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A Chatbot Prototype by Deep Learning Supporting Tourism

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ABSTRACT

The tourism industry is very competitive and artificial intelligence (AI) or machine learning (ML) especially deep learning (DL) is used in several aspects in the tourism industry. One application is playing an important role which is Chatbot as service automation. Due to a lot of tourists being unfamiliar with the service process, Chatbot can solve the difficulties of accessing the necessary information such as booking a hotel near a tourist place. This paper proposes the development and application of a tourism Chatbot for tourists who come to Active Beach zone, including Chonburi, Rayong, Chanthaburi and Trat province in Thailand. It provides the required information and tourism recommendations. The experiment was designed and developed by monitoring the communication between the Chatbot and tourists. The results showed positive perceptions in successful tourism service. The Chatbot can provide the required information for tourist from a stored database. However, the Chatbot still needs more development to handle complex question or situations for gaining tourist satisfaction

Keywords
Chatbot/ Deep Learning/ Artificial Intelligence/ Tourism

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Introduction

Thailand is one of the most popular destinations in the world which have beautiful natural resources, historical and high value of hospitality of the people. Therefore, tourism industry is a major contributor to the country's economy. The first quarter of 2020, the tourism industry was estimated to directly contribute 5.65 percent to the gross domestic product (GDP) in Thailand. Due to the COVID-19 pandemic in Thailand, international arrivals are currently prohibited. Therefore, the Tourism Authority of Thailand (TAT) encouraged millions of Thais to travel locally in order to support the domestic tourism. (Statista Research Department, 2020).

There are many tourist attraction site in Thailand especially in Active Beach zone including Chonburi, Rayong, Chanthaburi and Trat province which have a beautiful beach such as Pattaya which of the top travel destination for Thai and foreign tourists (Suanpang, 2020).

The tourism industry is related to hospitality and services to make the tourist impression and satisfaction which leading the re-visiting back and forth again (Forouzandeh, Safahani & Fakhrabad, 2015). The information technology is a tools for changing the travel and tourism industry. The emerging innovative technologies such as Chatbots are changing the way the tourism industry presently operates (Tussyadiah, 2020; Bowen and Morosan, 2018; Pillai & Sivathanu, 2020). Chatbots are virtual smart assistants using artificial intelligence (AI) to help users get the information that they seek. It provide a natural language conversation with humans via a screen a (Naik, Finkelstein, Howell, Rajwani & Ching, 2020),(Khanna, Cicinelli, Gilbert, Honavar & Murthy, 2020). It is applied in many industries such as airlines, banks, insurance firms, education, marketing, health care, medicine, and e-Commerce, which will concentrate primarily on tourism (Nicola et. al., 2020; Park, 2020).

Chatbots were used more than 14% of airline worldwide and predicted to each 68% by 2020. Internationally, more than 42% are planning to use Chatbot technology in tourism (Ghosh and Chakravarty, 2018) and the Chatbot market is more than US$190m and is predicted to increase (Sweezey, 2018).

There are many activities in tourism that tourists using information technology for searching the best deal to get the best hotels, restaurants or activities with the lowest price from different many sources. However, many tourists still have problems and difficulties in finding hotels or tourist places which takes a lot of time searching for information. To navigate a city or schedule a trip, can be a time-consuming process and creates memory overload, users are expected to visit several websites and install various applications on their devices.

In the digital disruption apply artificial intelligence particularly machine learning, autonomous agents and Chatbots are experiencing new popularity in tourism education (Smutny & Schreiberova, 2020). The concept of the Chatbot offers an interesting way of learning as a one-to-one interaction between people (Winkler & Soellner, 2018). The function of Chat is simply to provide the question-answer or sharing information among the tourists which has benefits for educational purposes including to address the problem of individual tourist (Naik, et. al., 2020) (Winkler & Soellner, 2018). The Chatbot is increasing user satisfaction by responding quickly, is available 24 hours and acts proactively with intelligent responses automatically put into the conversation (Winkler & Soellner, 2018; Song, Oh & Rice, 2017).

