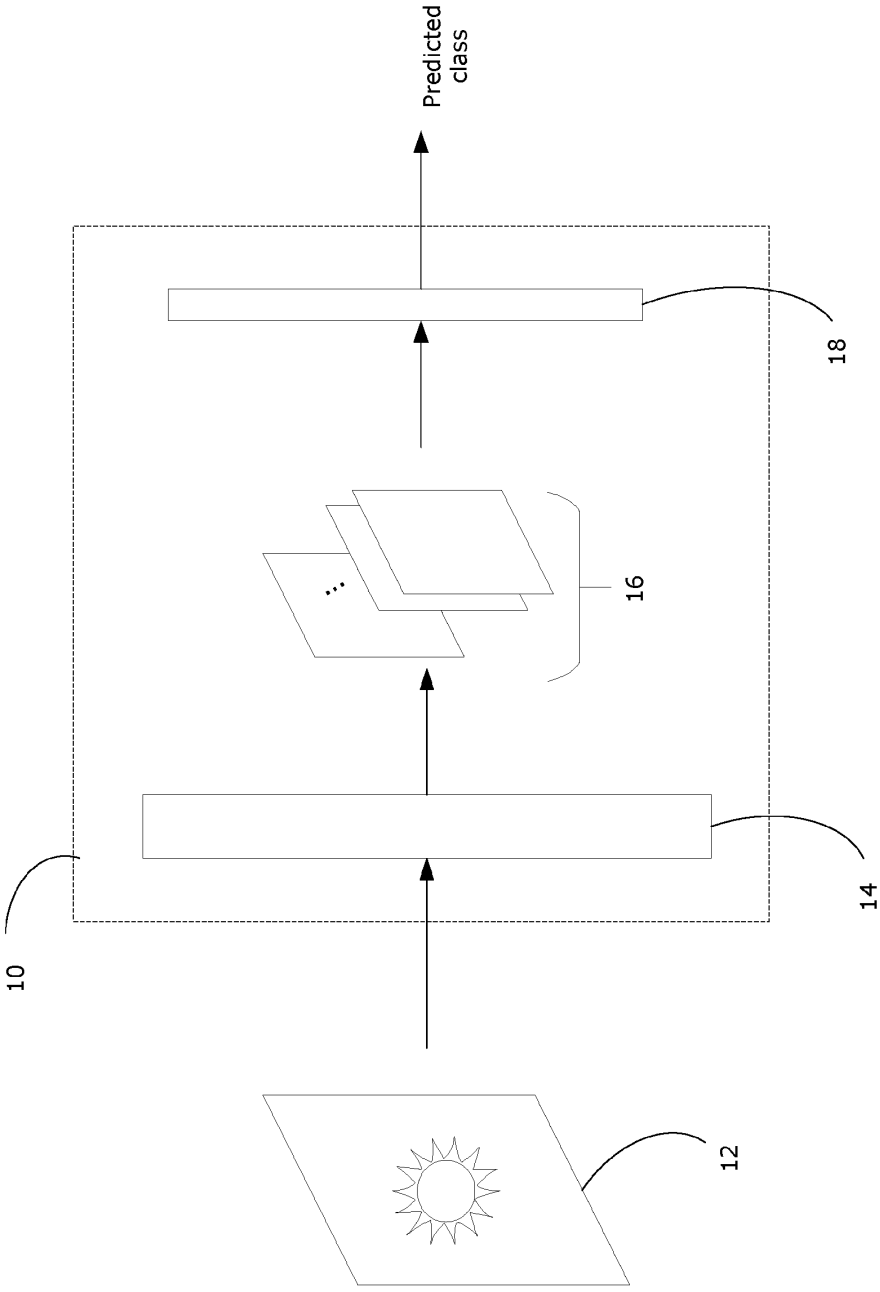


FIG. 1A

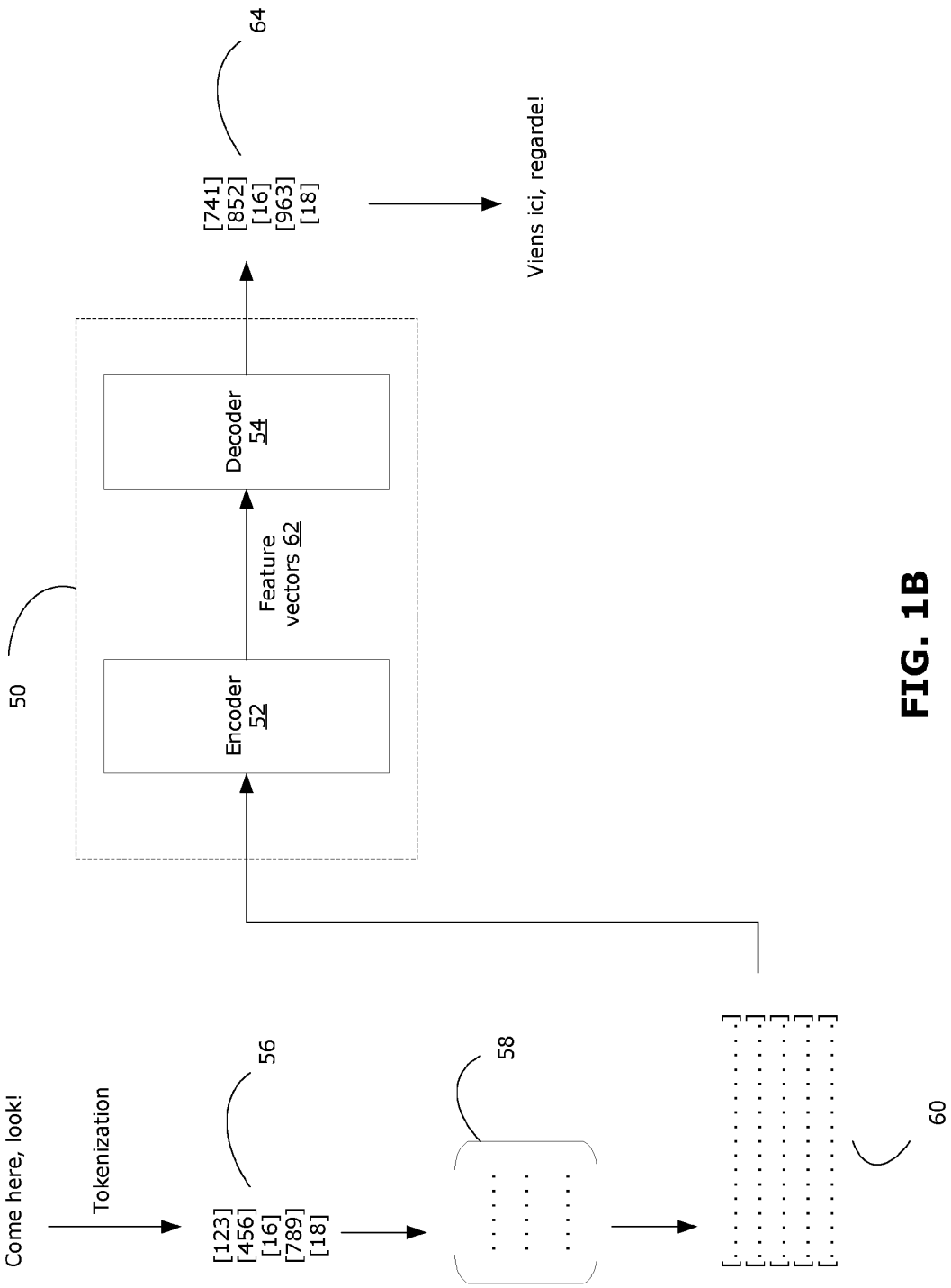

Come here, look!
Tokenization
[123]
[456]
[16]
[789]
[18]
56
58
60
50
Encoder
52
Feature
vectors 62
Decoder
54
64
[741]
[852]
[16]
[963]
[18]
Viens ici, regarde!

