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# Interface for Looking Back TV Dramas on Twitter

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# Introduction

- Wide spread of SNSs
  - Twitter, Facebook, Instagram, etc.
  - One of the most important social infrastructures for information acquisition and communication
  - Used for a variety of purposes



# Social Viewing

- Way to watch TV programs with many other people using SNS
  - Major platform: Twitter
- Many comments and discussions on TV programs are posted on Twitter, during they are being broadcast

## Live tweets

- Why do users post live tweets?
  - To share emotions with others
  - To share opinions with others
- Types of TV programs suitable for social viewing
  - TV dramas
  - Sports



# How to utilize live tweets posted on TV dramas?

- How to find live tweets on the target TV drama
  - Hashtag
  - Title of the TV drama
- Usage types of live tweets
  1. to read TV dramas in real time while they are being broadcast
  2. to read live tweets after the broadcast is over to look back
- This study focuses on the use of live tweets to look back on TV dramas.

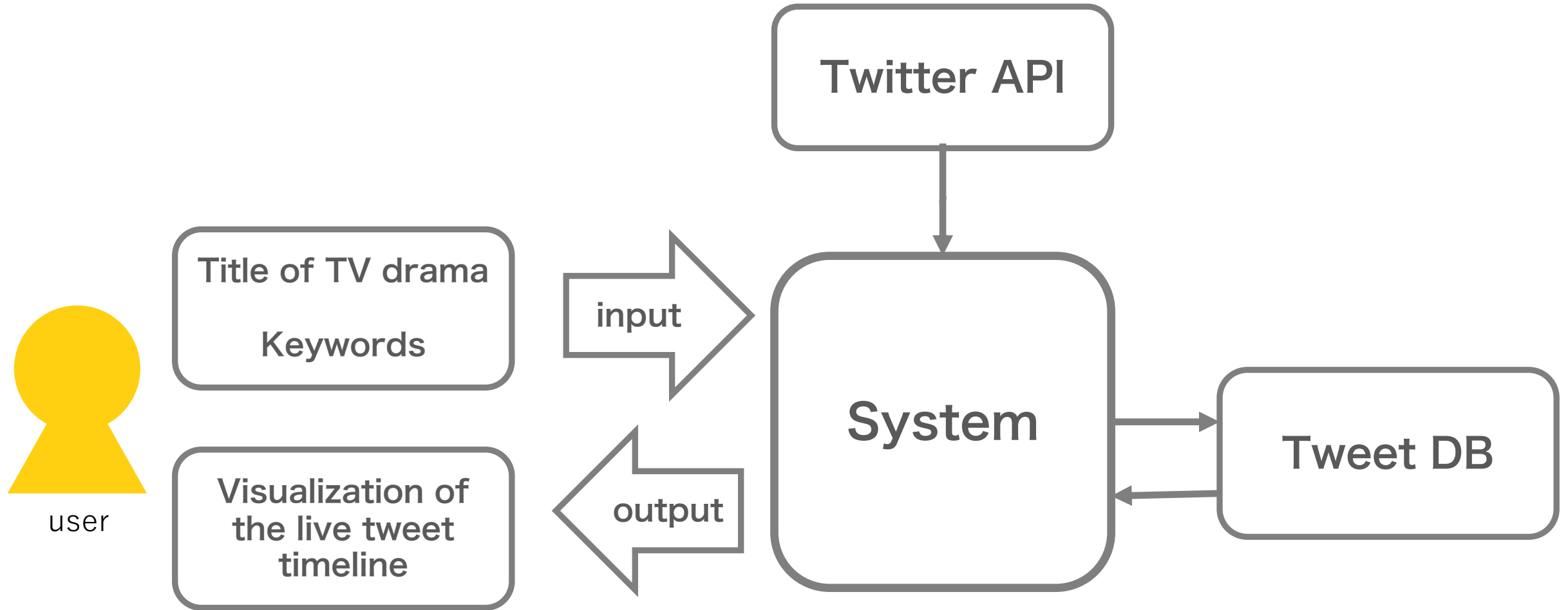
# Problems

- Problems using the Twitter search function to look back on TV dramas
  1. Searching using hashtag
    - With so many tweets in the series, finding the part about the scene that the user is interested in can be a burden.
  2. Searching using hashtag and keyword
    - Due to the limited number of characters on Twitter, concise posts may be made and information about the context may be omitted
    - A post may be about a topic of interest to the user even if it does not include the keywords specified by the user