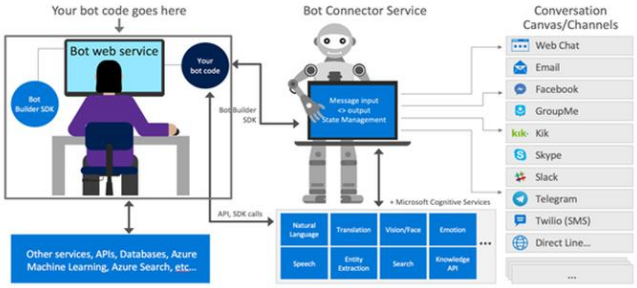

Fig. 1. Chatbot architecture (2020)

A Chatbot is developed based on modelling for communication using (i) defined templates and rules constructed through tools such as Amazon and (ii) machine learning techniques such as neural networks (Villegas-Ch, Arias-Navarrete & Palacios-Pacheco, 2020). An alternative is conversational bots based on decision trees by artificial intelligence (AI) (Rahman, Mamun & Islam, 2018). A Chatbot is based on the structure of conversation of the human that is acquired through Processing Language Natural (PLN) (Rahman, Mamun & Islam, 2018). The PLN tolerates algorithms to understand, interpret conversation by implementing "Machine or Deep Learning" (Rahman, Mamun & Islam, 2018; Chatbot Structure, 2020). The Chatbot framework includes the following components (Rahman, Mamun & Islam, 2018).

(1) Conversational artificial intelligence is the Chatbot engine. Using this tool, conversational AI, the Chatbot can analyze the user entries, learn from them and generate a response as appropriate as possible in relation to the input entered.

(2) User Experience (UX) responsible for making the conversation between the Chatbot and the user as natural as possible and as intelligent and logical.

(3) User Interface (UI) is the component with which the user interacts with the Chatbot.

(4) Conversational design is a design language that is based on human conversation and responsible for providing human logic to artificial intelligence.

To gain a coherent conversation between a Chatbot and a user requires a good algorithm design and the conversation between the AI, UX, UI must be correctly related to each other (Villegas-Ch, Arias-Navarrete & Palacios-Pacheco, 2020). The algorithm when being implemented with AI must be trained to be able to interpret the user input within the conversation to understand the question and prepare the answer. With the ability of the Chatbot to provide interaction with information and content, particularly the ability as a facilitator of interaction in the online learning environment by facilitating and expediting access to information (Villegas-Ch, Arias-Navarrete & Palacios-Pacheco, 2020).

Chatbots help students access information that is difficult to locate in a Learning Management System (LMS) environment and create a user experience that becomes more enjoyable as interaction increases the interest in the online learning subject (Villegas-Ch, Arias-Navarrete & Palacios-Pacheco, 2020).

To bridge a gap in the market, this paper, proposes the development and application of a tourism Chatbot for tourists who come to Active Beach zone including Chonburi, Rayong, Chanthaburi and Trat province in Thailand.

Literature Review

Chatbot definition

Michael L. Mauldin defined a Chatbot as the chat application for answering questions and taking part in complex conversations (Mauldin, 1994) (Shawar & Atwell 2003). Meanwhile, Britz (2016) defined a Chatbot as a computer program for conducting a conversation between people and is often used to automate or optimize a business process (MolnárSzűts & Zoltán 2018).

In the beginning Chatbot's were not intelligent, they required preprogrammed questions to give specific predetermined responses (MolnárSzűts & Zoltán 2018) but technology introduced artificial intelligence to help the role of the human operator which used a Chatbot for communication tasks in education (MolnárSzűts & Zoltán 2018; Toth & Rudas, 2013;Gogh & Kovari, 2017).

