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AI WebGen Assistant with Secure Wireless Payments

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Abstract : *The proposed paper presents an Artificial Intelligence (AI)-driven assistant for automating website creation, making web development accessible to non-technical users. Leveraging AI and Natural Language Processing (NLP), the system interprets user requirements and generates fully functional, responsive, and professional websites with minimal manual effort. Automated template generation and design workflows reduce development time, cost, and complexity, promoting faster digital adoption. The platform ensures security and reliability through a wireless payment gateway supporting Unified Payments Interface (UPI), Near-field communication (NFC), and Quick Response (QR) transactions, alongside Secure Sockets Layer/Transport Layer Security (SSL/TLS) protocols and Advanced Encryption Standard (AES) encryption to safeguard sensitive data. Scalable and rapidly deployable, the solution is suitable for startups, e-commerce platforms, and individual users, providing a user-friendly, efficient, and secure environment that fosters digital inclusion and safe online transactions.*

Keywords:- AI Assistant, Website Generation, Wireless Payment Gateway, Digital Ecosystem, Security

I. Introduction

In recent years, rapid digital transformation has increased the demand for automated website development solutions that reduce time, cost, and technical complexity [1]. Traditional website development requires expertise in programming languages, UI/UX design, backend integration, and deployment practices, which poses challenges for non-technical users and small businesses [2]. Even modern website builders often require extensive manual customization, template configuration, and feature integration, limiting scalability and efficiency [3]. These limitations slow down digital adoption and create barriers for startups and individuals seeking to establish an online presence [4]. As a result, research has increasingly focused on intelligent automation frameworks to simplify and accelerate web development processes [5].

To overcome these challenges, AI-assisted website generation systems have been proposed that utilize Artificial Intelligence (AI), Natural Language Processing (NLP), and Large Language Models (LLMs) to automate website design and structure generation [6]. These systems interpret user requirements and generate webpages using reusable components and intelligent workflows [7]. Generative AI techniques further enable dynamic layout creation, content generation, and adaptive customization with minimal human intervention [8]. Agent-based AI frameworks enhance scalability and intelligent decision-making in modern web applications [9]. Such approaches significantly reduce development effort while improving accessibility and usability for non-technical users [10].

In addition to website automation, secure digital payment integration has become a critical requirement for modern digital ecosystems [11]. Research emphasizes the role of secure wireless payment gateways such as UPI, NFC, and QR-based systems in enabling safe and seamless online transactions [12]. The integration of AI-driven automation with secure payment technologies provides a comprehensive solution for building trustworthy, scalable, and user-friendly digital platforms.

II. Literature Review

The literature reviewed in this project indicates that traditional website development approaches largely depend on manual coding, fixed templates, and human-driven design decisions [1]. Such conventional methods are time-consuming, costly, and require expertise in programming, UI/UX design, and backend integration, making them unsuitable for non-technical users and small businesses [2]. Even modern website builders often involve significant manual configuration and limited flexibility, which restricts scalability and customization [3]. These challenges hinder rapid digital adoption and highlight the need for automated, intelligent, and user-friendly website generation systems [4]. Consequently, researchers have increasingly focused on automation frameworks that minimize human intervention while maintaining usability and performance [5].

Several studies have explored the use of Artificial Intelligence (AI) and Natural Language Processing (NLP) techniques to automate website design and content generation processes [6]. AI-driven systems are capable of interpreting user requirements expressed in natural language and converting them into structured website layouts and functional components [7]. Advanced generative AI and Large Language Model (LLM)-based approaches further enhance dynamic webpage creation, reusable component integration, and adaptive customization [8]. These techniques enable scalable and efficient website generation while significantly reducing development time and technical dependency [9].

Machine learning and agent-based AI frameworks have also been investigated to improve decision-making, personalization, and workflow automation in web application development [10]. Such frameworks allow intelligent coordination between design, content, and deployment modules, supporting large-scale web generation within digital ecosystems. Research demonstrates that these intelligent systems improve accessibility and productivity for non-technical users, thereby encouraging broader digital participation [11].

