

AI Website Builder - Application Of AI In Swift Website Building For Vietnamese Market

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Abstract

Due to the growth of digitalization after the pandemic, Vietnamese small and medium-sized enterprises (SMEs) can no longer advertise their businesses on foreign markets as they want: high costs and technical complexity are the major drawbacks. This thesis suggests designing an AI-based website creator aimed at the specific requirements of Vietnamese SMEs as a viable and economical solution. In particular, the content generation process incorporates generative AI technologies such as ChatGPT and multimedia creation employs DALL-E. This approach helps to mitigate the complexity of website design while assisting to reduce the costs associated with a long-term management of the site. Such local hosting also improves website loading speeds and ensures compliance with lock-up rules in Vietnam. It enables businesses to enter the online market faster and cheaper with less technical knowledge.

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Chapter 1 - Introduction

Right after the COVID pandemic, the needs of being visible online of businesses in Vietnam has increased significantly. Traditional processes of website development, which are often time consuming and costly, has become a significant barrier to medium and small businesses. According to Vietnam Website Builder Market Synopsis, held by 6wresearch, market analyses indicate that the average cost of developing a business website in Vietnam is in the range of \$500 to \$10,000, with high maintenance expenses. This high cost, together with complexity of maintaining content, responsive websites, has created a huge demand for more efficient and cost effective solutions. AI-driven website builders are appearing as a game changer, offer swift development, fast adoption to website content and ease the maintenance processes.

We create this project to answer this particular question:

How can AI help make website creation more efficient and cost effective for SME in Vietnam, allow small businesses to have their own website with minimum cost of creation and maintenance?

Problem Definition

According to the article: E-commerce keeps booming in Vietnam, from VNEconomy, as of 2024 approximately 60% of Vietnamese businesses have already invested in digital technologies, including online platforms, in response to the importance of having digital presence. However, a lot of SME (Small Medium Enterprises) still lack visibility online. Reports indicate that a substantial number of businesses, especially in rural and less urbanized areas, are not visible to digital footprint. Most of the reasons are the cost of building a new website, complexity of maintenance and heavy processes in training staff to monitor.

As the rapid growth of E-commerce and other digital economies in Vietnam, which emphasize the high need and urgency for business to go online. The internet economy in Vietnam is expected to grow from \$23 billion in 2022 to an estimated \$52 billion by 2025. As a key driver to leverage this opportunity, businesses need to go online fast and effectively, with simple website building processes and light weight maintenance processes.

Leveraging the power of Generative AI in building websites to reduce cost and streamline the process will be the key for this challenge.

General Goals:

- This thesis aims to find a solution that leverages the existing generative AI solutions, to develop an AI-driven website builder for small and medium sized companies in Vietnam. The solution will enable an easy-to-use solution for creating professional websites with more efficiency, cost-effective, and minimal technical expertise.

Specific Goals:

- To analyze the challenges faced by Vietnamese SMES in building and maintaining websites, especially in cost efficiency, resources management and maintenance complexities.
- To design an AI-powered solution that leverages generative AI technologies (e.g., ChatGPT and DALL-E) to streamline content creation, graphics generation and website maintenance.
- To develop a user-friendly interface that allows non-technical users to setup and manage their websites without the need of advanced skills resources, hence lowering the burden of small business owners to enter online marketplaces.
- To incorporate local hosting solutions to improve performance of the website, follow the compliance with local regulations, and provide good user experience in the Vietnamese market.

Chapter 2 - Overview Of The Existing

Wordpress, Joomla and Drupal have been long dominating the market of website building, which demand a high level of technical skill and knowledge. These platforms offer extensive customization options through themes, plugin and coding, which allows developers to create highly customized websites. However, this flexibility comes at a high cost, both in time and expertise.

1. Complexity and technical skills:

Platforms like WordPress require users to have a good understanding of web development knowledge and skills. It has a wide range of knowledge from programming languages, such as HTML, CSS, PHP, Javascript; especially when customizing themes or custom plugins. Businesses not only need to hire skilled software developers to implement their website but also website administrators to maintain the content.

2. Multi-Step Development Process

Building a website using traditional methods have multiple steps:

- Choosing and configuring hosting services
- Installing Content Management System (CMS)
- Selecting and customizing theme
- Install necessary plugins
- Performing extensive testing to ensure compatibility across browsers and devices (phones, tablets, computers)
- Security and performance measurement activities need to be constantly monitored.

These processes are not only time-consuming but also prone to errors, which can lead to further delays and additional cost .

