

Design Personar Chatbot for Customer Service Case study : Sound Indy Shop

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ABSTRACT

The importance of maintaining customers is that the mission of maintaining the loyalty of current customers to the business is something that entrepreneurs cannot ignore at all. Nowadays, social media marketing has become to competition in the business. The objective of this paper to design the persona chatbot for conversation between the customer and business. In the case of the study was the small business for sale about headphones accessories. The design and implementation of the chatbot to provided the customer used the Chatfuel platform on Facebook. The results of this paper show that the chatbot can support communication with the customer and the chatbot at any time.

Keywords—Chatbot; Chatfuel; Small business; Artificial intelligence;

I. INTRODUCTION

Nowadays, the competition of the business marketing in the social network are highly competitive. In the of several years, A one-stop-shop has become very popular from the online trade with the rapidly expanding modern online shopping. The intense online competition is putting pressure on e-commerce businesses around the world to urgently adjust their trading strategies. Especially for product delivery to meet the needs of most online customers who want the product the next day after placing an order. In Thailand, although the e-commerce business is worth over 2 trillion baht, the purchasing habits have changed to social media purchases such as Facebook, Line and Instagram.

Headphones or earphones are inseparable companions of multimedia devices such as a computer, laptop, smartphone, mp3 player, or other devices to privately listen to audio without disturbing anyone in the vicinity. The sound indy shop is a small business for sale the headphone to the customer or the people in the social network. Currently, the sound indy shop has more than 15 bands selected from leading brands covering a wide range of products that are involved in listening to music. The main products are portable music players, headphones, headphone upgrade cables, and accessories, etc. Sound indy shop business is purchased and sold, which imports products from the partner store to be sold to the customer from the social media and also, sold at the point of sale.

Online shopping through social media One of the main factors that affect each purchase decision that is a conversation between buyers and sellers. Social media power has shifted the actions of online shopping. Businesses now create social media fan pages for their brands through Facebook, Instagram, and Twitter to reach many customers which have led to new types of marketing plans, called social media marketing (SMM). SMM is described as the method of using social media networks to create, interactively deliver, and turn corporate contributions beneficial to corporate stakeholders [2]. Besides, the communication of SMM is effective communication through social media reduces the risk of product misunderstandings. If a business can present accurately, fast, to the point, it will build confidence and enhance the good image of the business.

However, the issue directly or indirectly affects the cost of the business, since using individuals to answer questions with customers is a waste of labor and time, and emotions and feelings at different times can affect the standard of answers that can cause negative customer feelings. As a result of this problem, many businesses use "chatbots", customer interactions on behalf of individuals, divided into artificial intelligence (AI Chatbot) and rules-based chatbots. A chatbot is a conversational agent with a computer program that can conduct a using natural language speech conversation between the man and a computer possible [3]. Chatbots are also referred to as artificial intelligence conversation systems have been developed to aid people in managing time commitments and performing tasks [4]. The process of chatbots works intelligently by interpreting users' input before providing answers, and the basic conversation of the chatbot was the keywords that are inputted and respond with the most suitable matching keyword replies from their databases [5].

The contribution of this paper is that proposes to design a conversation system is based on real customer data conversation with the seller (sound indy shop).[informatics-06-00046.pdf]

II. MATERIAL AND METHODS

A. Data collection

1) Data Collection

Experiments with generative chatbots were performed using a small domain-specific manually created dataset, having QA pairs. This dataset contains real questions/answers about the company (sound indy shop) products, prices, supported languages, and used technologies (in Thai language).

B. Chatbot for customer service

A chatbot is a program that a conversational system that allows the user to interact with the machine through natural language [6]. Nowadays many chatbot systems with different purposes such as customer support, health, and education, in addition to marketing, entertainment, and general assistance with simple tasks [7].

Recently, the importance of support in customer service of chatbots. Customer service is the one of most important for support the business and customer with support offered before and after they buy products or service. A customer service chatbot is program that playing to answer basic customer questions via a business messenger using AI and machine learning without any human intervention. Therefore, chatbots can be a great way to augment and replace human personnel in customer service, since they are also capable of answering higher value queries [8]. Chatbots in customer service should be perceived as a combination of three elements: Interface, Intelligence, and Integration [8]. Among the top three benefits of implementing chatbots, they mentioned: enhanced employee productivity, an improved ability to manage client queries by networking with other bots, as well as providing customers with a personalized and unique shopping experience access to information [9].