# Purpose & Contribution

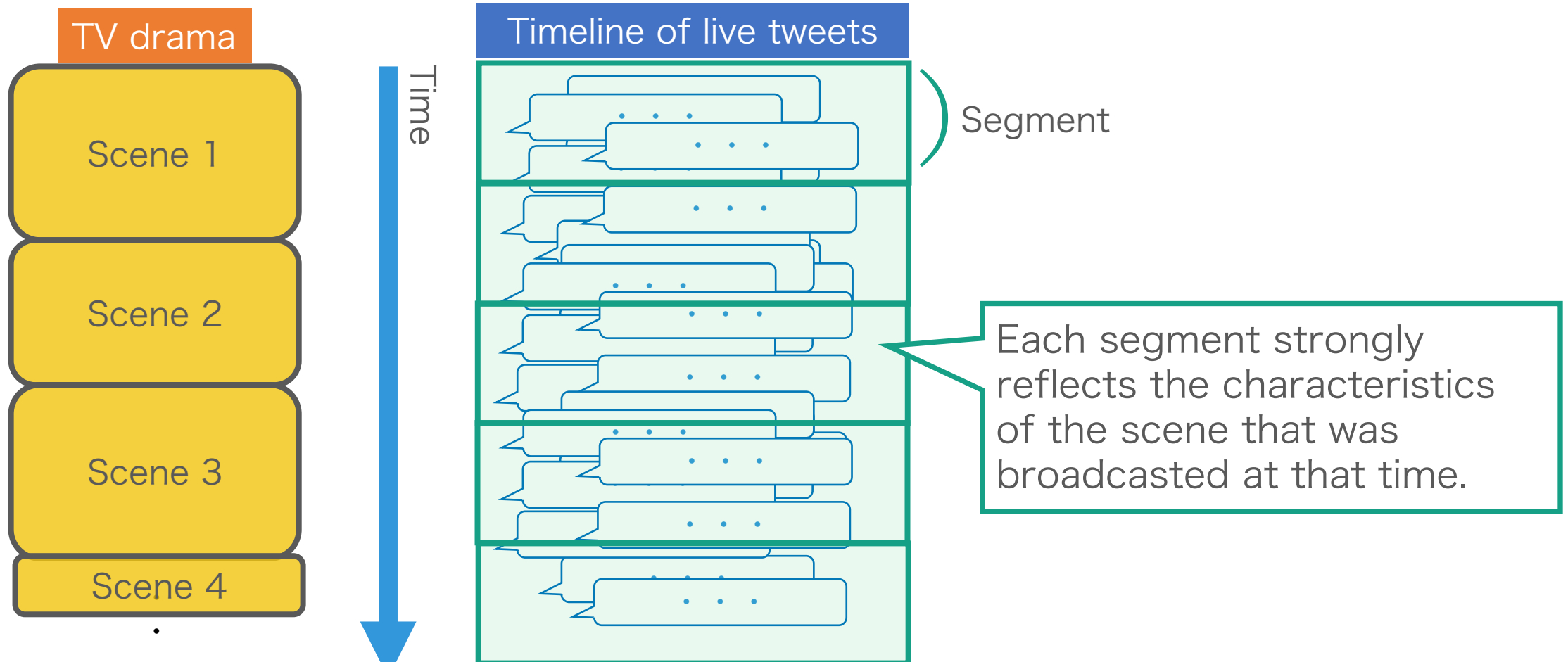
- Purpose
  - Development of a live tweet search interface suitable for looking back TV dramas
- Contributions
  - Proposal of a new tweet search interface suitable for reviewing TV dramas
  - Development of a live tweet visualization method suitable for reviewing TV dramas
  - Evaluation of the effectiveness of the proposed interface through an evaluation experiment using a prototype system

