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Chatbot Prototype Training Using Deep Learning Methods For Tourism in North Sumatra

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Abstract. One of the several foreign exchange industries with considerable expansion potential is tourism. One is the province of North Sumatra, which has numerous intriguing tourist attractions. Advertising and inadequate tourism information management systems are factors that are impeding the growth of the tourism industry. The younger generation still has very little understanding of artificial intelligence and its applications for Chatbots and support services. A program called a Chatbot makes to hold chats for you. As a result, instruction requires in the design and use of deep-learning Chatbots. By offering guidance, examples, and hands-on training on tourist Chatbot prototypes from North Sumatra, this non-profit endeavor attempted to address the issue at hand. The PKM program's activities include: 1) instruction in marketing strategies including tourist information management systems. 2) instruction in the fundamental ideas of artificial intelligence, particularly Chatbots. 3) instruction in deep learning for Chatbot construction; 4) instruction in utilizing the Chatbot application. It envisaged that the outcomes of this activity would promote public awareness usage of Chatbot applications to discover data regarding tourist attractions around the province of North Sumatra as awareness among tourists.

Keywords: *PKM, Chatbots, Tourism.*

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1. Introduction

Augustiningrum and Rahmawati [1] states tourism is a sector that generates foreign exchange and has substantial room for growth. The life of contemporary society includes tourism [2]. Tourism growth influences by a variety of factors, including the availability of tourist locations, their natural beauty, and the distinctive cultures and customs of the local populace. However, the growth of tourism in the area heavily depends on people resources, management systems, and knowledge. The development of tourism potential can greatly improve through good management, qualified human resources, and accurate and readily available tourist information. The outcomes have a favorable effect on regional economic development and social welfare.

The growth of tourism influence by a variety of factors, including population density, natural beauty, and locals' distinctive customs and cultures. However, the advancement of tourism in a region heavily depends on human resources, management methods, and information. Tourism potentials can develop much more effectively with quality human resources, sound management, and precise, easily accessible tourism information. The outcomes will have a favorable effect on raising regional income and societal welfare.

Poor information management and advertising are two elements that are impeding the growth of tourism. As a result, the place of interest is not yet well-known and, naturally, has not developed into a

popular tourist destination. Many facets of human life have changed as a result of the computer information technology industry's rapid development. Artificial intelligence is a recent technological advancement. *Chatbots* (chat) are examples of how artificial intelligence enables computers to carry out specific jobs that humans do [3]. Chat software on a computer allows users to have chats while editing (Mukrodin & Sasmita, 2021).

Artificial intelligence (AI) *Chatbots* use to facilitate conversations between people and other technologies without a human intermediary. A *Chatbot* is an application that specifically creates for communication rather than an actual bot. Similar to answering machines are chatbots. The chat does not, however, return voice calls; instead, it writes. According to Suryani and Amalia [4], *Chatbots* can generally carry out duties including having a discussion (chat) with anyone and addressing their demands.

The service team intends to try to construct a North Sumatra tourist application from the website based on the findings of an examination of the structure and functioning of the North Sumatra tourist service website. The younger generation still has very little information and expertise about *Chatbot*s' use of artificial intelligence as a consultation service. As a result, it is necessary to start deep learning-based *Chatbot*s and training exercises. To precisely and effectively implement information technology standards for tourist destinations, this service program expects to promote the growth of information about tourism technology in North Sumatra Province.

The goal of the service in question is to construct an application that may utilize as a support service, according to the specifications provided. Users of this program can easily hold human-like chats while the system responds automatically. The expected outcome of this guidance and instruction is that the younger generation, particularly high school students can apply and use *Chatbot*s that respond to inquiries about tourism in North Sumatra by giving visitors more options for learning about potential tourist destinations that might offer in North Sumatra Province.

2 Literature Review

a section on language. The last section describes the framework or introduces musical elements.

