

The Digitalization of Danau Aek Natonang in Samosir

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Abstract

The purpose of this study is to develop a digital tourism promotion medium in the form of a German-language website about Danau Aek Natonang in Samosir. The website was developed using the 4D model, which consists of four stages: Define, Design, Develop, and Disseminate. The website was created using the Weebly platform and contains five menu sections: Home, Legend, Danau Aek Natonang, Destination, and Contact. The results of this study showed that the website can provide information about Danau Aek Natonang to both German-speaking tourists and the general public. The validation results from the material expert and the media expert were very good. The material validation score was 95, while the media validation score was 95.4. Both scores fall into the "very good" category. The website can be accessed at <https://danau-aek-natonang-in-samosir.weebly.com/>. It serves not only as a medium for tourism promotion but also as an information source about Danau Aek Natonang

Keywords: *Digitalization, Tourism Website, 4D Model, Weebly.*

Introduction

Indonesia is a country blessed with breathtaking natural beauty, especially North Sumatra, which has abundant natural resources and a rich cultural heritage. It is well known for the stunning Danau Toba, the majestic Bukit Barisan mountain range, and its beautiful waterfalls, which are among the main tourist attractions. This natural beauty is further enriched by the rich culture of the Batak people, which has been well preserved, especially in Samosir Regency.

Samosir Regency, which is located in the middle of Danau Toba, offers a wide range of attractive tourism potential (Sipayung et al., 2021, p. 37). Its stunning natural scenery, with views of the world's largest volcanic lake, is one of its main attractions for tourists. In addition, Samosir is also rich in cultural heritage, including traditional Batak houses and traditional ceremonies that are still preserved today.

Danau Aek Natonang is one of the tourist attractions located in Desa Tanjungan, Kecamatan Simanindo, Samosir Regency. If Samosir Island is known as the "island on an island," then Danau Aek Natonang has the unique nickname "the lake on a lake." As its name suggests, "Aek" means "water" and "Natonang" means "calm." This lake creates a peaceful atmosphere that brings a sense of tranquility to every visitor, as it is surrounded by green hills and dense pine forests. Danau Aek Natonang has great tourism potential and deserves to be developed as an attractive and promising tourist destination, both now and in the future. However, the lack of information and promotion is one of the main factors that makes this tourist attraction less well known and less frequently visited by tourists. In addition, there is currently no German-language website that provides information about Danau Aek Natonang. Therefore, the author aims to develop a German-

language website about Danau Aek Natonang. This website provides comprehensive information about its legend, culture, travel guide, and the natural beauty of the lake through photographs. It also includes information on entrance fees, travel distance, and travel time to Danau Aek Natonang, enabling visitors to plan their trips more effectively and prepare everything they need in advance.

This website can be used as an additional learning resource in the German as a Foreign Language Study Program, especially for the course *German for Tourism*. The author hopes that this website will enrich students' knowledge of the culture and legend of Danau Aek Natonang. In addition, students can also learn how to create and write effective travel guide content for a website.

Method

This study employed the Research and Development (R&D) method using the 4D model developed by Sivasailam Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel. The model consists of four stages: Define, Design, Develop, and Disseminate, providing a systematic framework for developing innovative, effective, and efficient products (Sutrisno et al., 2023, p. 72).

The website was developed using the Weebly platform, a web-based website builder that enables users to create websites without requiring advanced programming or web design skills. Weebly provides various features, including a drag-and-drop editor, allowing users to easily design and customize the website according to their needs (Qwoerds, 2020). The data in this study consisted of general information and documentation related to Danau Aek Natonang. The data were collected from the Samosir Regency Tourism Office through observations, interviews, and documentation. This study was conducted at Danau Aek Natonang, Desa Tanjungan, Kecamatan Simanindo, Samosir Regency.

Results and Discussion

The results and discussion of this study are presented according to the stages of the 4D development model. This study was carried out up to the Develop stage; therefore, the discussion focuses on the Define, Design, and Develop stages.

1. Define

The needs analysis was conducted by distributing a questionnaire through Google Forms to students of the German Language Education Study Program at Universitas Negeri Medan. In addition, direct observations were carried out at Danau Aek Natonang, along with interviews with tourism managers and local residents, as well as documentation. The questionnaire results showed that most respondents had limited knowledge about Danau Aek Natonang and needed an easily accessible German-language tourism information medium. Meanwhile, the observations and interviews revealed that Danau Aek Natonang has great tourism potential, but its promotion and the availability of information in German are still limited. Therefore, developing a website was considered necessary as a digital medium for providing information and promoting Danau Aek Natonang.