3. Maintenance and Updates:

Once the website is live, ongoing monitoring, maintenance and update, becomes a critical task. Regular update the content of the website for multiple marketing campaigns, promotions require a high skills software developers, website

administrators. It is a high consuming cost and effort of businesses, using traditional website builder tools, which is existing on the market.

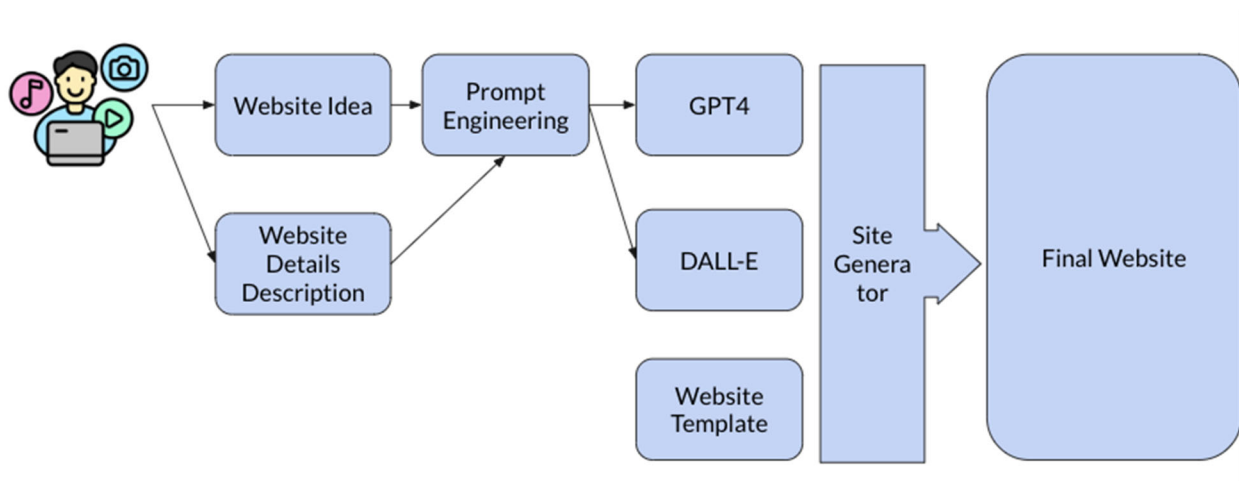
4. Hosting:

Majority of the existing solutions offer hosting options in foreign countries, such as Singapore, US, EU countries. Very little solutions are available in Vietnam, such as Haravan, and they are also very complex in developing and maintaining a website for SME.

Chapter 3 - Proposing A Solution

To address the challenges, we proposed an AI-driven solution that streamlines the entire process from content generation to further maintenance of website creation for SME in Vietnam. This solution leverages the power of generative AI tool, ChatGPT 4o, to make the website development accessible, efficient, and cost-effective, particularly for SME that may lack technical expertise or has budget constraints.

Key features of AI-Driven Solution



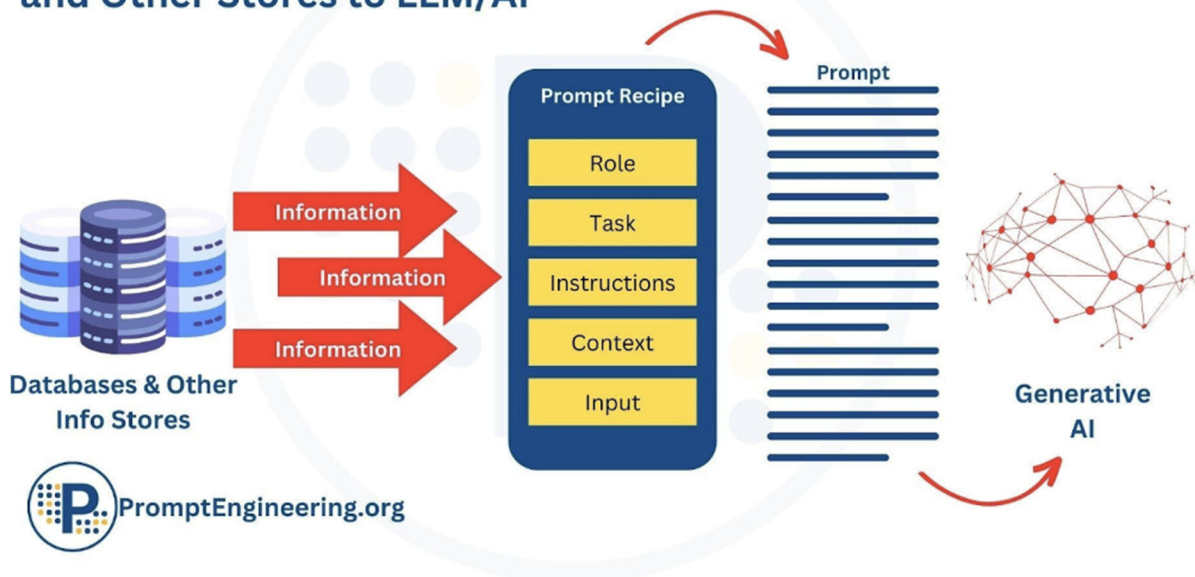
1. AI-Driven Content Generation Based on a Predefined Theme:

The solution starts by offering the user a set of predefined themes to choose from. It is various industries and businesses, specialized into 2 main areas: Generic website for company introduction and E-Commerce website for online business.

Once the theme is selected, the user needs to add an input to describe the website they want to create, which products or services they want to sell. Then the generative AI - ChatGPT 4o API - will be connected and generate the content, based on a set of predefined prompts.

The ChatGPT 4o has been trained with massive content of well built websites, supports Vietnamese as a language and is able to generate very good content.

Information Flow From Vector Databases and Other Stores to LLM/AI



2. AI Customization of Content

When the user inputs the description of the website, the solution will append this description to a set of predefined prompts. Those prompts are created by experienced prompt engineers with high knowledge in website building, E-commerce. It helps tailor the prompt before input into the ChatGPT API. The AI is able to refine and personalize the website content with extensive input fields, to allow the user to leverage the customization of the content of each area.

Generated content from AI is consistent, well written with high quality, which enable the website to be high reached and attractive toward end users.

3. AI-Driven Multimedia Generation

The solution incorporates AI-powered photo and video generation tools, Dall-E, that create custom multimedia content to complement the website's theme and content. It includes the generation of high quality images, promotion videos, which are essential for a good website.

By creating the graphic using AI, the content of the multimedia is relevant with the prompt input and the text content generated. It brings a great user experience for not only content but also visuals.

4. Automated Maintenance and AI-Generated Pages

Application of AI content generation eases the process of maintaining the website. Creating subpages for promotions, marketing campaigns becomes easier. The user only needs to input the campaign idea as an input, and the solution will automatically append it with a predefined prompt to leverage AI generated content. Additionally, AI can help in generating relevant SEO keywords to boost the search engine, so that the website becomes more reachable online.

5. Simplified Website Creation and Maintenance

The solution is designed to be user friendly, allowing even those with minimal technical knowledge to create and maintain a professional website. It includes simple steps and guidances, to help the user work through website creating processes. The simplicity of the interface ensures that users can easily navigate the platform, making changes and updates as needed, without the need to rely on skilled IT professionals.

6. Seamless Domestic Hosting with Minimal Effort

Recognizing the importance of local hosting for businesses in Vietnam, the solution includes integrated hosting services which are optimized for the Vietnamese market. The hosting process is handled in the background, with the support of AI in managing server configuration, updates, and monitoring. This minimizes the need for users to monitor or maintain the hosting environment, enabling them to focus solely on their business.

Chapter 4 - Conclusion And Perspectives

This AI-driven solution helps automate complex tasks in the process of creating and maintaining professional websites. It reduces the need of hiring expensive developers & IT support, significantly lowering the overall cost of building and maintaining a website.

The solution speeds up the development process, allowing businesses to establish online presence quickly and start engaging with their audience sooner.

Hosting within Vietnam ensures faster load times and better compliance with local regulations, improving user experience and search engine optimization.

We believe that the development of an AI-driven website builder is an important step toward empowering small and medium sized businesses in Vietnam, especially when the digital economy is growing significantly. Traditional website building platforms, like Wordpress and Joomla, are powerful but simply too difficult for many businesses to maintain without a dedicated high cost technical team.

From our perspective, AI offers a unique opportunity to revolutionize the process of building websites. By leveraging generative AI tools like ChatGPT for content creation and Dall-E for multimedia generation, we aim to simplify the entire process, making it easy to access to business owners with minimal technical knowledge. This will enable them to focus on their core business operation while still being able to create professional websites quickly and affordably.

In conclusion, this AI-driven solution represents a significant step forward in making website creation and management more accessible and efficient for Vietnamese small businesses, helping them become more visible in the digital world.

References

6wresearch - Vietnam Website Builder Market Synopsis

<https://www.6wresearch.com/industry-report/vietnam-website-builder-market-outlook>

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