There are two types of Chatbot including simple and complex. A simple Chatbot sends messages and requests to a user following algorithms to give pre-programmed responses to inputs as the output with unsophisticated language that is not highly differentiated (Villegas-Ch, Arias-Navarrete & Palacios-Pacheco, 2020; MolnárSzűts & Zoltán 2018). The complex Chatbot uses machine learning that is programmed to learn from the previous conversation which takes place under development supervision (MolnárSzűts & Zoltán 2018; Laurence, 2017).

A Chatbot could be useful and effective as an educational assistant's role which does not require them to answer overly complex practical questions (MolnárSzűts & Zoltán 2018). In basic cases, simpler systems can recognize keywords by identifying them in their database, while more sophisticated operations require natural language processing (NLP) (MolnárSzűts & Zoltán 2018).

The Taxonomy of the Chatbot

There are two types of Chatbots, one which employs a tress structure and the generative model (MolnárSzűts & Zoltán 2018; Zia, Lapouchnian & Yu, 2008).

(1) The retrieval-based model uses a repository of predefined responses and a heuristic to pick an appropriate response based on the input and context (MolnárSzűts & Zoltán 2018; Setiaji & Wibowo, 2016; Wang, et. al., 2013). The heuristic can be as simple as a rule-based expression match in an ensemble of machine learning classifier (Denny, 2016). The Chatbot system is a predefined database and linking with natural language processing at their disposal .NET or Java programming languages (MolnárSzűts & Zoltán 2018; Laurence, 2017; Zia, Lapouchnian & Yu, 2008).

(2) The generative model does not rely on predefined responses and generates a new response from scratch. The generative model is typically based on a machine translation technique where the translation is from an input to an output of the response (Hill, Ford & Farreras, 2015). The

generative model architectures such as "Sequence to Sequence" are suitable for generating texts (MolnárSzűts & Zoltán, 2018; Ashok, 2015). However, the generative model is smarter because it is more complex and harder to train, is quite likely to make grammatical mistakes and typically require huge amounts of training data (Mondal, et. al., 2018).

Chatbot in Tourism

A Chatbot in tourism is becoming a very important application. Currently, tourists receive information about hotels, location and air tickets via online course while a Chatbot can provide significant help in the learning process. A good example of a Chatbot is "Rasa.ai' (Figure 2).

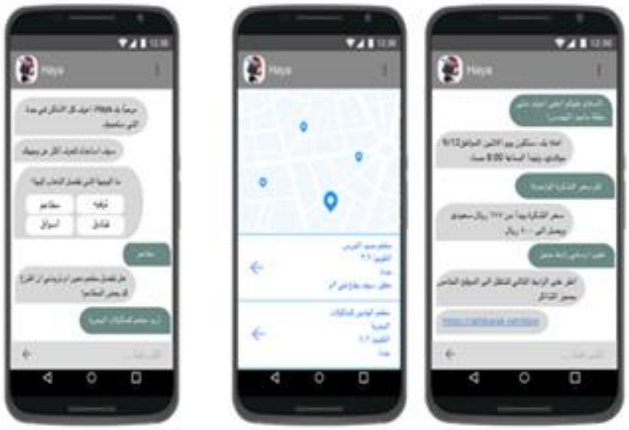

Fig. 2. Example of Chatbot

Rasa.ai offers native communication channels for tourists. (MolnárSzűts & Zoltán 2018). A Chatbot sends reminders about bookings, and the generative system can even help tourists to understand the booking (MolnárSzűts & Zoltán 2018). The ongoing development in NLP allows the Chatbot to understand questions and can hold a conversation with a student efficiency and allow tourists to gain satisfaction.