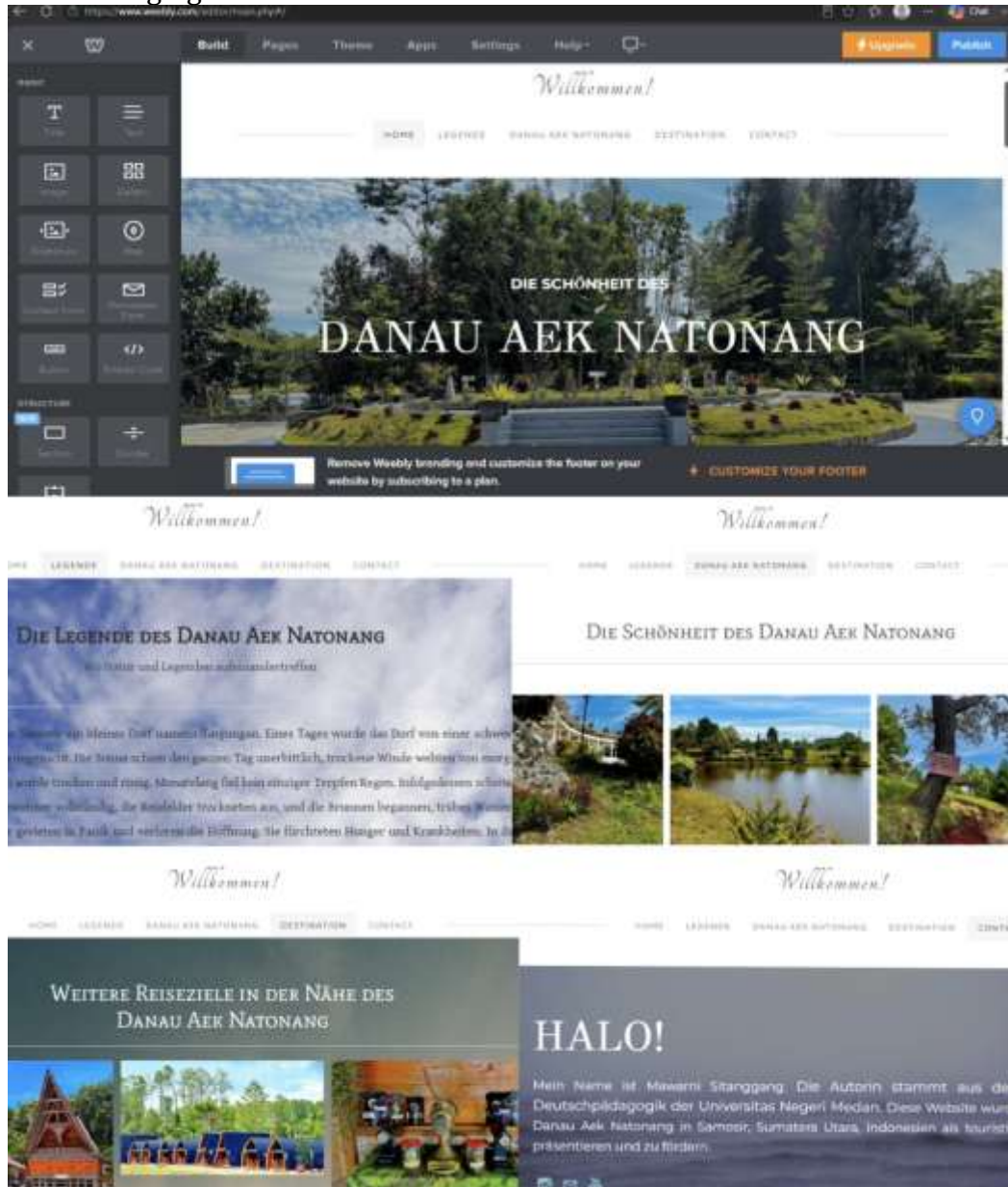
2. Design

The website structure and content were designed based on the results of the needs analysis. The website consists of five main menus: Home, Legend, Danau Aek Natonang, Destination, and Contact. Each menu was designed to provide comprehensive information about the location, legend, facilities, tourist activities, accommodations, and contact information.

3. Develop

The website was developed using the Weebly platform based on the previously prepared design. All materials, images, and information were integrated into the website to create a comprehensive tourism information medium. After the development process was completed, the website was evaluated by a material expert and a media expert to assess the quality of the content and the website design. The validation results showed that the material expert gave a score of 95, while the media expert gave a score of 95.4. Both scores were categorized as Very Good, indicating that the website is suitable for use as a tourism information and promotion medium.

The following figures show several screenshots of the website:



4. Disseminate

The completed website was published through the Weebly platform and made accessible to the public online at <https://danau-aek-natonang-in-samosir.weebly.com/>. The website serves as a digital medium for providing

tourism information and promoting Danau Aek Natonang to tourists and the general public. It also makes information about this tourist destination more easily accessible, especially for German-speaking tourists.

Conclusion

This study successfully developed a German-language tourism website about Danau Aek Natonang in Samosir using the Research and Development (R&D) method with the 4D model. The website was developed through the Define, Design, Develop, and Disseminate stages using the Weebly platform. It consists of five main menus: Home, Legend, Danau Aek Natonang, Destination, and Contact, which provide comprehensive information about the tourist destination. The validation results showed that the website received a score of 95 from the material expert and 95.4 from the media expert, both of which were categorized as Very Good. Therefore, the website is considered suitable as a digital medium for providing tourism information and promoting Danau Aek Natonang, especially to German-speaking tourists. The website is available at <https://danau-aek-natonang-in-samosir.weebly.com/>.