In addition to website automation, the literature emphasizes the importance of secure digital payment integration in modern web platforms [12]. Studies highlight the growing adoption of secure wireless payment technologies such as UPI, NFC, and QR-based systems to enable seamless online transactions. AI-driven security mechanisms, including fraud detection and encryption-based authentication, enhance transaction safety and user trust within digital ecosystems. Overall, the reviewed literature indicates that while existing systems address website automation and payment security individually, there remains a need for an integrated AI-assisted website generation framework combined with secure wireless payment gateways to deliver scalable, trustworthy, and efficient digital solutions.

Table 1.1: Comparison of Existing AI-Based

Sr. No.	Launch Year	Website Name	Features, Drawbacks, and Proposed System Advantage
1	2006	Shopify	Working- Fully operational global eCommerce platform, Strong, mature payments + store + marketplace + plugins; is now adding AI tools (e.g. AI Store Builder). Limitation- The AI-site generation and wireless/NFC local payments aren't its original core; its newer AI features are evolving
2	2021	Typedream	Working- Clean no-code interface, supports AI-driven scaffolding, connected to payments via integrations. Limitation- It lacks deep wireless payment / NFC support in published info; the focus is more on web + content + templates
3	2025	Readdy	Working- Live and usable; marketed as an AI website builder, Good match for AI site-generation, content + UI automation. Limitation- Early stage; likely fewer integrations, less mature payment and wireless/NFC support; risk of instability or missing features.

III. METHODOLOGY

The flowchart begins with user input, where the system collects business requirements from the user. These inputs may include the type of website, functional needs, design preferences, and payment features. This step is crucial as it defines the overall objectives of the website. By capturing clear requirements at the initial stage, the system ensures accurate processing. This user-centric approach helps align the generated website with real business needs.

Once the requirements are provided, the process moves to AI processing, where artificial intelligence analyzes the user input. The AI engine interprets the requirements using intelligent algorithms and predefined models. Based on this analysis, it automatically generates the website structure and design. This step eliminates manual coding and design effort. As a result, website creation becomes faster and more efficient as illustrated in fig. 1.

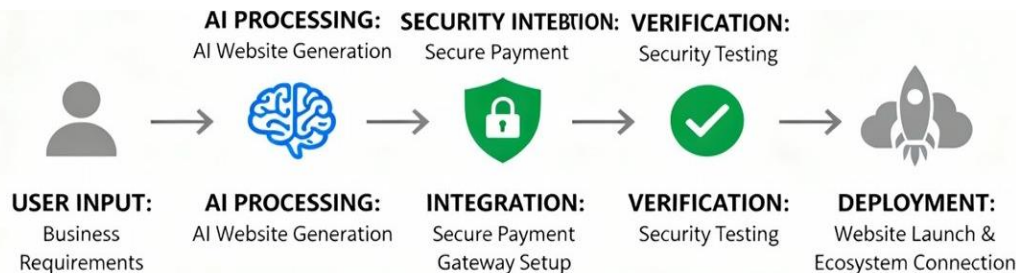


Fig. 1. Flowchart of AI-Based Website Generation with Secure Payment Integration and Deployment

3.1 User Input: Business Requirements

This foundational stage involves gathering the core objectives and specific needs of the client or business. During this phase, stakeholders define the target audience, desired functionality, brand identity, and the overall purpose of the website. Clear documentation of these requirements ensures that the subsequent AI processing aligns with the user's vision. By establishing these parameters early, the project has a clear roadmap, reducing the likelihood of major revisions later. It is essentially the "blueprint" phase where all ideas are funneled into a structured format for the AI to interpret.

3.2 AI Processing: AI Website Generation

Once the requirements are set, the AI engine takes over to translate those needs into a functional digital product. Using advanced algorithms and machine learning models, the system generates the website's layout, structure, and initial content based on the provided business data. This step significantly accelerates the development timeline by automating repetitive coding tasks and design choices. The AI analyzes industry standards to ensure the generated site is modern, responsive, and user-friendly. It serves as a bridge between human intent and technical execution, producing a sophisticated draft in a fraction of the time a human developer would require.