A good example of successful use of a Chatbot application in tourism is 'Rasa.ai' which is an open-source framework for language understanding and dialogue management developed for the Python development environment. (MolnárSzűts & Zoltán 2018). Rasa.ai were used by more than 160 examples of users' messages were answered by the Chatbot that are about details regarding restaurants, malls, hotels, coffee shops, and asking for recommendations for places near the user's current location and also requesting a weather report. (MolnárSzűts & Zoltán 2018) (Alotaibi, at. el., 2020). Chatbots were used for answered simple questions by an algorithm in which data was trained on a specific question that came from a variety of sources (MolnárSzűts & Zoltán 2018). The interaction from the Chatbot was accurate and effective with high reliability.

To apply the Chatbot in tourism there are many factors that we should be aware of. The most effective way to apply a Chatbot in tourism is to implement some of its predefined topics. Due to the ability of the Chatbot evolving over time through their chat conversation in the course of the learning process then the more conversation the more intelligent the Chatbot becomes (MolnárSzűts & Zoltán 2018). To make the Chatbot more intelligence depends on several criteria including the total number of users accessing, the length of the conversation, the number of conversations and individual users, the number of links and the response time (MolnárSzűts & Zoltán 2018; Alotaibi, at. el., 2020).

Methodology

System Overview

The Chatbot has the role of automatic reply to chat messages like the interaction of real people or may simply call an auto-responder program. The program will have a trainer during manufacturer to prevent people from talking to the Chatbot who are not in the program which would be processed to categorize. It directly goes back to the words that the user typed which will be calculated as proximity scores with that word most so that when users mistype it, they can continue the conversation proximity processing random words and then select an answer from the category.

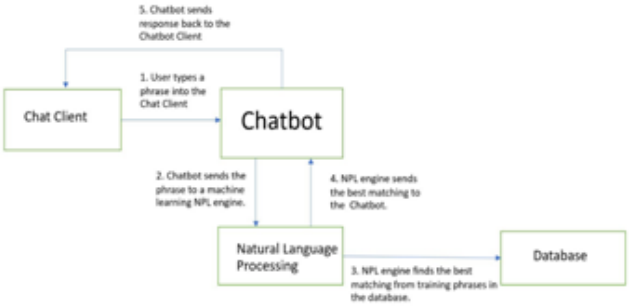

Fig. 3. Chatbot Prototype architecture

The Chatbot prototype architecture (Figure 3) was proposed. The user interface (UI) was designed to support both Android and iOS platform. The user sends the question via voice or text which is sent to NPL and Google Voice API through the Chatbot API after retrieval from MySQL. Also, the educational detail sends through the support Vector Machine (SVM) that is linked to the feature attribute (age, class, major, faculty, etc.) and finally sends an educational problem prediction back to the user.

The Chatbot prototype system framework was designed with functionality starting from (1) the user types a phrase into the chat client that sends through Chabot (2) Chatbot sends the phrase to a machine learning NPL engine through NPL (3) the NPL engine finds the best matching training phrase in the database (4) the NPL engine sends the best match to the Chatbot.