# Overview of the proposed system



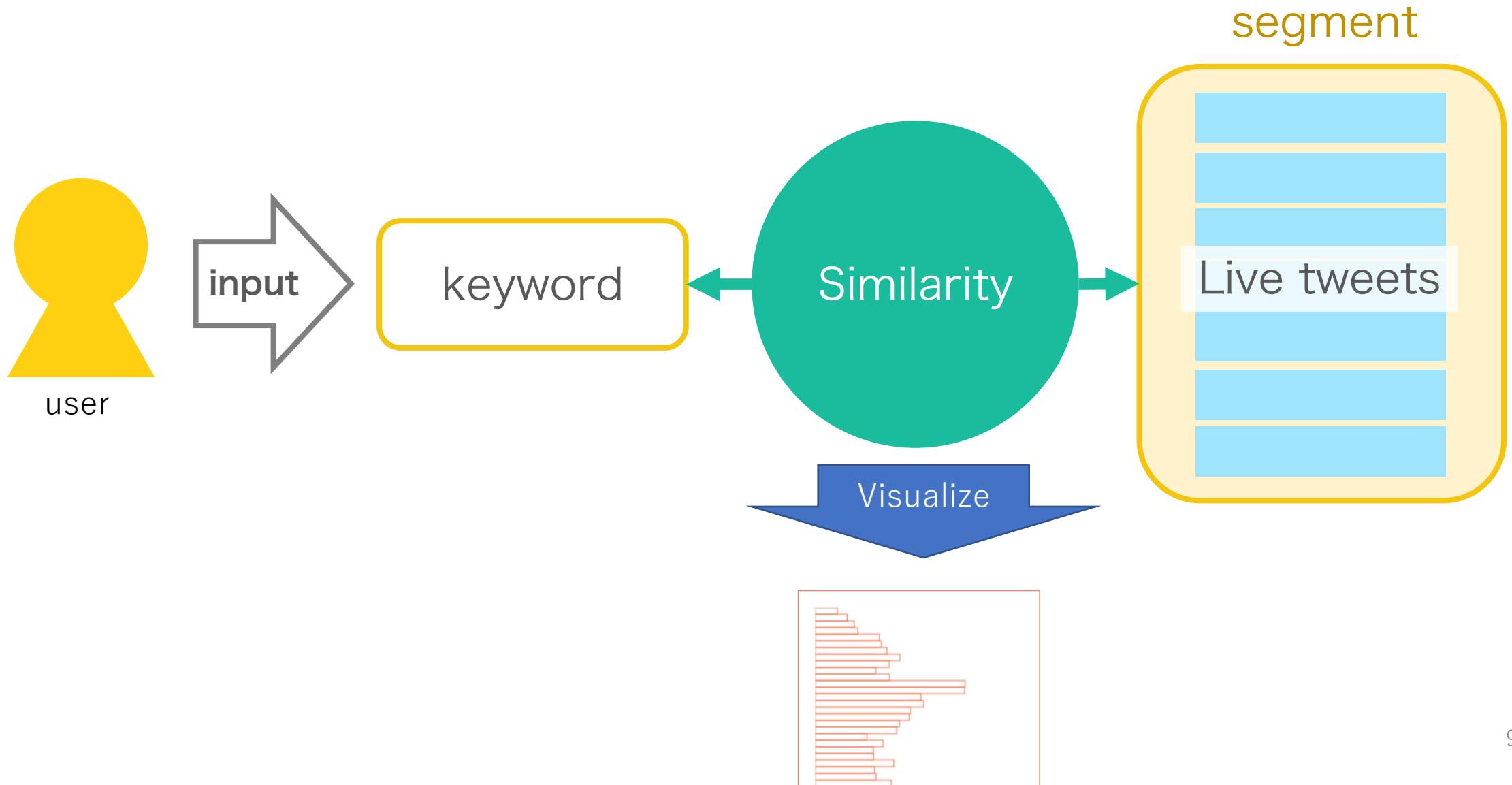
# Modeling the timeline of live tweets

Dividing the timeline of live tweets into segments with a unit time interval (1 minute)