FIG. 1B

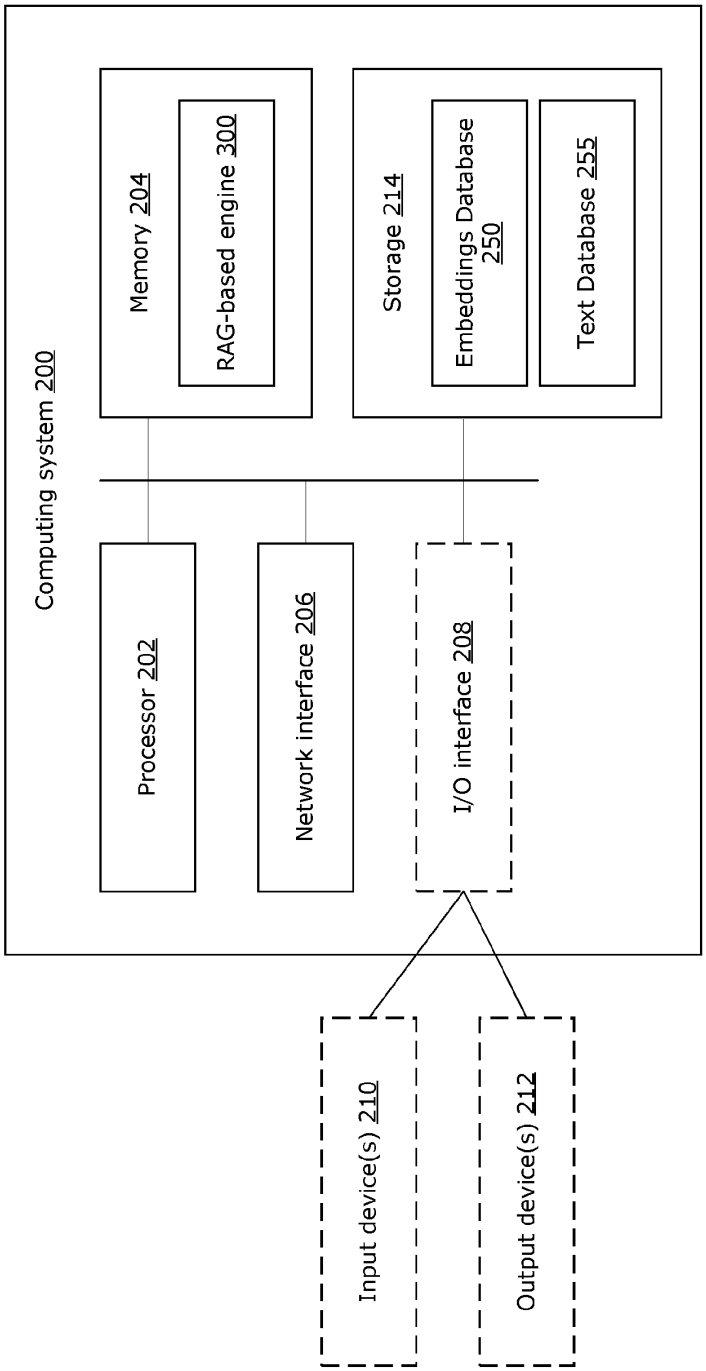

Computing system 200
Memory 204
RAG-based engine 300
Storage 214
Embeddings Database 250
Text Database 255
Processor 202
Network interface 206
I/O interface 208
Input device(s) 210
Output device(s) 212

