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Design and Development of a Company Profile Website Using the Rapid Application Development Method: A Case Study of a Real Estate Company

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Abstract

This study addresses the business need of PT Global Agensi Sejahtera, a property agency operating in the Jabodetabek region, to establish an official digital information channel accessible to prospective clients. Prior to this project, company information was dispersed across printed brochures, social media, and direct messaging, forcing prospective clients to make repeated inquiries, slowing initial response times, and impeding the formation of early trust. The objective of this research is to design and develop a company profile website as a centralized hub for service information, portfolio, and contact, enabling more effective promotion and communication. A three-phase Rapid Application Development (RAD) approach was adopted: understanding business challenges through observation and interviews; designing information flows and interface layouts; then building and testing the website until it was ready for deployment. The implemented system covers five main sections Home, About, Services, Projects, and Contact including an integrated contact form. Black-box testing across five scenarios confirmed that all primary functions operate correctly. The website was subsequently published at https://global-agensi-sejahtera.vercel.app, providing the company with an official digital presence accessible to the public at any time.

Keywords: Company Profile, Rapid Application Development, Real Estate, Single Page Application, UML

I. Introduction

Digital presence has become a strategic necessity in the property industry, as prospective clients' initial trust is shaped by access to company identity, service clarity, and portfolio evidence [1], [2]. In this context, a company profile website is no longer a supplementary medium but rather the primary channel through which corporate credibility is communicated. PT Global Agensi Sejahtera, a property agency under the Mulqi Group holding company, previously lacked an official website. Company information was distributed through brochures, social media, and direct messaging. This situation created tangible business problems: important information was difficult to find in a single place, prospective clients could not quickly obtain an overview of services, initial inquiries were repetitive, and conversion opportunities were often delayed [3], [4].

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Several studies demonstrate that iterative and collaborative development approaches can accelerate website delivery while maintaining functional quality [5]–[7]. Rapid Application Development (RAD) is particularly relevant as it emphasizes requirement clarification, iterative design validation, and rapid implementation [8]. However, prior studies have not specifically addressed the end-to-end implementation gap for property agency companies that lack an established digital presence from visual-functional requirement identification through to the deployment of a fully tested system [9], [10].

This study therefore aims to develop and validate a company profile website for PT Global Agensi Sejahtera using a three-phase RAD model. The research contributions are: (1) formulation of requirements grounded in the company's real business challenges dispersed information, inefficient initial communication, and the absence of an always-accessible official channel; and (2) functional validation through black-box testing covering all primary user interaction flows.

II. Related Work

Research on company profile website development using the RAD method has grown across a variety of application domains, consistently demonstrating the method's effectiveness in accelerating delivery without sacrificing functional quality. In the domain of institutional and organizational websites, Al-Hawari et al. [16] documented a structured six-phase web development process for a university profile site, highlighting that systematic planning of content architecture before implementation significantly reduces rework. Martani et al. [11] applied RAD with Bootstrap and CodeIgniter to develop a company profile website for a foundation, concluding that the iterative prototyping cycle allowed stakeholders to validate information structure before coding began. Similarly, Deafani et al. [12] adopted RAD with SWOT analysis for an elementary school website, demonstrating that the method eases information dissemination even for small organizations.

In operational and marketing systems, Maulita et al. [21] used RAD to build a property marketing and credit information system, making it one of the few prior studies that positions RAD explicitly within the property sector. Awaliah et al. [22] applied RAD for a web-based marketing platform for traditional woven fabric, illustrating the method's suitability for small-to-medium businesses that need a rapid digital presence. Jolie [20] developed a company profile website for a company in the PT Multi Global case, focusing on increasing digital promotion effectiveness and concluding that a structured profile site directly strengthens brand credibility. In service management and operations, Nesta et al. [23] and Putra et al. [24] applied RAD respectively for a boarding house management system and a preventive maintenance check application, both confirming that rapid prototyping enables functional alignment between developer and end-user before full implementation. Wiguna et al. [29] utilized RAD for a web-based employee recruitment system, emphasizing the importance of clean information architecture and validated navigation flows.

Several studies further reinforce the methodological foundations used in this research. Delima et al. [5] demonstrated RAD's ability to deliver an integrated agricultural portal within 150 days with iterative prototyping. Hamzah et al. [6] applied RAD to an e-learning platform implementation, proving the method's scalability across different web system types. Riadi et al. [9] quantitatively measured RAD's impact on development cycle efficiency and user satisfaction in a web-based registration service, reporting full functional test success and usability scores exceeding 73%. Syaliman et al. [7] applied RAD specifically within a student information system, further validating its applicability to Indonesian web development contexts.