Chatbots, to be able to carry on a conversation with the user, must have the following components [10]:

- Conversational artificial intelligence is the engine of Chatbots. Through this tool, it is possible that the management and processing of natural language is carried out. Through conversational AI, Chatbots have the ability to analyze user entries, learn from them and generate a response as appropriate as possible in relation to the input entered.
- User experience (UX), is responsible for making the conversation between the Chatbot and the user as natural as possible and that it is intelligent and logical.
- User interface (UI), is the component through which the user interacts with the Chatbot, that is, they are the elements that the user can physically see and hear to make decisions and follow the conversation.
- Conversational design is a design language, which is based on human conversations. It is the conversational design and responsible for providing human logic to an artificial intelligence.

1) AI platform creating facebook chatbot

The following AI-powered solution to create a chatbot for the multi-platform, including Facebook messenger including: Chatfuel, Dialogflow, ManyChat, MobileMonkey, and etc platform. In this paper used the chatfuel

(1.1) Chatfuel

Chatfuel is first and foremost a powerful chatbot builder that focuses on automation and versatility. Its main focus is building bots that can do it all, from answering questions to collecting emails. Chatfuel creates bots by using content blocks. These are sections of content that appear on the Messenger bot. Basically, each dialogue that the chatbot sends to the user is a block. Chatfuel compares blocks to pages of a website in that the user can navigate them based on his or her needs. The idea is to create a chatbot block by block. This approach allows you to customize every part of the chatbot, which makes it great for creating a personalized customer experience. A Chatfuel chatbot is made up of cards. Cards contain content in some form, and they can also contain plugins that will direct your users to the next part of the flow, export their data, or perform some other action [11].

C. Methods

This paper proposed the design persona chatbot to customer service for the small business, Case study: Sound indy shop the methodology including:

1. Define the problems and the functionalities for a chatbot;
2. Identify the conversation flow and input;
3. Design the user intent recognition following conversation flow;
4. Design user interface for the chatbot
5. Determine to develop the chatbot in chatfuel tool;
6. Test the chatbot and obtaining approval of relevant stakeholders;

III. RESULTS AND DISCUSSION

As mentioned earlier in the paper approach and strategy, for the authors to collect as relevant data as possible for this study, primary data from interviews and secondary data from Facebook fan page company will be used. The result of the data collection to be implement to design the persona chatbot for customer service show that:

1) The results interview of Frequently Asked Question responses (FAQs). These are normally 20 topics and answers with short text responses along with follow up links as needed which contains additional details and information.

2) The result of identify the conversation flow and input show that the dialog flow of conversation from the customer and the chatbot as shown in figure 1. In the dialog flow design, the conversation architecture to show representations of what the bot will say at each step from the FAQs. The input of conversation flow as shown in Figure 2.

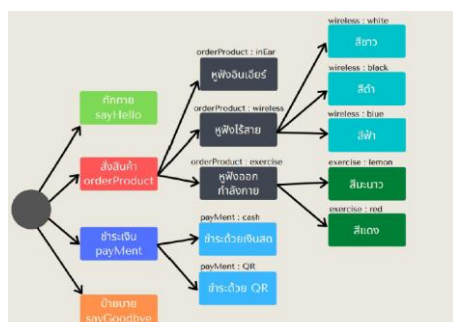


Figure 1. Example for dialog flow of conversation flow.

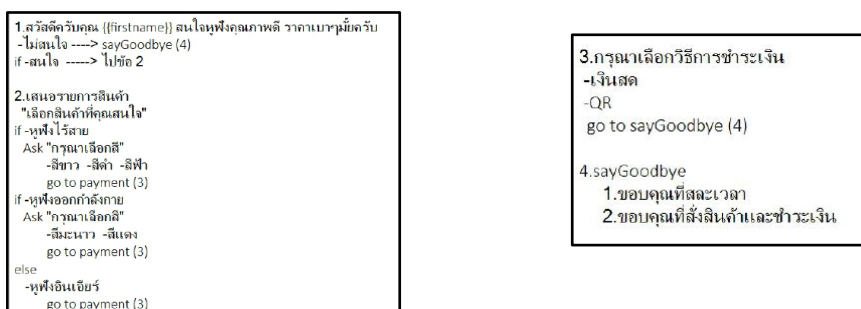


Figure 2. Example for input of conversation flow.