FIG. 2

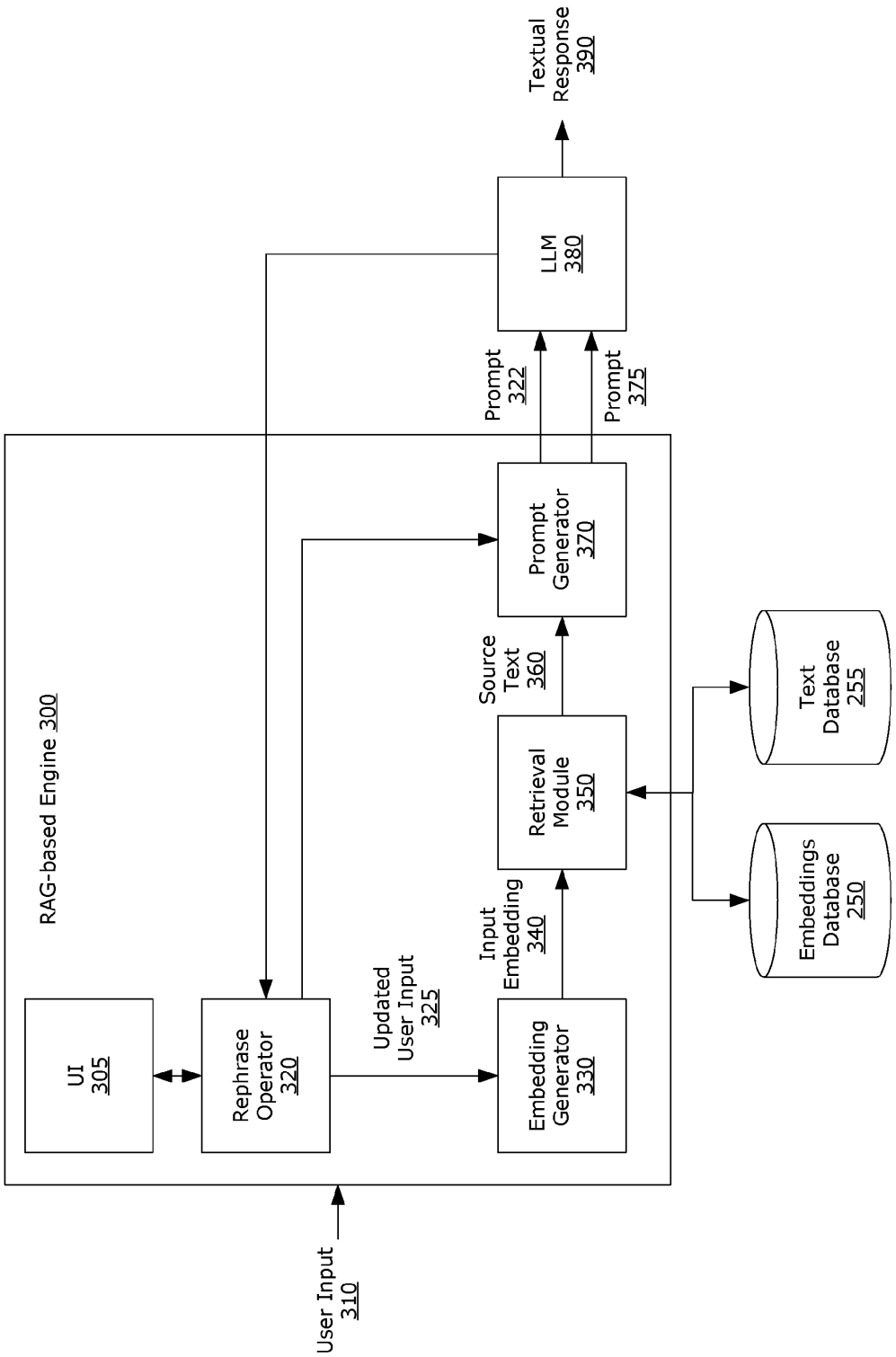

Textual Response 390
LLM 380
Prompt 322
Prompt 375
Prompt Generator 370
Source Text 360
Retrieval Module 350
Input Embedding 340
Embedding Generator 330
Updated User Input 325
Rephrase Operator 320
UI 305
RAG-based Engine 300
User Input 310
Text Database 255
Embeddings Database 250