From a UML modeling perspective, Sugiarti [31] provides comprehensive case-based guidance on analysis and design using UML, which informs the use-case and activity modeling methodology applied in this study. Complementary works by Sugiarti et al. [32], Fadillah and Sugiarti [33], Amanda et al. [34], and Prapto et al. [35] further strengthen the RAD and web-based system design foundations employed here. Despite this breadth of prior work, a clear gap remains: no study specifically addresses the end-to-end

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deployment of a company profile website from requirement identification through live publication for a small property agency that has no prior digital presence. Research in the property domain tends to focus on large-scale e-commerce property platforms [10], [18], [21], rather than the rapid digital onboarding of small agencies. Additionally, existing studies rarely document the deliberate technology stack selection specifically the adoption of a modern Single Page Application (SPA) architecture using React, TypeScript, and Vite within an RAD workflow as a maintainability and performance strategy for property sector SMEs. This study addresses both gaps.

III. Research Method

To address the challenges formulated in the introduction, this study employs a workflow that places business needs as the starting point for design. The Rapid Application Development (RAD) approach was selected because it enables observation, requirement formulation, solution design, implementation, and testing to proceed rapidly yet in a structured manner [8].

A. Data Collection

This study uses an applied system development approach conducted in the field context of PT Global Agensi Sejahtera. Data were collected through: (1) observation of the company's promotion and communication flows; (2) semi-structured interviews with management and the field supervisor to identify functional and non-functional requirements; and (3) literature review of RAD methodology, UI/UX practices, and comparable website implementations [9]–[13]. This phase ensured that design decisions were grounded in actual problems experienced by the company and its prospective users, rather than assumptions.

B. Rapid Application Development (RAD) Method

System development followed the three-phase RAD model [8]:

a. Requirements Planning: establishing business objectives, user requirements, and system boundaries.

b. RAD Design Workshop: translating requirements into process and interface design artifacts, including UML diagrams and a high-fidelity prototype.

c. Implementation: building the validated design into a functional application, including initial testing and deployment. Fig. 1 illustrates the three-phase RAD-based research workflow used in this study.

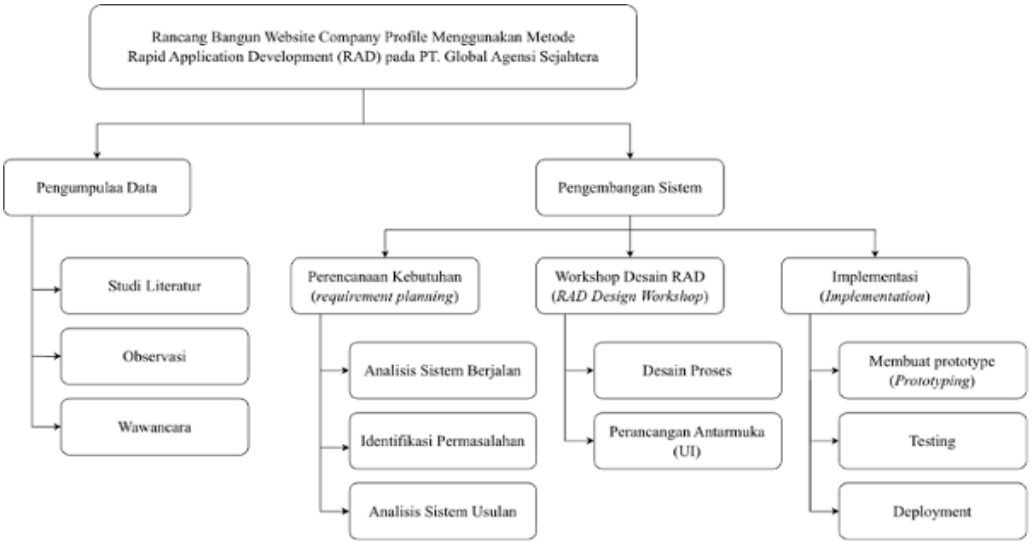

Fig. 1. Three-phase RAD-based research workflow low

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C. Scope and Technology

The implementation scope focuses on the public-facing website directly viewed by prospective clients, covering company profile information, services, project portfolio, and a contact channel. The five main website sections are Home, About, Services, Projects, and Contact. Technologies including React, TypeScript, Vite, Tailwind CSS, shadcn/ui, Formspree, and Vercel were selected to ensure the website is responsive, accessible, and maintainable. The SPA architecture specifically was chosen to reduce full-page reloads between sections, improving perceived interaction smoothness while keeping the codebase component-based for ease of future maintenance.

