Experiences Building, Training, and Deploying a Chatbot in an Academic Library

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Experiences Building, Training, and Deploying a Chatbot in an Academic Library*

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jwulibrary

Introduction

In the Summer of 2016 we started experimenting with additional ways of extending library services (in the midst of dozens of discussions about opening services earlier, staff coverage, and other issues that pertain to the breadth and quality of service we provide to our community).

We had experimented with chatbots before, but when library3hlp showed an example of a functional chatbot (using Python and the sleekkemp python library), we decided to start experimenting with something more systematic. After a period of exploring, identifying the necessary features of a functional chatbot, and testing out free services we launched a working prototype. By late Fall 2016 the chatbot was able to handle basic question relay (or library hours, locating books and articles, providing basic library information) and even telling jokes.

Setting up a connection between a chatbot on a server and library3hlp was not too difficult. The bot setup, maintenance was relatively simple and continues to train the bot through the web interface is a quick, almost enjoyable task.

In October 2016 We released the chatbot with little fanfare, as a matad image (see figure 1) on the homepage that would show up when all librarians were either busy or signed out of the main chat application. Curious users began using the bot, and over the course of the next 18 months usage was steady.

Try out the chatbot yourself!

whole time; you could also run it on an always-on rasperry pi.

LibraryH3lp:

Wit.ai are some:

Software/Service Alternatives

Figure 3.

Figure 4.

Figure 5.

Figure 6.

Figure 7.

Figure 8.

Figure 9.

How it works

Chatbot Usage Frequency (weekday/hour)

Two Ways of Looking at a Bot Interaction

How the Bot sees it

How the user sees it

How/when was it used?

Unless otherwise indicated, all data is from October 2016 to May 2016

Quick Stats:

• Average response time: <1 second
• Average chat length: 4.5 minutes (human: 10 minutes)
• Questions answered by Bot: 596 (human: 5487)
• Busiest hours: BPM-11PM (177 Questions, or 30% of all Questions asked)
• Average number of messages sent by user in a transaction: 4.5
• Average number of words sent by user in a transaction: 21

Commonly Used Words & Phrases (by Patron, to Chatbot)

Commonly Used Words & Phrases (by Chatbot, to Patrons)

Chatbot in an Academic Library

First experiment (can be seen in Figure 3 to the left) was you were to see usage was low when the button was hidden (when library staff were online). It is likely that if the chatbot were given a dedicated, always-on public-access prompt then the usage would go up. It is not necessarily easy to give this button a prominent placement on the homepage; however with a few hours of usability testing we will launch a redone LibraryChatbot sometime in Fall 2016.

Testing and Filing

We have a series of usability tests and bug fixing (log analysis, unit tests, create an issue reporter)

Next Steps

Branding and Access Points: If you check out the caption to Figure 8 to the left you will see that usage was low when the button was hidden (when library staff were online). It is likely that if the chatbot were given a dedicated, always-on public-access prompt then the usage would go up. It is not necessarily easy to give this button a prominent placement on the homepage; however with a few hours of usability testing we will launch a redone LibraryChatbot sometime in Fall 2016.

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New Features

Features in the works include an improved feedback search, para-

graph summarization

Recommendations for a Successful Launch

Wishing Prompts, FAQ, Satellite, etc.

Feedback: Aside from initial transcripts it was tough to gather feedback. Usability testing: This would have been useful.

Questions, Observations, Comments

* Last minute title-change, from 'Can Robots Replace Librarians? Experiences Us-

ing a Chat Bot to Respond to IM Questions' to 'Chatbot in an Academic Library'

Citations


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Any & from library3hlp for providing a code example for library3hlp to a basic python chatbot.

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