FIG. 3

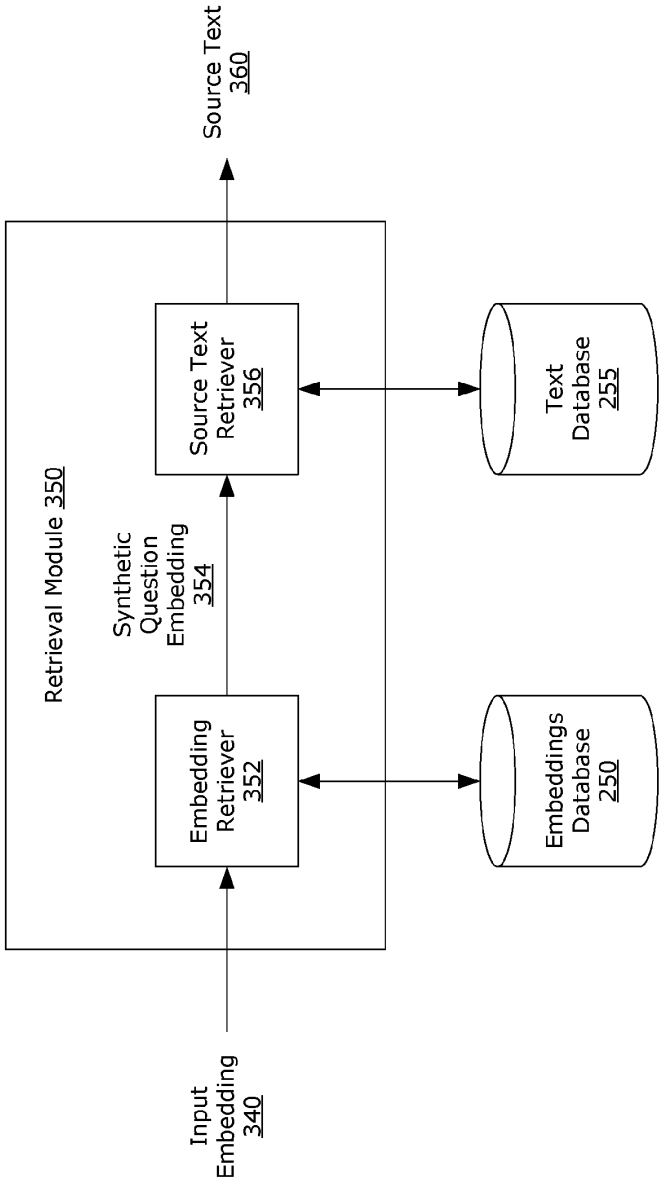

Source Text
360
Retrieval Module 350
Source Text
Retriever
356
Text
Database
255
Synthetic
Question
Embedding
354
Embedding
Retriever
352
Embeddings
Database
250
Input
Embedding
340

