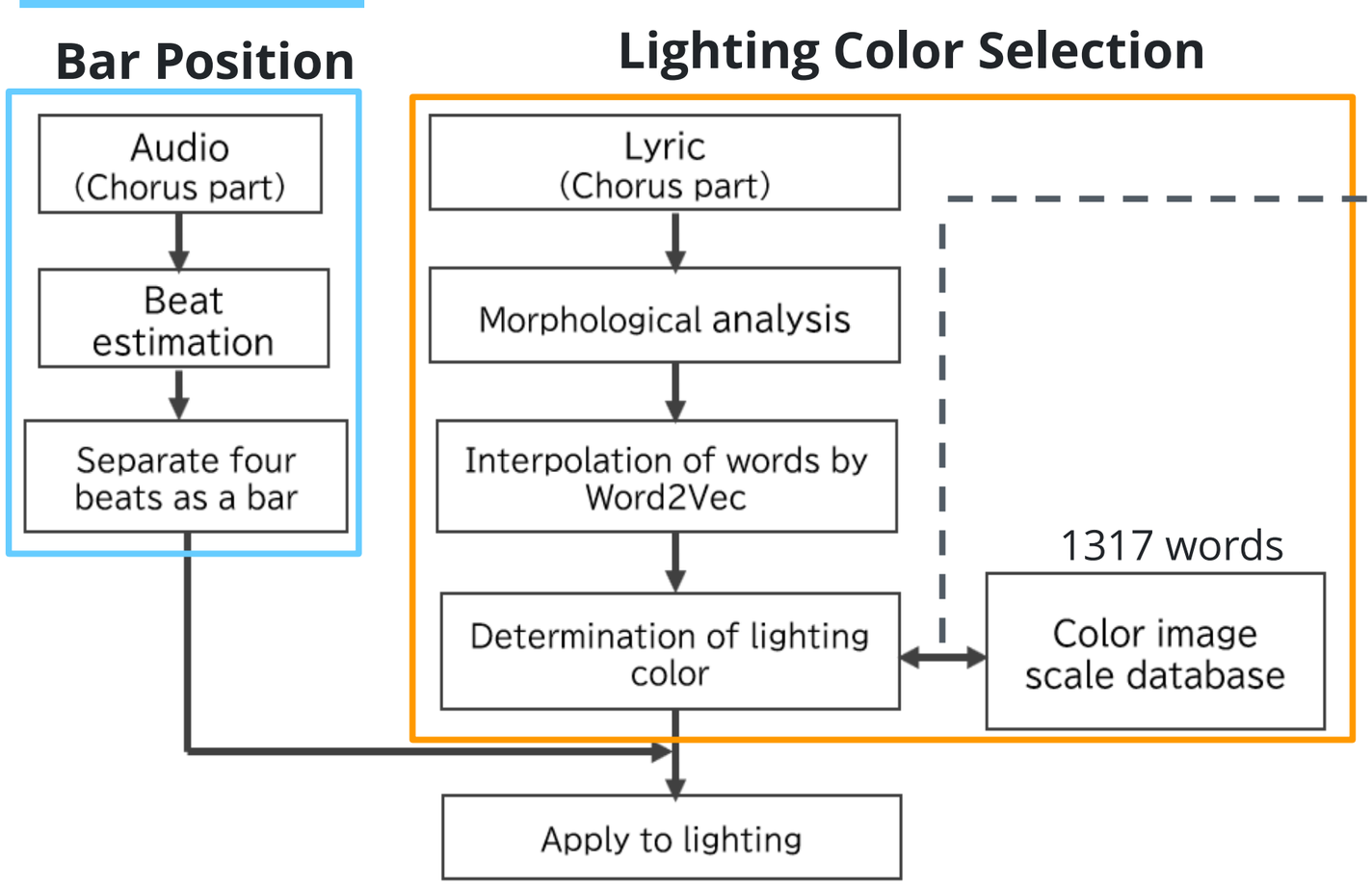
Summary

Our system control lighting by improving semantic and temporal harmony

- To provide users with more realistic listening experiences at home by changing light colors to match the music
- **Nouns and adjectives from lyrics are complemented** based on word2vec [Mikolov 2013] and the word in the **color image scale**
- Change the lighting color at the **timing of each bar** by beat estimation

Method



Results & Demo

Example of "CHE.R.RY (Artist: YUI)"

Difference in complemented words

Japanese/ English	Conventional [Kanno 2022]	Proposal
Koi / Love	Uiuishii / Innocent	Kataomoi /one-sided love
Hoshi / Star	Mabushii / Dazzling	Ginga / Galaxy
Yoru / Night	Christmas	
Negai / Wish	Toutoi / Precious	
Cherry / Cherry	Suppai / Sour	Cherry
Yubisaki / Fingertip	Surudoi / Sharp	
Kimi / You	Ureshii / Happy	
Message / Message	Ureshii / Happy	Message

Switching time [s] from the previous word to the next word

Japanese/ English	Conventional [Kanno 2022]	Proposal
Koi / Love	-	-
Hoshi / Star	7.428	6.594
Yoru / Night	1.005	
Negai /Wish	0.814	
Cherry / Cherry	2.673	4.389
Yubisaki / Fingertip	1.144	
Kimi / You	1.162	
Message / Message	0.06	2.206

Containing many words on the color image scale is important to improve **semantic harmony**.

Our method improved **the temporal harmony**

Example of lighting color

Future Works

- Validation of the proposed method by subjective evaluation
- We improve complementation by words with opposite meanings

e.g. **kanashimi /sadness** was complemented with **yorokobi /happiness**.
→ words appearing in the same context