

1 Dialog Flow Design and Example Conversation

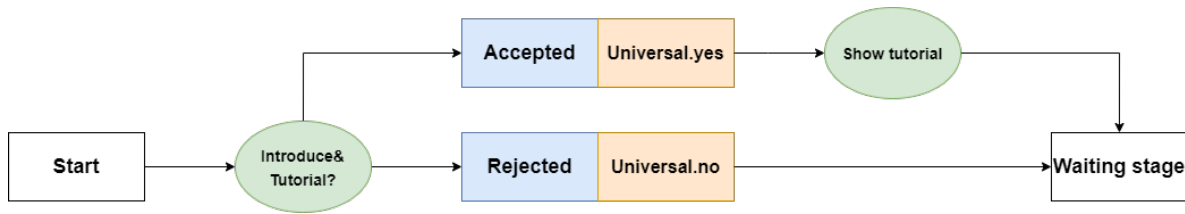
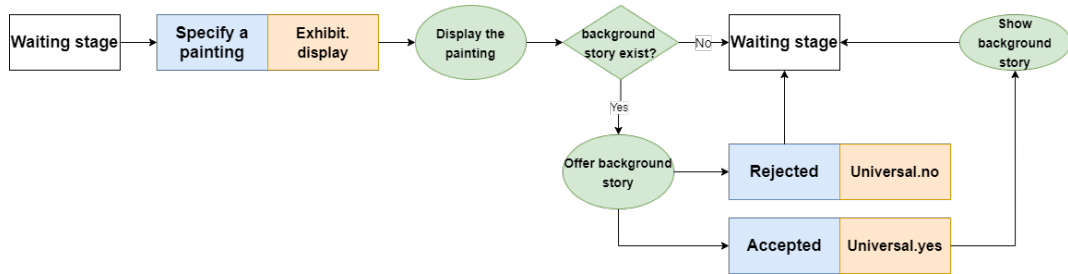
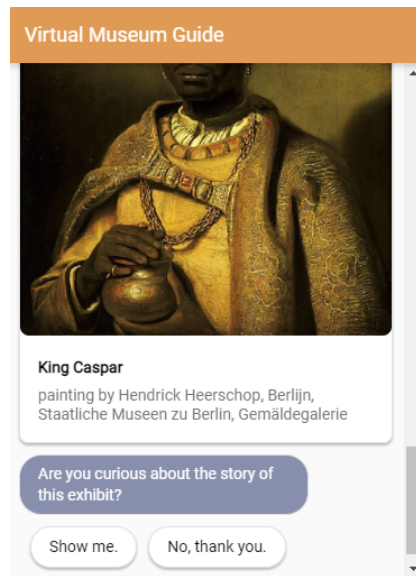


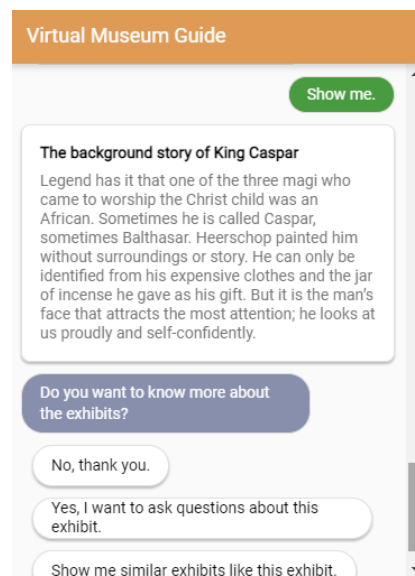
Figure 1: The dialog flow for introduction and offering tutorial. The blue box means the user's action, orange box represents the intents and green ellipse shows the fulfillment action, i.e. response from the agent.



(a) Dialog flow for displaying paintings.



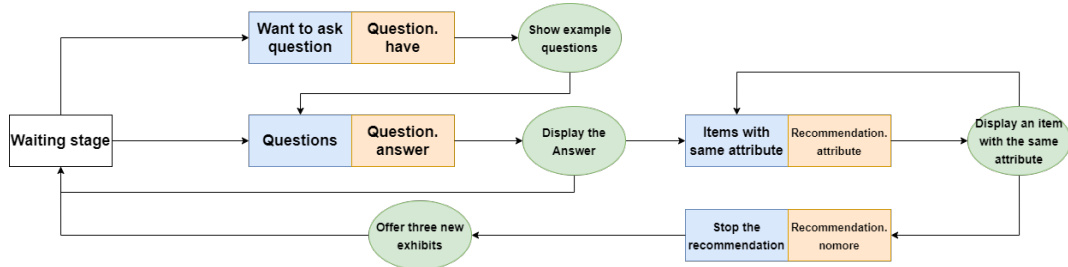
Ask something...



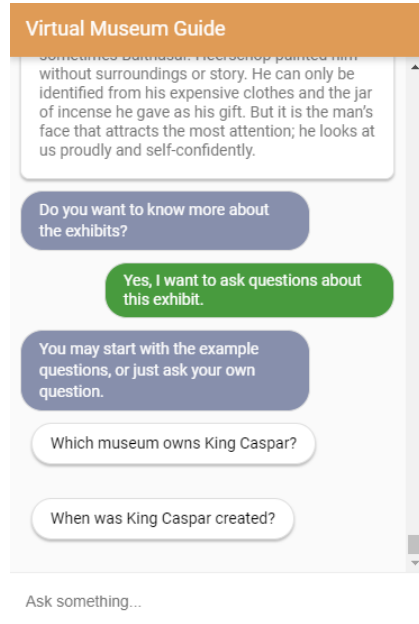
Ask something...