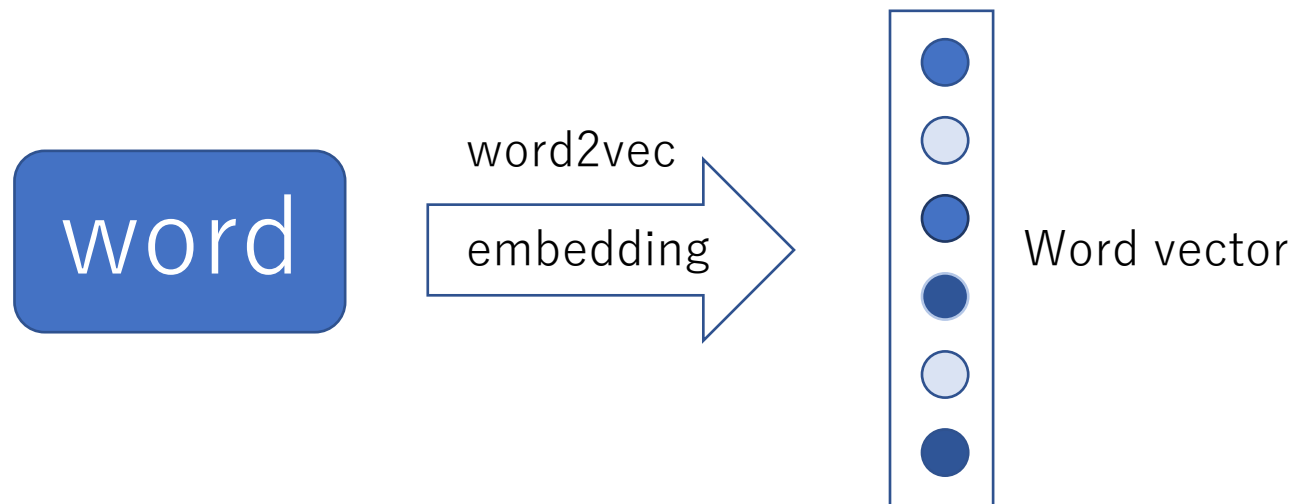
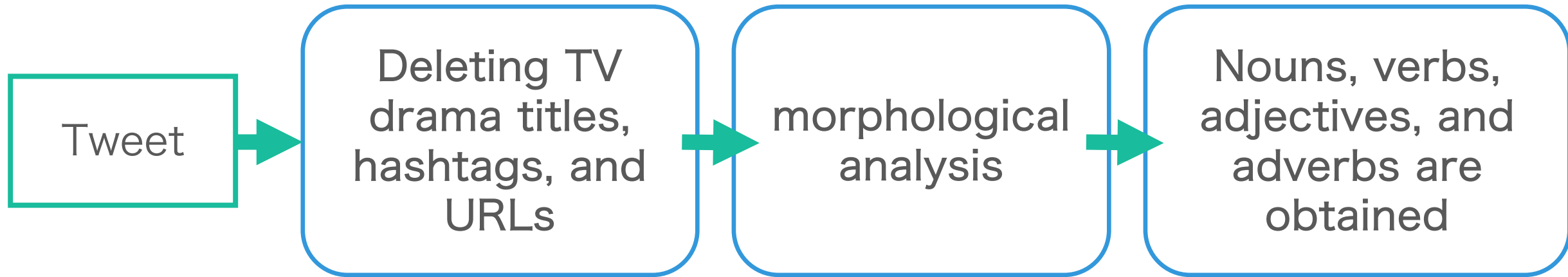