FIG. 4

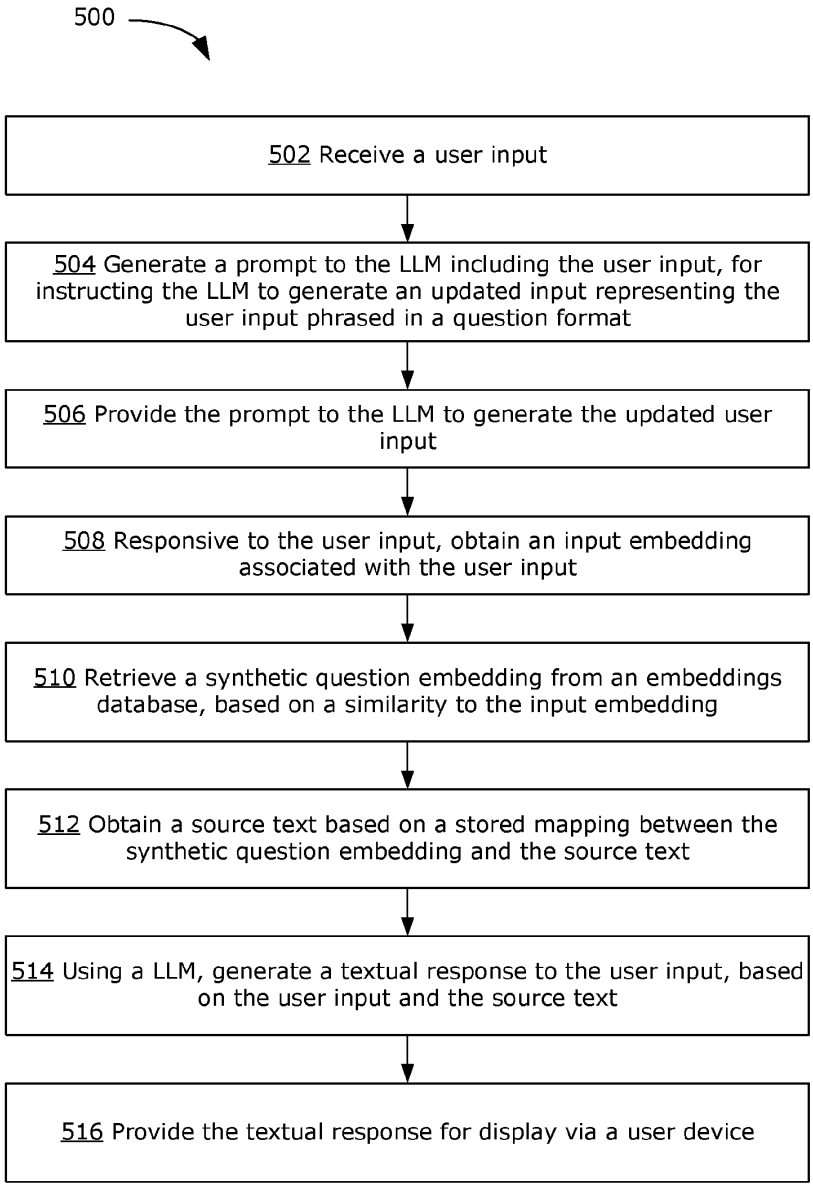

500
502 Receive a user input
504 Generate a prompt to the LLM including the user input, for instructing the LLM to generate an updated input representing the user input phrased in a question format
506 Provide the prompt to the LLM to generate the updated user input
508 Responsive to the user input, obtain an input embedding associated with the user input
510 Retrieve a synthetic question embedding from an embeddings database, based on a similarity to the input embedding
512 Obtain a source text based on a stored mapping between the synthetic question embedding and the source text
514 Using a LLM, generate a textual response to the user input, based on the user input and the source text
516 Provide the textual response for display via a user device

FIG. 5

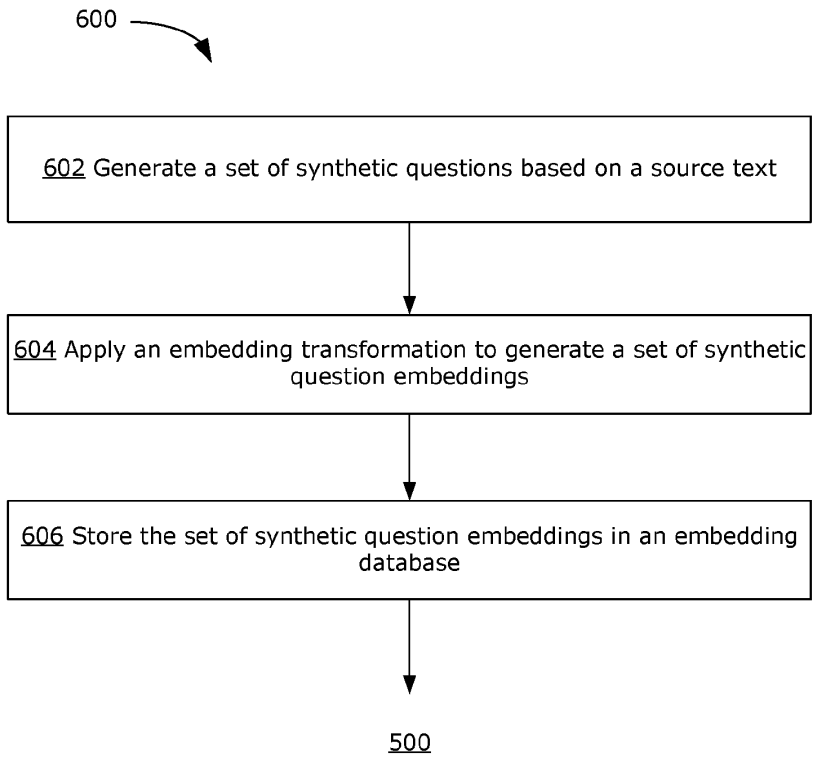

600
602 Generate a set of synthetic questions based on a source text
604 Apply an embedding transformation to generate a set of synthetic question embeddings
606 Store the set of synthetic question embeddings in an embedding database
500

