

## Front-End

Chrome  
TTS + ASR



User Interface

## Back-End

④ utterance realization  
+ [rec] recipe card

① user  
utterance

Natural  
Language  
Understanding  
(NLU)

② user intent  
+ entities

Dialog Manager  
(DM)

③ agent intent  
+ [rec] recipe  
+ [rec] explanation

Natural  
Language  
Generation  
(NLG)

[2a] user frame

[2b] recipe

Recommender System  
(RS)