3.3 Integration: Secure Payment Gateway Setup

With the website structure in place, the focus shifts to adding critical financial functionality and security layers. This stage involves integrating robust payment gateways that allow the business to process transactions safely and efficiently. Developers (or automated systems) ensure that sensitive customer data is encrypted and that the system complies with international financial standards like PCI-DSS. By prioritizing "Security Integration" at this level, the platform builds trust with future users while providing a seamless checkout experience. This step is vital for turning a standard website into a fully operational e-commerce or service-based platform.

3.4 Verification: Security Testing

Before the website can go live, it must undergo a rigorous verification and testing phase to identify potential vulnerabilities. This process involves simulated attacks, code audits, and functional checks to ensure that the security measures implemented in the previous step are airtight. Testing teams verify that all links work, forms submit correctly, and that the payment gateway is indeed secure against fraud. This quality assurance phase acts as a final safety net, ensuring that the product is stable and reliable. It minimizes the risk of post-launch technical failures or data breaches that could harm the business's reputation.

3.5 Deployment: Website Launch & Ecosystem Connection

The final step is the official launch, where the website is moved from a testing environment to a live server accessible to the public. Beyond just "going live," this stage involves connecting the site to the broader business

ecosystem, such as social media feeds, CRM systems, and analytics tools. This ensures that the website isn't just a standalone page but a working part of the company's overall digital strategy. Once the rocket is "launched," the focus shifts to monitoring performance and ensuring the ecosystem remains connected and functional. This marks the transition from a development project to an active, revenue-generating digital asset.

IV. RESULTS

The AI-Powered Resume Parsing and Screening System was implemented and evaluated to demonstrate its functionality and effectiveness in automating recruitment processes. The system provides a structured, user-friendly interface that guides users through authentication, role selection, resume analysis, and result visualization.

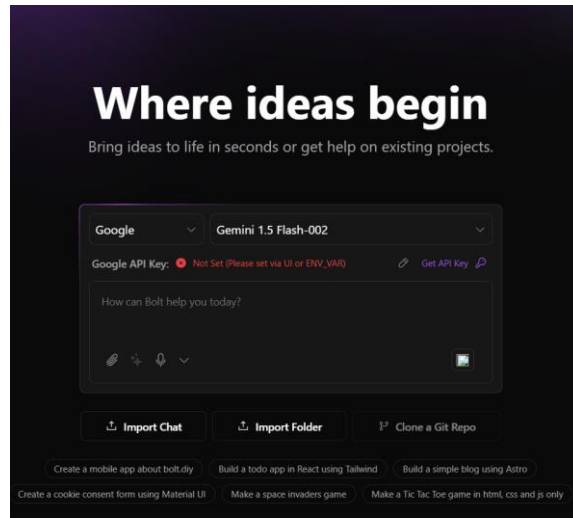


Fig. 2. Home Page

Fig. 2 The image shows an **AI Website Generator Home Page** that allows users to create website designs by describing their requirements in natural language. It offers ready-made components like dashboards, signup forms, and hero sections to speed up development. The platform simplifies website creation and supports code export for easy deployment.

Fig. 3. Sign Up / Login Interface

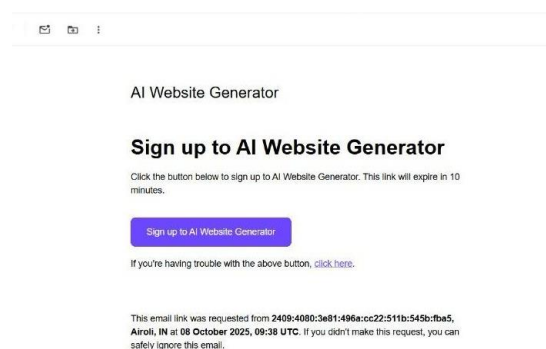


Fig. 4. Successful Login

Fig. 3 and **Fig. 4** The images illustrate the secure login and account verification process of the AI Website Generator. Users confirm registration through a time-limited email link and then create an account by providing basic details such as name, email, and password. This ensures safe and authenticated access to the platform.