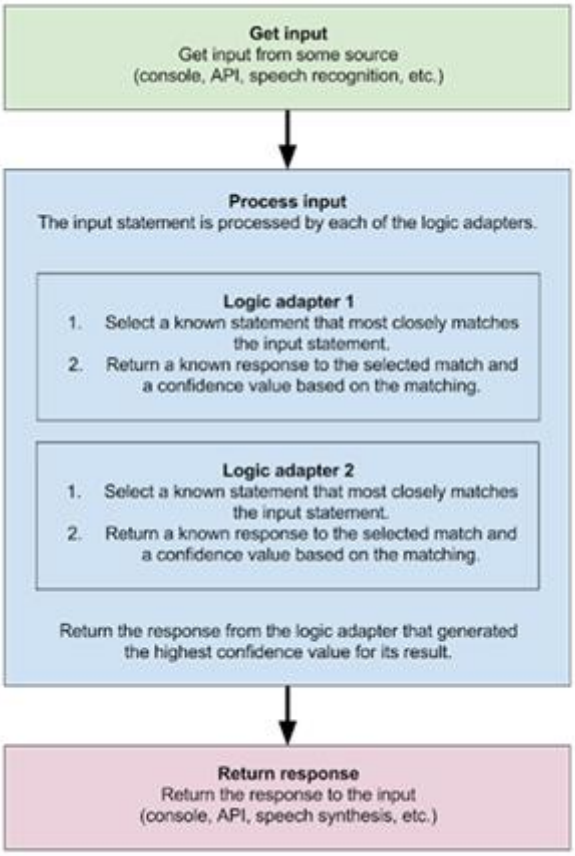

Fig. 4. System procedure

The Chatbot prototype system (Figure 4) starts from (1) getting input from some source (console, API, speed recognitions) (2) process the input statement by each of the logical adapters. Logical adapter 1 select a known statement that most closely matches the input statement and return a known response to the selected match and a confidence value based on the matching. Logical adapter 2 also selects a known statement that most closely matches the input statement and return a response to the selected match. Finally, return response from the input.

The Chatbot framework is designed by using a deep learning model that can work effectively. Our system is based on ChatterBot. ChatterBot is a Python language library using a machine learning tool used to create interactive chatbots. By using the principle of storing text in a graphical format, it can train in any language and there are many types of Logic Adapters to choose from. The Logic Adapter is used this way use to choose the answer in our data set.

Chatbot algorithm

Mathematically, the Levenshtein distance between two strings, a and b (of length |a| and |b| respectively), is given by a,b(|a|,|b|) where:

$$lev_{a,b}(i,j) = \begin{cases} \max(i,j) & if\ \min(i,j) = 0 \\ \min \begin{cases} lev_{a,b}(i-1,j)+1 \\ lev_{a,b}(i,j-1)+1 \\ lev_{a,b}(i-1,j-1)+1_{(a_i \neq b_j)} \end{cases} & otherwise. \end{cases}$$

Here, 1(ai≠bi) is the indicator function equal to 0 when ai≠bi and equal to 1 otherwise, and leva, b(i,j) is the distance between the first i characters of a and the first j characters of b.

Note that the first element in the minimum corresponds to deletion (from a to b), the second to insertion and the third to match or mismatch, depending on whether the respective symbols are the same.

For the Chatbot equation (1), we apply the Levenshtein distance for measuring the difference between two sequences which is in a string metric. Informally, the Levenshtein distance between two words is the minimum number of single-character edits such as insertions, deletions, or substitutions which are required to change from one word to another.

The algorithm that ChatterBot uses by default is Levenshtien Distance algorithm when Levenshtien Distance cannot be used is the algorithm. A Sequence Matcher algorithm is used to check words in a sentence. Since ChatterBot is a machine learning machine that requires instructors, there is no knowledge to interact with. It is required to teach ChatterBot. When the user types a message, the system will save it. The system will respond in a way similar to the message received. After installing chatterbot by pip command. The results show the conversation.

Text: Hello Chatbot
Hello
Text: How are you?
I am very good.
Text: Are you ok?
I am fine.
Text: bye
How are you?
Text: I am ok.
That is good to hear.
Text: good.
Hello
Text: Hello
Hello
Text: Hello
Hello
Text: How are you doing?
I am doing good.
Text: How are you doing?
I am good.
Text exit

