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Automated conversational post-visit API

ABSTRACT

Effective follow-up is important for patient health recovery. This disclosure describes automated and natural language enabled follow-up of patients in healthcare settings. Information pertaining to multiple health conditions and treatments is archived. Subsequent to a patient visit to a provider and with explicit permission from the patient, a natural language post-visit application program interface (API) is utilized in a telephonic dialog with the patient. Queries are posed to the patient with regard to specific issues experienced by the patient. With user permission, user responses are analyzed and suitable actions are executed by utilizing the post-visit API. Past interactions are utilized, and interpretation or corrective action is performed only upon permission from the user.

KEYWORDS

- Health API
- Follow-up care
- Prescription
- Natural language
- Patient recovery
- Outpatient care

BACKGROUND

Effective follow-up is important for patient health recovery. Healthcare providers such as hospitals, urgent care clinics, etc. are insufficiently staffed to perform speedy follow-up with multiple patients. Effective and speedy follow-up after a patient visit can vastly improve patient outcomes.

DESCRIPTION

This disclosure enables automated, natural language based follow-up of patients in healthcare settings. Such follow-up is performed if patients and their healthcare providers sign up for follow-up and provide permission to access patient data as necessary for the follow-up. For ease of interaction, such permission is obtained, e.g., at initial setup, and is modifiable at any time.

Per techniques of this disclosure, information such as sets of questions, health related data, etc. that pertains to various health conditions and treatments is archived. Upon completion of a patient visit to a healthcare provider, when both parties provide permission, a natural language post-visit application program interface (API) is utilized in a conversational dialog to follow up in a spoken conversation with the patient. For example, such conversation may take place via a telephone call or equivalent. Queries are posed to the patient with regard to specific issues, e.g., relief of symptoms, experienced by the patient.

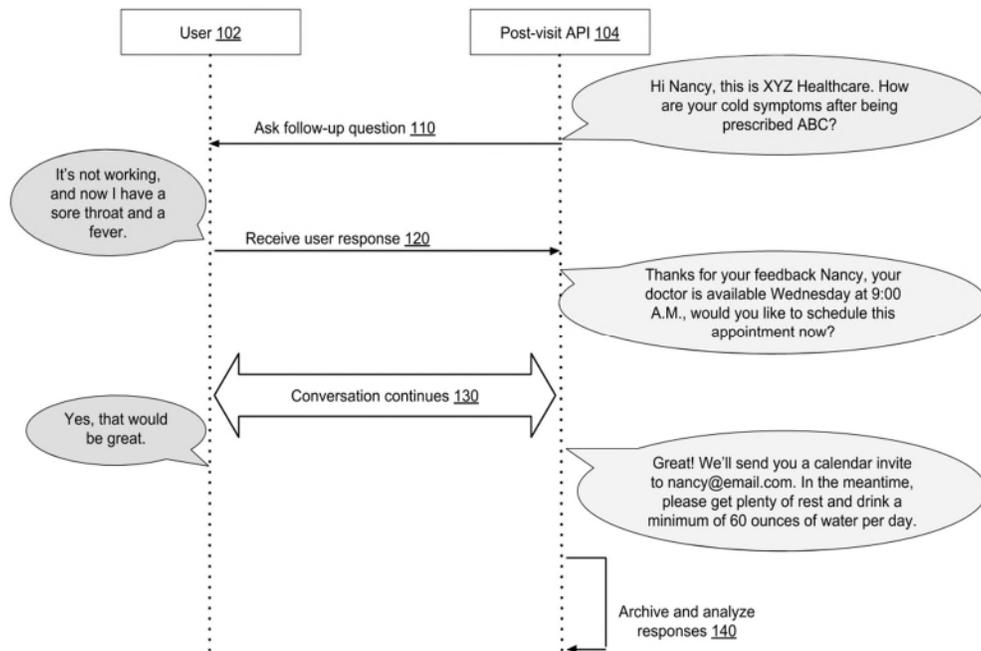


Fig. 1: Patient follow-up using an automated post-visit API

Fig. 1 illustrates an example of conversational dialog between an automated post-visit conversational agent (implemented using a health API) and a user (patient). With user permission, the post-visit API is utilized to place a call (104) to the user (102) to perform follow-up action, e.g., ask the patient a follow-up question (110) pertaining to the user's visit to a healthcare facility.

The user response is received (120) by the post-visit API and the conversation continues (130) with further questions/ actions determined by analysis of user responses. In the example illustrated in Fig. 1, the post-API is shown as performing additional actions, e.g., scheduling of additional visits by the patient. While the foregoing discussion refers to the patient, it is possible that one or more designated other users, e.g., family members, home healthcare providers, etc. may provide the follow-up responses.

With user permission, patient responses are recorded, archived and analyzed (140). The healthcare provider can utilize the patient responses to assess the effectiveness of the visit and the prescribed course of action (e.g., medication prescriptions, other actions), if permitted. For example, analysis of user responses to treatments can enable healthcare providers to observe trends in effective treatment regimens and enable improved patient care. The natural language post-visit API can enable improved quality of patient feedback since users are likely to provide quality responses when conversing with automated systems.

When the follow-call is placed using the post-visit API, the patient is provided clear guidance that the call is being placed by an automated agent. The user is provided with options to decline responding, or indicate a preference to interact with a human agent. Further, users are provided with options to decline responding to one or more of the questions. Users can also choose whether their responses can be archived and analyzed. The interaction between the

agent and the user is recorded, with user permission, and can be made available to healthcare providers, e.g., the user's doctor. Further, patient information such as symptoms experienced, etc., is stored securely and in compliance with applicable regulations in the jurisdiction.

Further to the descriptions above, a user may be provided with controls allowing the user to make an election as to both if and when systems, programs or features described herein may enable collection of user information (e.g., information about a user's social network, social actions or activities, profession, a user's preferences, or a user's current location), and if the user is sent content or communications from a server. In addition, certain data may be treated in one or more ways before it is stored or used, so that personally identifiable information is removed. For example, a user's identity may be treated so that no personally identifiable information can be determined for the user, or a user's geographic location may be generalized where location information is obtained (such as to a city, ZIP code, or state level), so that a particular location of a user cannot be determined. Thus, the user may have control over what information is collected about the user, how that information is used, and what information is provided to the user.

CONCLUSION

Effective follow-up is important for patient health recovery. This disclosure describes automated and natural language enabled follow-up of patients in healthcare settings. Information pertaining to multiple health conditions and treatments is archived. Subsequent to a patient visit to a provider and with explicit permission from the patient, a natural language post-visit application program interface (API) is utilized in a telephonic dialog with the patient. Queries are posed to the patient with regard to specific issues experienced by the patient. With user permission, user responses are analyzed and suitable actions are executed by utilizing the

post-visit API. Past interactions are utilized, and interpretation or corrective action is performed only upon permission from the user.