# Similarity between keyword and segment

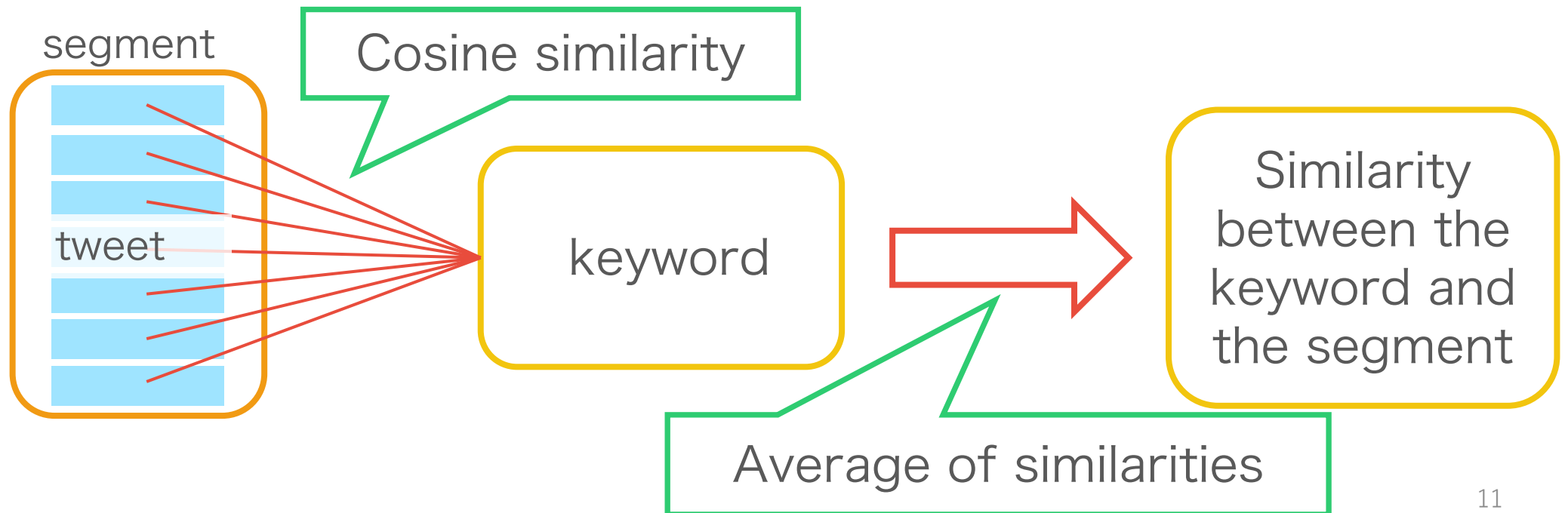


# Preprocessing of tweets



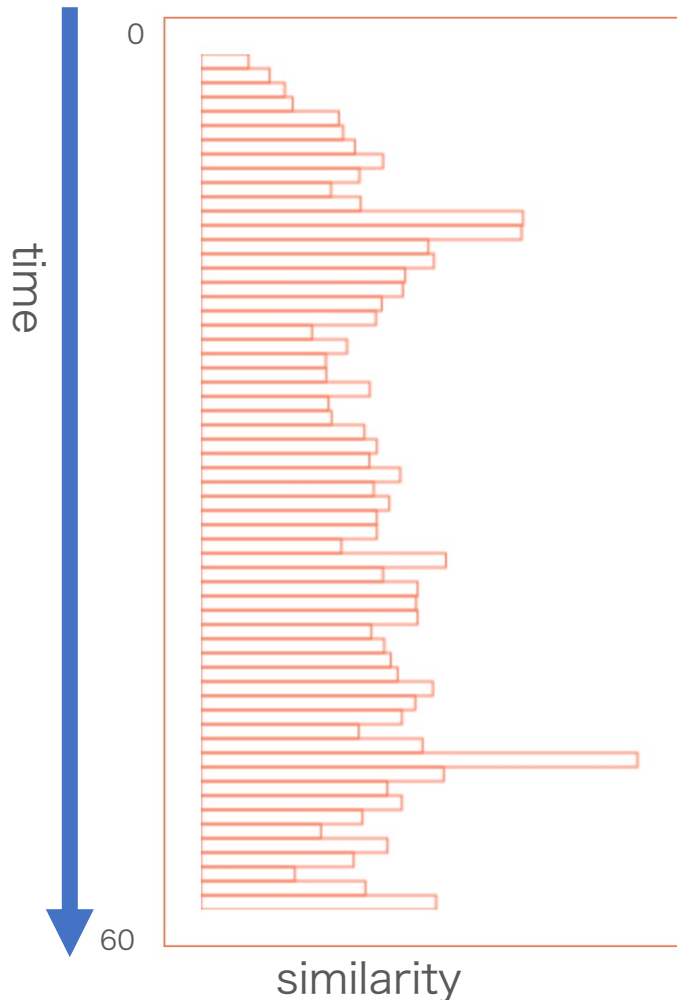
## Similarity between keyword and segment

$$\text{sim}_1(q, S_i) = \frac{1}{|S_i|} \sum_{t \in S} \text{sim}_t(q, t)$$



# Visualization of the timeline

**Keyword: cool**



- Each bar represents the degree to which the keywords entered by the user are related to the segment.
- The high similarity part of the diagram indicates that there are many posts related to the topic the user is interested in, so by looking at the diagram, the user can intuitively know which part to focus on.

