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(54) Title: METHODS AND SYSTEMS FOR RETRIEVAL-AUGMENTED GENERATION USING SYNTHETIC QUESTION EMBEDDINGS

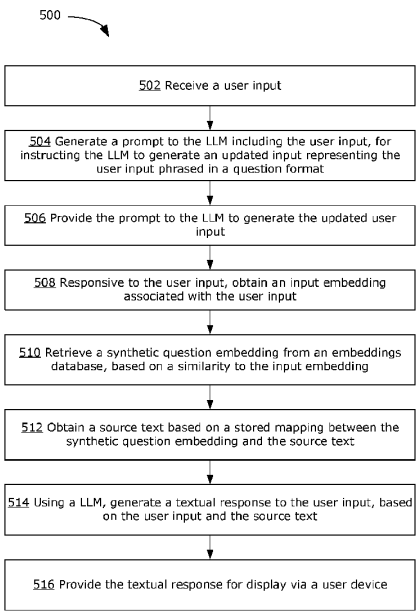


FIG. 5

(57) Abstract: Methods and systems for retrieval-augmented generation are described. Responsive to a user input, an input embedding associated with the user input is obtained. A synthetic question embedding is retrieved from an embeddings database, based on a similarity to the input embedding. The synthetic question embedding is used to obtain a relevant source text based on a stored mapping between the synthetic question embedding and the source text. A prompt is provided to a large language model (LLM) to generate and display a textual response to the user input, based on the user input and the source text. The disclosed methods and systems effectively narrow the pool of source documents based on similarity measures between the user input embedding and the synthetic question embedding, to enable the retrieval of more relevant sources for use in response generation.

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