FIG. 6

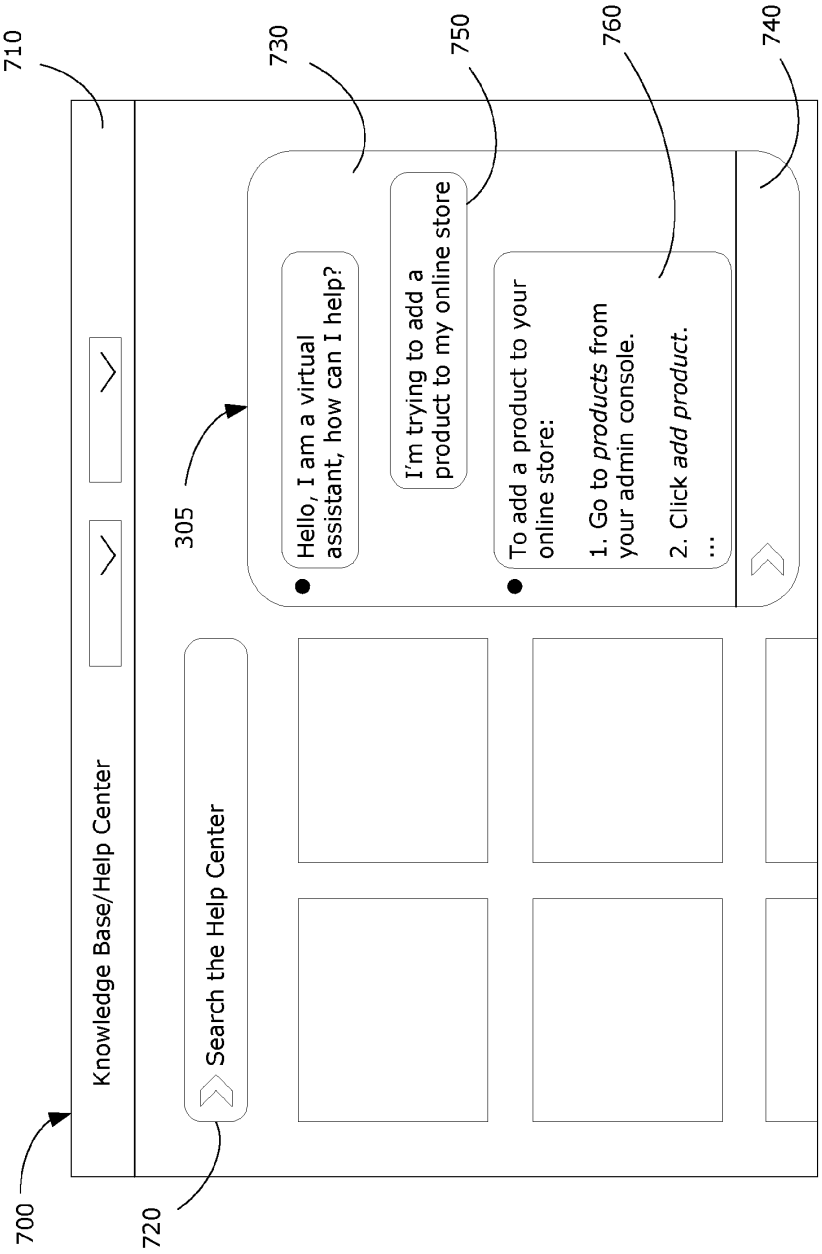

710
730
750
760
740
305
Hello, I am a virtual assistant, how can I help?
I'm trying to add a product to my online store
To add a product to your online store:
1. Go to *products* from your admin console.
2. Click *add product*.
...
Knowledge Base/Help Center
Search the Help Center
700
720

FIG. 7