The Chatterbot module has prepared a data set for use in training preliminary conversation for us. Which can call to use the data set as in this example

```
from chatterbot.trainers import ChatterBotCorpusTrainer
chatterbot = Chatbot("Training Example") #
```

```
chatterbot.set_trainer(ChatterBotCorpusTrainer)
chatterbot.train(
   "chatterbot.corpus.english"
) #
Chatbot = Chatbot(
   'Charlie',
   storage_adapter='chatterbot.storage.SQLStorageAdapter',
#
   database='Charlie.sqlite3' #
)
run
ai.yml Training: [####################] 100%
botprofile.yml Training: [####################] 100%
computers.yml Training: [####################] 100%
conversations.yml Training: [####################]
100%
emotion.yml Training: [####################] 100%
food.yml Training: [####################] 100%
gossip.yml Training: [####################] 100%
greetings.yml Training: [####################] 100%
history.yml Training: [####################] 100%
humor.yml Training: [####################] 100%
literature.yml Training: [####################] 100%
money.yml Training: [####################] 100%
movies.yml Training: [####################] 100%
politics.yml Training: [####################] 100%
psychology.yml Training: [####################] 100%
science.yml Training: [####################] 100%
sports.yml Training: [####################] 100%
trivia.yml Training: [####################] 100%
```

When running, Chatterbot will ask us for information before executing. When the training is finished, try using it.

```
Text: Hello
How are you doing?
Text: I am playing tennis.
Good.
Text: Yes, I have.
What is it like?
Text: Are you ok?
I am good.
```

You can see that working with Chatterbot in Thai is not very good, probably the system which has to use a lot of information to train for better result.

```
Bots like myself is doing ok.
Text: How are you doing?
I am doing well.
Text: Do you love me?
Yes
Text: Hello
Hello
Text: How are you?
I am fine.
Text What are you doing?
I am doing my hotel.
Text You have room?
Yes
Text Where is the room?
Second floor
Text: Are you going to PATTAYA?
No
Text: Why?
I want to stay in the hotel
Text: re you going to the beach?
Yes
Text: here are you going?
I am going to shopping.
Text: Where are you going?
Yes.
Text: exit
```

The conversation shows that the response of the chatbot like a human response. Due to the large amount of information used in training, Chatterbot learners can respond with appropriate sentences.

Chatbot installation

After installing the Chatbot for English, we have created a Chatbot and training data, as well as storing data for Chatbot in English. So, a question arose, can be used in Thai language? This article let's make a Thai Chatbot using Chatterbot in Python.

Thai is the national language of Thailand. Many people who do NLP and Chatbot would like Chatbot Thai to be as effective as Chatbot English.

GitHub, Chatterbot's training information is located at https://github.com/gunthercox/chatterbot-corpus. The data file is located at Python \ lib \ site-packages\ chatterbot_corpus folderFirst, download the greeting.yml file fromhttps://raw.githubusercontent.com/gunthercox/chatterbot-corpus/master/chatterbot_corpus/data/thai/gGreeting.yml. Then put in Python \ lib \ site-packages \ chatterbot_corpus folder Create a folder that says Thai and store it in Python \ Lib \ site-packages \ chatterbot_corpus \ Thai folder

Chatbot Experiment in Tourism

The Chatbot prototype was tested in an experiment with 30 tourists via an online survey in Bangkok and with 30 tourists via an online survey in Chonburi, Rayong, Chanthaburi and Trat province Thailand. The experiment was conducted for four weeks to support an online tourism system. The Chatbot prototype was evaluated after the completed prototype.

Results

The results of the testing of the Chatbot prototype and user evaluations as follows:

Chatbot answer

After the installation of the Chatterbot, it can answer simple questions. The result of answers from the Chatterbot in Thai is not very good, probably the system has to use a lot of information to train for better result.

```
Text: สวัสดี (Hello)
สวัสดี (Hello)
Text: สวัสดีครับ (Hello)
กินข้าวยังครับ (Do you have dinner)
Text: สบายดีไหม (How are you ?)
```