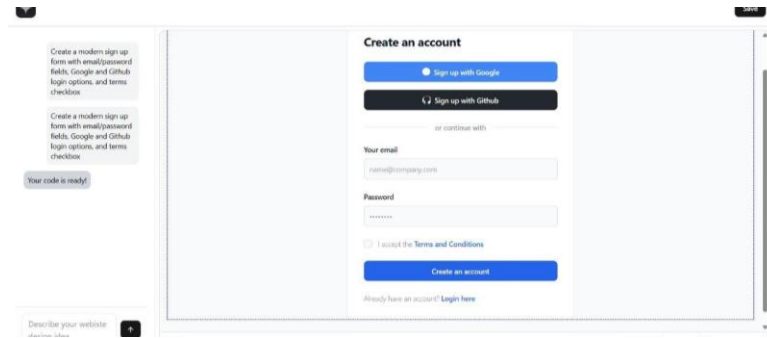


Fig. 5. Demo Login Sign up Web-site

Fig. 5 The image shows a demo login/sign-up page automatically generated by the AI Website Generator. It includes multiple authentication options such as email-password login and social sign-in using Google and GitHub, along with a terms and conditions checkbox. The interface is clean, modern, and ready for use, demonstrating how the system can instantly create secure and functional user authentication pages based on design input.

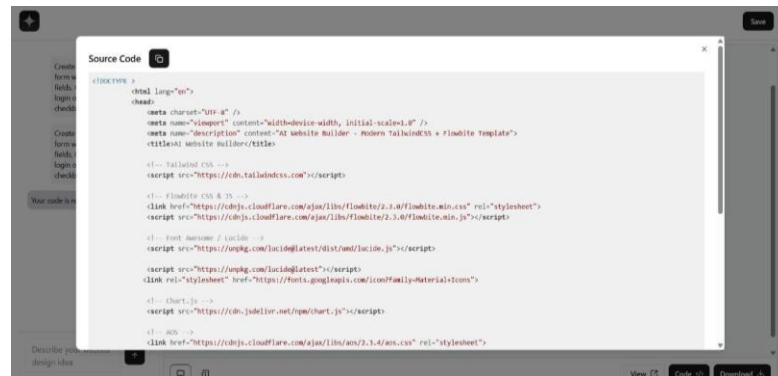


Fig. 6. Demo Web-site Code

Fig. 6 The image displays the source code generated by the AI Website Generator for the designed login page. It shows automatically created HTML structure along with integrated libraries such as Tailwind CSS, Flow bite, Font Icons, and Chart.js to support modern UI components and interactivity. This demonstrates how the system not only designs the interface visually but also generates ready-to-use, deployable frontend code.

V. CONCLUSION

The proposed system effectively demonstrates how an AI-powered assistant can simplify the website creation process, making it accessible even to non-technical users. By automating key aspects such as design selection, layout structuring, and content generation, the system significantly reduces the time, cost, and expertise required for website deployment. This automation enables faster development cycles while maintaining professional quality and consistency. As a result, individuals and small organizations can establish an online presence with minimal technical barriers. The approach contributes to improved usability and wider adoption of web technologies.

Furthermore, the integration of a secure wireless payment gateway enhances trust and reliability within the digital ecosystem. Support for modern payment methods, combined with strong encryption and secure transaction handling, addresses critical concerns related to fraud, data breaches, and hacking. This security-focused design ensures safe financial interactions for both users and service providers. Overall, the system delivers a comprehensive, secure, and user-friendly solution that reduces development effort while promoting confidence in digital platforms. This makes the proposed framework suitable for real-world deployment in modern web-based applications.

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