3) The result of intent recognition following conversation flow and user interface for the chatbot for customer service following: the context and intent recognition following conversation flow as shows in Figure 1 and 2. The design of the intent structure according to conversation flow is available key components are as follows:

- Agents: The user of the service assists in searching the information according to the requirements of user.
- Intents: Defining the role of chatbot based on the objective followed the conversation flow.

The step design of the chatbot following:

- The welcome message is the one that shows up when a potential customer interacts with your bot for the first time as shows in Figure 2

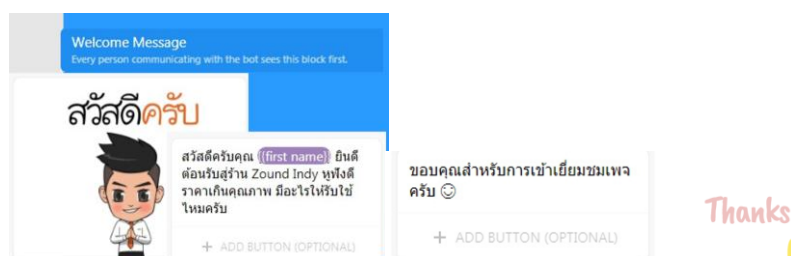


Figure 3. welcome message.

- Setup AI to customer service, which specific words can be mapped and answered using an existing block, a predefined text or a randomized answer out of a predefined set of answers as shown in Figure 4

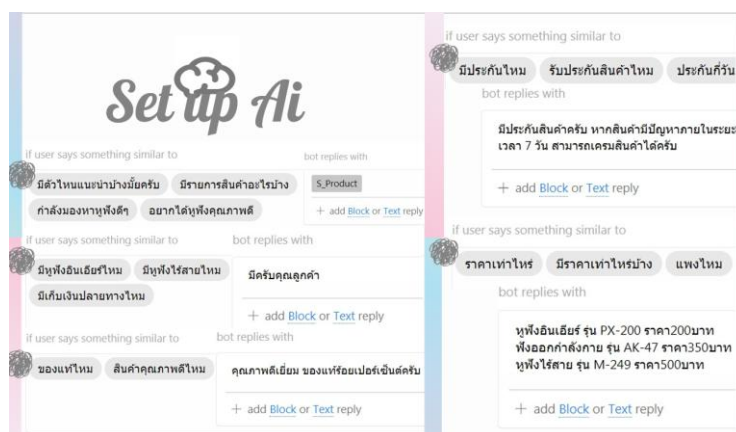


Figure 4. Setup AI for FAQs.

- Design menu for interactive with customer followed the intent recognition with conversation flow as shows in Figure 5.

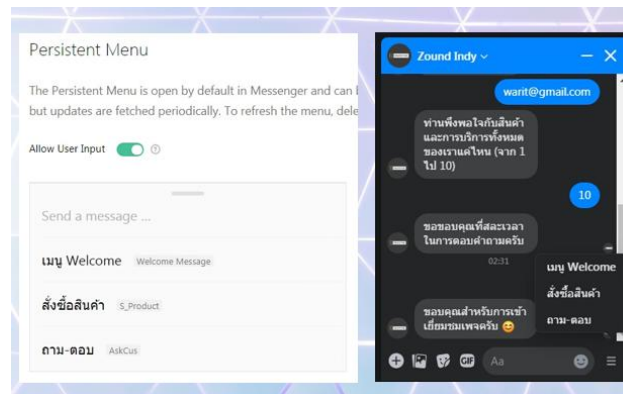


Figure 5. Menu for customer service.

4) Evaluated of the chatbot used assessment method to the satisfaction score from the customer about 10 people was good level.

IV. CONCLUSION

In this paper proposed the design persona chatbot the provide the customer service in the small business based on the social media. A chatbot is the new platform for communication between the customer and the small business by allowing the real time and unlimited access to some information at all time without to ask owner.

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