สบายดี ทำอะไร (I'm fine. What are you doing ?)
Text: สวัสดีครับ (Hello)
Text: กินข้าวยัง (Do you lunch)
สวัสดีครับ (Hello)
Text: ทานข้าวยัง (Do you have lunch)
ทานแล้ว (Yes I have)
Text: สวัสดี (Hello)
สวัสดี (Hello)
Text ฉันต้องการไปหาดทรายด้วยรถ (I want to go to the beach by car)
เรามีรถให้คุณ (We have a car for you)
Text ควรไปไหน (Where can I go?
ภูเขา (mountain)
Text: ไกลมัย (How far?)
15 กิโลเมตร (15 kilometres)
Text: อากาศเป็นอย่างไร (How is the weather ?)
อบอุ่น (Warm)
Text: มีที่อื่นอีกมัย (Do you have other places)
มีอีก (Yes)
Text: ที่ไหน (What place ?)
ในเมือง (In the city)
Text: ไกลมัย (Is it far ?)
ไกลนิดหน่อย (Yes, a little bit)
Text: อาหารเย็นกี่โมง (What time for dinner ?)
6.00 น. (6.00 PM)
Text: อาหารแบบไหน (What kind of the food?)
อาหารญี่ปุ่น (Japanese food)
Text exit

Chabot System Evaluation

The results of user satisfaction of the Chatbot prototype in Bangkok (Figure 5) the minimum is 3.00, maximum is 5.00, the average (Mean) is 3.87 and standard deviation (S.D.) is 0.73.

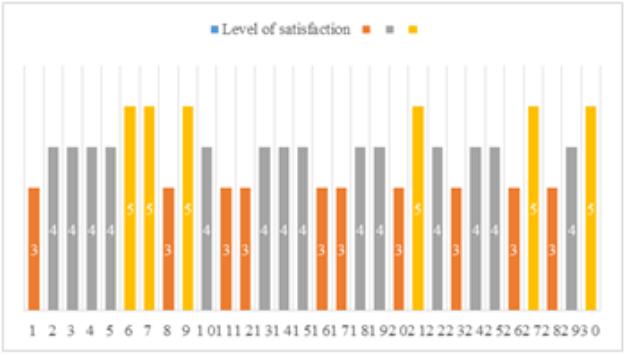

Fig. 5. Result of user satisfaction of the tourist in Bangkok

The results of user satisfaction of the Chatbot prototype in Chonburi, Rayong, Chanthaburi and Trat province Thailand. The experiment was conducted for four weeks (Figure 8) the minimum is 2.00, the maximum is 5.00, the average (Mean) is 3.40 and the standard deviation (S.D.) is 1.04.

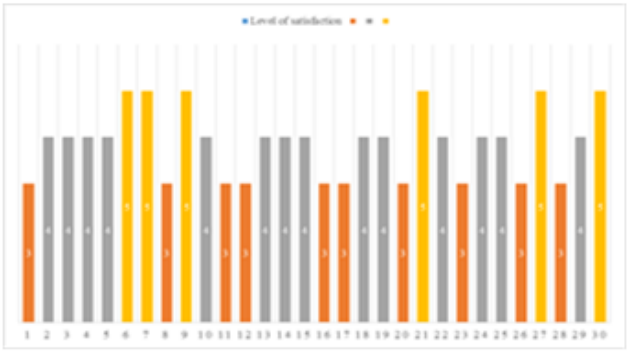

Fig. 8. Results of user satisfaction of the tourist in Chonburi, Rayong, Chanthaburi and Trat province Thailand.

Table 1 shows the T-test of the variables

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
	qual variances assumed	6.45	.014	2.203	58	.032	-.50000	.22701	-.95441	-.04559
iat_BKK	qual variances not assumed			2.203	1.081	.032	-.50000	.22701	.95572	-.04428

Table 1 shows the T-test of the variables, Levene's Test for Equality of Variances is 6.45 and Sig. is 0.14.
Table 2 show Person Chi-Square value 9.957, df = 3, Sig = 0.019.

Table 2 Pearson Chi-Square

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.957[a]	3	.019
Likelihood Ratio	12.729	3	.005
Linear-by-Linear Association	4.554	1	.033
N of Valid Cases	60		

a. 2 cells (25.0%) have an expected count less than 5. The minimum expected count is 3.50.