# System prototype

## ドラマ振り返りサーチ

ドラマのタイトルを選択して  
振り返りたいシーンの特徴を入力してください。

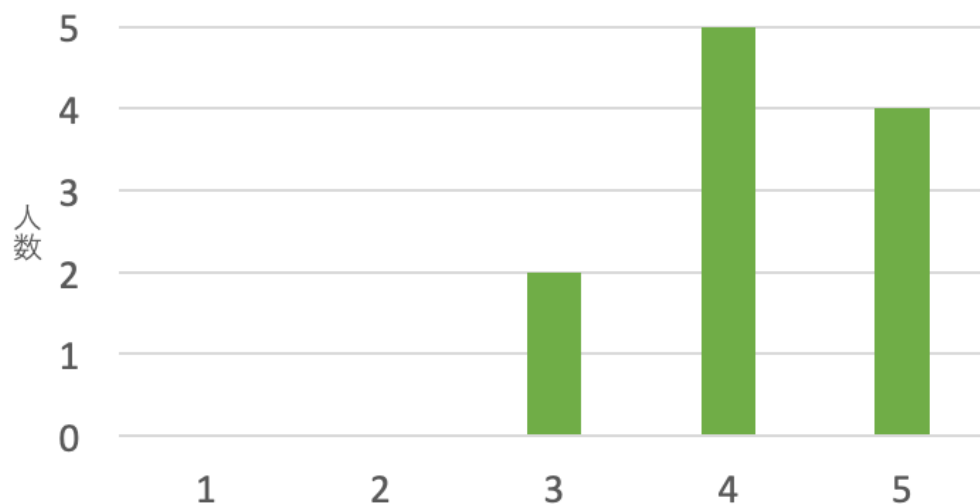
ドラマのタイトル  
グランメゾン東京 第11話

キーワード

検索

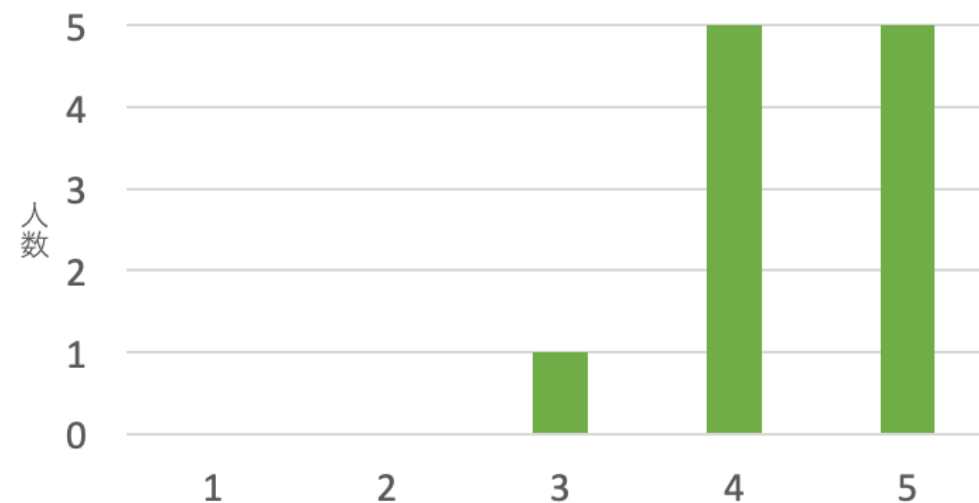
# User Study

Q1: Do you think the graph displayed in the suggestion interface is able to represent the characteristics of scenes in the TV drama?



1:Strong disagree  
2:Dsiagree  
3:Normal  
4:Agree  
5:Strong agree

Q2: Compared to Twitter's traditional search function, did you think the suggested interface made it easier to find live tweets of the scene you were interested in?



# Conclusion

- Summary
  - Proposal of an interface that allows users to efficiently browse live tweets for scenes of their interest in order to review TV dramas
  - Development of a visualization method of the timeline of live tweets that shows the relevance of keywords specified by the user
  - Confirmation of the effectiveness of the proposed interface through subject experiments
- Future Work
  - Refining methods for calculating similarity between keywords and segments

Thank you