References

- Azhari, D. (2024). Lehrmaterialien zu Deutsch für Tourismus 4.0: Technikkomfort als Tourismusunternehmer. *Journal der Internationalen Konferenz des Indonesischen Germanistenverbandes (IKONIG)*, 1(1), 120–132. <https://proceedings.nexuspublishing.org/index.php/ikonig/article/view/54/61>
- Bara, J. K. D., & Harahap, A. B. (2025). *Die Erstellung einer touristischen Website von Air Terjun Lau Lutih und Danau Linting*. Universitas Negeri Medan. <https://archive.p5i.org/index.php/kelasa/article/view/94>
- Darmawan, D. (2021). Pemanfaatan website pariwisata sebagai media promosi destinasi wisata lokal. *Jurnal Pengabdian Kepada Masyarakat Informatika*. <https://journal.uny.ac.id/index.php/elinvo/article/view/68191>
- Dewanto, R. F. (2022). Pengaruh digitalisasi dan citra destinasi pariwisata terhadap tingkat kepuasan pengunjung di Malang. *Jurnal Ilmu Ekonomi JIE*, 6(4), 537–552. <https://ejournal.umm.ac.id/index.php/jie/article/view/22278>
- Josephine, A. (2020). *Die Erstellung einer Website für Tourismus auf der Insel Nias*. Universitas Negeri Medan. <http://www.wisata-nias000webhostapp.com>
- Marizki, A., Masril, M., & Pasaribu, I. (2022). Konsep komunikasi pariwisata berbasis kearifan lokal di Danau Toba Kabupaten Samosir Sumatera Utara. *Jurnal Simbolika: Research and Learning in Communication Study*, 8(1), 42–50. <https://ojs.uma.ac.id/index.php/symbolika/article/view/5715>
- Nurlailah, E., & Wardani, K. R. N. (2023). Perancangan website sebagai media informasi dan promosi oleh-oleh khas Kota Pagaralam. *Jurnal Ilmiah Penelitian dan Pembelajaran Informatika*, 11(2), 1175–1185. <https://jurnal.stkipppgritulungagung.ac.id/index.php/jipi>
- Pasaribu, R. (2024). Erstellung einer Tourismus-Website in Tarabunga Hill. *Jurnal Intelek dan Cendikia*, 1(7). <https://jicnusanantara.com/index.php/jiic/article/view/1014/1145>
- Purba, B., Situmorang, E. A. A., Firmansyah, D., & Manurung, T. A. (2024). Potensi sumber daya alam dalam mengembangkan sektor pariwisata di Indonesia. *Economic*

- Reviews Journal*, 3(3), 2060–2065. <https://www.mes-bogor.com/journal/index.php/mrj/article/view/308>
- Sipayung, N. L. (2021). Peran Instagram terhadap minat berkunjung wisatawan ke objek wisata Bukit Indah Simarjarunjung Kabupaten Simalungun (pasca pandemi COVID-19). *Jurnal Dharma Agung*, 29(3). <https://jurnal.darmaagung.ac.id/index.php/jurnaluda/article/view/1226>
- Siregar, M. I. R., & Hutagalung, S. M. (2022). Digitalisierung der Veranstaltung von Gordang Sambilan in Tapanuli Selatan. *Studia: Journal des Deutschprogramms*, 11(1), 1–13. <https://jurnal.unimed.ac.id/2012/index.php/studia/article/view/36318>
- Sitepu, F. A. B., & Atiqah, A. N. (2022). Pengaruh penerapan konsep digitalisasi di Museum Sonobudoyo Yogyakarta. *Kepariwisata: Jurnal Ilmiah*, 16(1), 1–10. <http://ejournal.stipram.ac.id/index.php/kepariwisataan/article/view/135/121>
- Situmorang, A. K. (2022). *Potensi dan strategi pengembangan kawasan ekowisata Kebun Raya Samosir dan Arboretum Aek Natonang di Desa Tanjung Kabupaten Samosir Sumatera Utara*. Universitas Jambi. <https://repository.unja.ac.id/34493/>
- Srisusilawati, P., Kusuma, E. P. G., Hasiun, B., & Haryanto, E. (2022). *Buku manajemen pariwisata* (W. S. N. Wahyuni, Ed.; Vol. 1). Widina Media Utama.
- Surentu, Z. Y., Warouw, D. M. D., & Rembang, M. (2020). Pentingnya website sebagai media informasi destinasi wisata di Dinas Kebudayaan dan Pariwisata Kabupaten Minahasa. *Acta Diurna Komunikasi*, 2(4). <https://ejournal.unsrat.ac.id/v3/index.php/actadiurnakomunikasi/article/view/31117>
- Winsky, N. (2020). Digitale Informationsflut und touristische Angebote – Marketingstrategien von Stadtführungsunternehmen. In *Ökonomische und soziologische Tourismustrends: Strategien und Konzepte im globalen Destinationsmarketing* (pp. 433–454). Springer. https://link.springer.com/chapter/10.1007/978-3-658-29640-7_36