This teamwork is done in the community using a variety of techniques, such as lectures, group discussions, and fieldwork. These approaches choose to address the issue because they are appropriate given the couple's circumstances. The procedure for service activities carried out on tourism in North Sumatra using the deep learning method through chatbot prototype training is:

a. Preparation Stage

   Knowing the philosophy regarding marketing campaigns and computerized tourism technological systems of management for partners, particularly in the *Chatbots* is the first step in this stage. Conversations continued after the performance.

b. Implementation Stage

   Subsequently, instruction and guidance provided for creating *Chatbots* to support the province of North Sumatra's tourist destinations. Following the presentation, there was a discussion. Following that, instruction and support are given in designing or creating chatbots to serve as help desks for tourism attractions in the province of North Sumatra. Teach partners the value of improving knowledge and abilities in North Sumatra Province's tourist computer-based information technology management, especially for students in high school or the younger generation who must stay current with changes in technology and information.Additionally, there was a demonstration of how to use *Chatbot* prototypes.

c. Evaluation Stage

   In this stage, the community service team monitors the situation and assesses whether any errors or outcomes that are not correct still exist in the coding program. The implemented application is

continually updated and maintained, and any issues reported by users take seriously. The outcomes of this evaluation can also utilize as a benchmark for comparison in an analysis of the successes and shortcomings of the execution of community service activities, which is the last step in the methodology.

3. Results and Discussion

SMA Negeri 7 Binjai, Jl. Sawi Kelurahan No. 48, Paya Roba, Kec. Binjai Bar., The City of Binjai, North Sumatra 20718, was the location of this action. This activity attends by the full team including the executive team. These are the outcomes of this activity:

1) Preparation Stage

By creating the content and application design, the preparatory stage for conducting *Chatbot* prototype training sessions has completed. This phase involves setting up service locations, creating administrative and transportation arrangements, manufacturing procedures, and presenting any necessary application features. At this point, the coding procedure also gets carried out in accordance with the created design. Figure 1 shows a coding display.

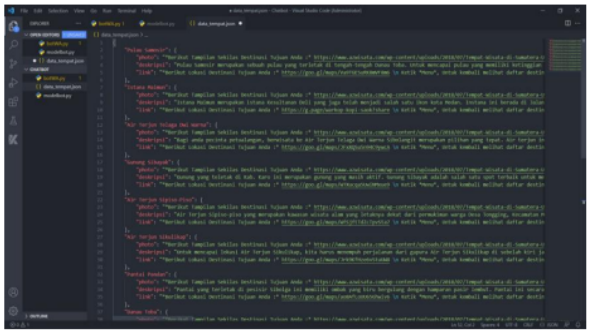

Fig 1. Program code in the data_place.json file

An option to "Start" will be available when you first enter the BotFather chat. When you select the option, the bot will describe how it works. Figure 2 shows the display for the BotFather chat.

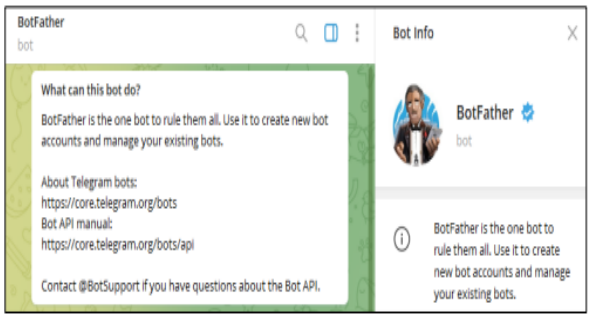

Fig 2. Enter Chat BotFather

2) Implementation Stage

Delivering information about the *Chatbot* prototype idea building or creating *Chatbots* as helpdesks for tourist attractions, and using or deploying *Chatbot* prototypes are some of the tasks completed at this

implementation stage.

Information regarding the *Chatbot* prototype concept and the goal of this community service was provided during the presenting stage of the *Chatbot* prototype notion material. Then, notably in the use of *Chatbots*, impart theoretical knowledge to partners about promotion strategies and computer-based management of information technology systems for the tourism industry.