Discussion

The study aims to examine the development of a tourism Chatbot and focuses on the ability of the Chatbot which is a text-based application for the tourism sector in the Active Beach zone of Thailand. The Chatbot is always available to users, which can provide up to date information about places, events weather conditions and provide recommendations. We gave a technical overview of materials needed to build a Chatbot which are Natural Language Processing (NLP), Machine Learning (ML), and ChatterBot. The paper also discusses how the Chatbot classified, processed and made a prediction based on available data to find the best match by using a machine-learning-based conversational dialogue engine build in Python.
The Chatbot is designed for turn-by-turn conversations with human users based on the textual input integration of intelligent backend systems and an interface (Guzman & Pathania, 2016). Chatbot interactions are supported by intelligent backend systems, which facilitate the interaction

process with end-users (Sheehan, 2018; Pillai & Sivathanu, 2020).

The Chatbot were used in the experiment in the research area in Bangkok and Active Beach zone (Chonburi, Rayong, Chanthaburi, Trat province) in Thailand (Suanpang, 2020; Suanpang 2021). The result of using Chatbot in the tourism business (hotel, resort, restaurant) found that the tourist's satisfaction is high and the tourism business owner satisfied Chatbot that were benefits of using in the business. Due to, Chatbots are helping tourism business can operate for 24/7 tourist support, more revenue opportunities, improved engagement, automatic lead capturing, reduced overhead cost, competitive advantage and time saving (Bowen and Morosan, 2018; Sheehan, 2018; Pillai & Sivathanu, 2020). The Chatbots can answer any tourist query which is related to tourism. Another benefit is the Chatbot is the best way for tourism assistant to share information and build a strong knowledge for our system. Tourists can access the content and ask the Chatbots which can also respond to a lot of tourist answer each query personally and automatically at any time.

Conclusion

This paper demonstrates the applying of intelligent Chatbots for service industry which is involved a lot of people whereas business world is changing rabidly into digital world that can be seen today. It will charge all aspect of utility of Chabot into any industry. We introduce a new approach by using intelligent Chabot for tourism industry that our Chabot is continually trained in a supervised manner from tourist dialogue in daily use. Our Chabot is a project which aimed to develop a prototype of intelligent travel Chabot to provide the necessary information about their travel destinations to make their experience more pleasant while they are in tourist place. The result shows the evident of adopting chat bot for the tourism can make tourist highly satisfaction to communicating with Chabot. This leading to the using new technology in order to increase the royalty to gain the competitive advantage in tourism industry.

Future Studies

Future research can be divided into three fields. The first field is to focus on developing the Chatbot for detecting the emotional state of the tourists which, the Chatbots can detect student response and modify the response for tourist. The second field is to provide individual learning, which depends on the question style of the tourists. The Chatbot can customize content for each tourist. The last field is to store and analyze data effectively when evaluating the progress of students. The Chatbot can help tourists to organize their time for trips to archive their goal. We will include more data such as hospitals, schools and airports. The bot will provide more features such as supporting voice-based Chatbot, English language and IOS platform.

The tourist satisfaction results of the tourists showing the benefits of a Chatbot in tourism. The Chatbots can answer any tourist query which is related to tourism. Another benefit is the Chatbot is the best way for tourism assistant to share information and build a strong knowledge for our system. Tourists can access the content and ask the Chatbots which can also respond to a lot of tourists to answer each query personally and automatically at any time. Future research can be divided into three fields. The first field is to focus on developing the Chatbot for detecting the emotional state of the tourists which, the Chatbots can detect student response and modify the response for tourist. The second field is to provide individual learning, which depends on the question style of the tourists. The Chatbot can customize content for each tourist. The last field is to store and analyze data effectively when evaluating the progress of students. The Chatbot can help tourists to organize their time for trips to archive their goal. We will include more data such as hospitals, schools and airports. The bot will provide more features such as supporting voice-based Chatbot, English language and IOS platform

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