(b) Response when input *“Show me King Caspar”*. (c) The guide shows background story of the **King Caspar**.

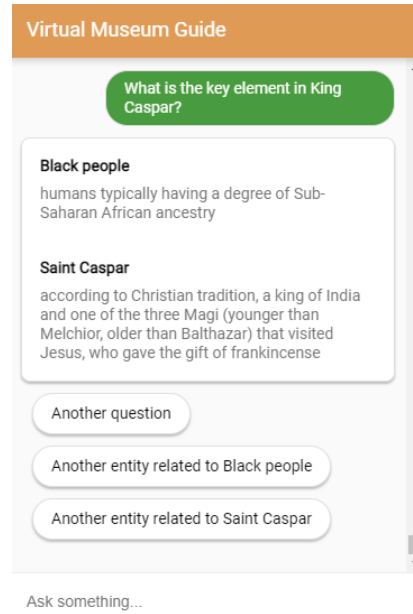
Figure 2: Dialog flow for displaying the exhibits and examples.



(a) The dialog flow for question answering.

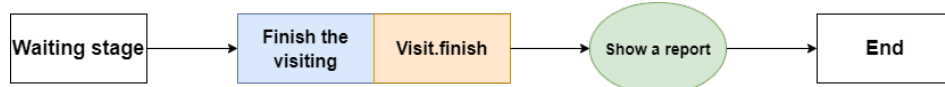


(b) Virtual guide shows example questions to the user.

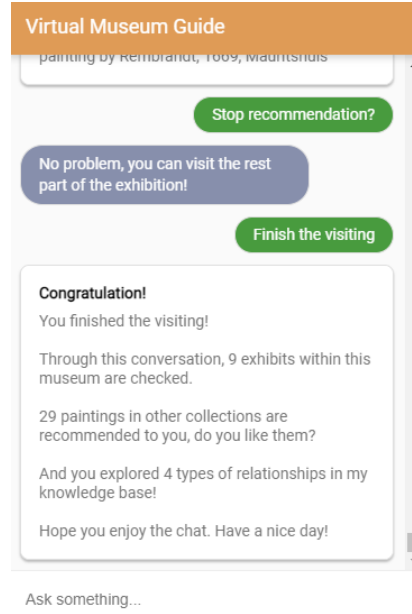


(c) Virtual guide offers options for other paintings with the same attribute.

Figure 3: Dialog flow for question answering (a) and examples of offering options for example questions and related entities (b, c).

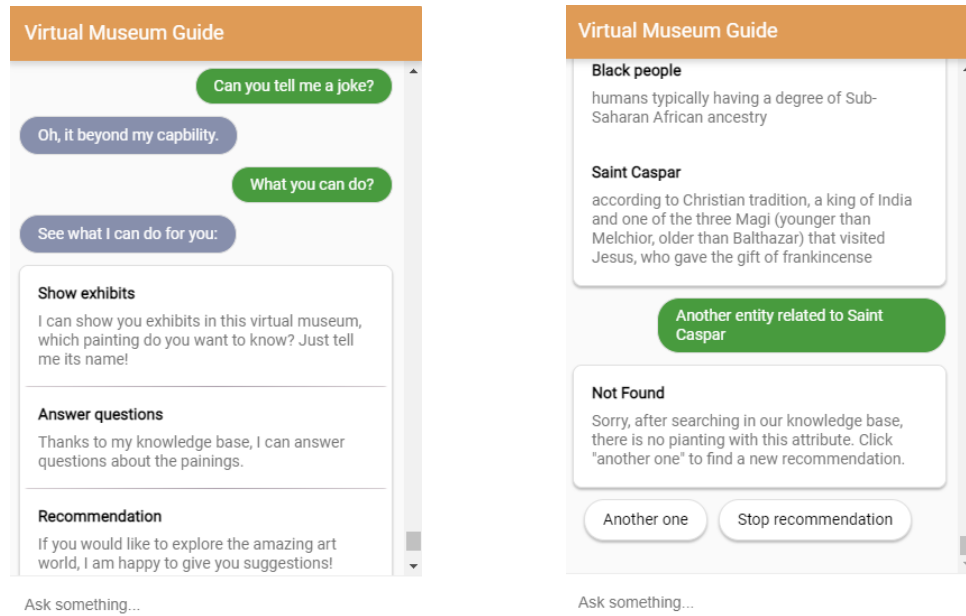


(a) The dialog flow for report generating.



(b) Virtual guide generates a report summarizing the user's chat history.

Figure 5: Dialog flow for report generating (a) and an example (b).



(a) An example when the input utterance is out of the (b) When it failed to retrieve data from knowledge capabilities of the CA. graph database.

Figure 6: Two examples of the coping strategy towards problems of the conversational virtual museum guide.