Following that, the training participants directly participate in the development phase of the*Chatbot* prototype, which is suited to their degree of technical knowledge and proficiency. Once the *Chatbot* uses for the first time, the design in the shape of the primary screen shows. A text box for input from users, a send a button, a description of the program, and a text space to display chats amongst the person using the program and the *Chatbot* are all included in this view. Figure 4 depicts the Bot prototype that creates.

Fig 3. View of the Bot that has been created

When the transmit button pushes, the display that appears is the result display. Both question and response fields from the user have add to this display. Figures 5 and 6 show the display layouts for both the "Sipiso Piso Waterfall" and "Back to Menu" options, which take users back to the tour selections.

Fig 4. Display of the "Sipiso Piso Waterfall" option

Fig 5. Display of the "Return to Menu" Option

3) Evaluation Stage

The evaluation's findings are used to assess how well the implemented *Chatbot* application is working. Additionally, members of the team performed visits during this review stage to check on the application's ability to run and to ensure that it does so correctly and following its intended role. Following is a description of the service program's outcomes: 1. As evidenced by the interactive participants in this training, the comprehension, and enthusiasm of the training individuals about promotional patterns and tourism systems for information management, especially regarding the fundamentals of *Chatbot* artificial intelligence, is still growing. 2. The level of expertise and technological skill in building chatbots with a deep learning technique keeps rising. 3. The ease with which users use the *Chatbot* application demonstrates the quantity of knowledge and technological competence required to use it. 4. The fact that the *Chatbot* application is still in use today shows how valuable it has been as a resource for learning about tourist attractions in North Sumatra Province.

4. Conclusion

It can infer from the activities conducted that partners, particularly the younger generation, in this case feel very helpful because, in addition to learning about advertisement patterns and a computer program management of information technologies systems for tourism, collaborators additionally discover it helpful when implementing and integrating *Chatbots* that are able to answer questions about tourism in North Sumatra, adding more options for tourists to find information.

References

1] Agustiningrum, T. E., & Rahmawati, A. D. (2019). Peningkatan Sektor Pariwisata Kabupaten Sragen melalui Pengembangan Booklet Pariwisata Berbahasa Perancis. *Jurnal Pengabdian Kepada Masyarakat*, *23*(2), 139–151. https://doi.org/https://doi.org/10.15294/abdimas.v23i2.17898

2] Abidjulu, R. Z. W. (2015). Strategi Pengembangan Pengelolaan Pariwisata Air Terjun Wera Saluopa di Kabupaten Poso. *E-Jurnal Katalogis*, *3*(5), 1–12. https://journal.unnes.ac.id/nju/index.php/abdimas/article/view/17898/0

3] Syahputra, Y. D. F. (2019). *Pengembangan aplikasi kecerdasan buatan berupa chatbot guna membantu perusahaan dalam melakukan edukasi customer dengan sistem Natural Language Processing (NLP)* [Universitas Negeri Malang]. http://repository.um.ac.id/98934/

4] Suryani, D., & Amalia, E. L. (2017). Aplikasi Chatbot Objek Wisata Jawa Timur Berbasis AIML. *SMARTICS Journal*, *3*(2), 47–54. https://doi.org/10.21067/smartics.v3i2.1961

5] Kurniawan, H., & Tanjung, M. R. (2017). Sistem Informasi Geografis Objek Wisata Alam di Provinsi Sumatera Utara Berbasis Mobile Android. *Jurnal Ilmiah SISFOTENIKA*, *7*(1), 13–4.http://sisfotenika.stmikpontianak.ac.id/index.php/ST/article/view/130/124

6] Azwar, A., Fadillah, A., & Manullang, S. (2020). Desain Pelabuhan Wisata untuk Menunjang Pariwisata Danau Toba. *Jurnal Inovasi Sains Dan Teknologi Kelautan*, *I*(3), 99–106. https://journal.unhas.ac.id/index.php/zonalaut