D. System Testing

Functional readiness was evaluated using black-box testing, which examines system behavior from an input-output perspective without inspecting internal code structure [9]. Five test scenarios were defined to represent the primary user interactions across the website.

IV. Result

A. Result

Results in this section are presented following the RAD process sequence, so that the relationship between initial requirements, design decisions, feature implementation, and business impact can be seen as a coherent whole.

1) Requirements Planning Phase

Initial analysis confirmed the absence of a centralized digital information channel. The primary problems identified were: unstructured public information, no standardized lead conversion flow, no digital performance baseline, and a high dependency on manual communication. Requirement analysis results were formulated into system requirements: clear public access, structured information architecture, consistent inter-section navigation, company value content, responsive service and portfolio presentation, and a functional contact channel. Specifically, these requirements were mapped to close five core challenges: (1) user information needs not yet clearly documented, (2) visual layout and information flow not yet unified, (3) user access experience not yet consistent across devices, (4) core functions not yet validated through structured testing, and (5) no active official digital channel available to the public.

2) RAD Design Workshop Phase

UML modeling produced two primary actors: the user (visitor) and the admin (contact message operations). Seven use cases were identified:

a. View Home section.

b. View About section.

c. View Services section.

d. View Projects section.

e. View Contact section.

f. Submit contact form.

g. Receive/follow up on contact messages.

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Use case 7 represents an external operational flow (outside the front-end interface) but is included to maintain completeness of the end-to-end process. Actor interactions are shown in Fig. 2.

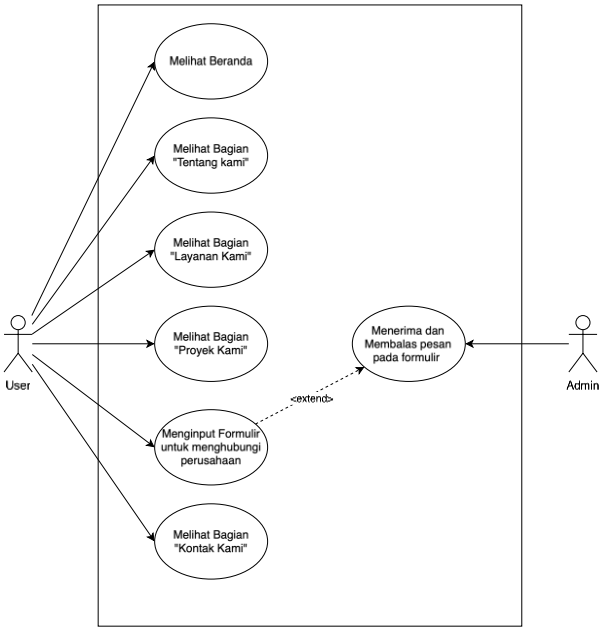

Fig. 2. Proposed system use case model

Activity diagrams were also produced during the workshop phase to map interaction flows in detail. To maintain the conciseness of this article, activity diagrams are not reproduced here.

3) Implementation Phase

The final system was successfully implemented as a Single Page Application and published at https://global-agensi-sejahtera.vercel.app/. The design and development process was carried out iteratively with the company. Initial interface drafts were used as a discussion medium for requirement refinement, then progressively improved based on feedback until a concise information flow was achieved: who the company is, what services are offered, what projects have been completed, and how prospective clients can make contact.

The implemented interface modules are:

a. Home.
b. About.
c. Services.
d. Projects.
e. Contact.

Selected interface screenshots are presented in Fig. 3 through Fig. 7 as implementation evidence.

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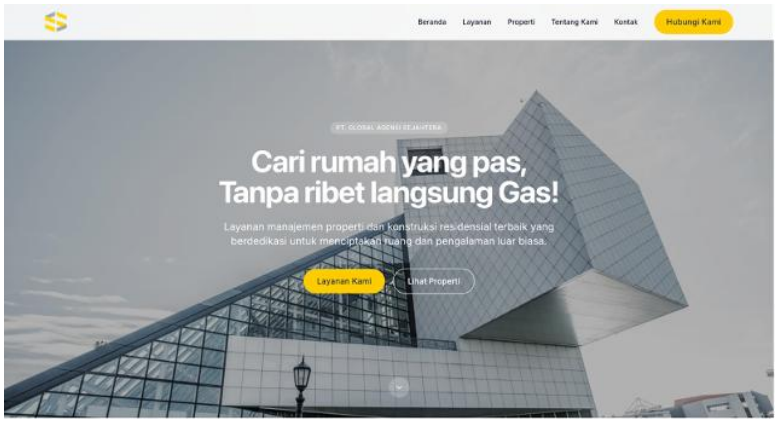

Fig. 3. Home section interface

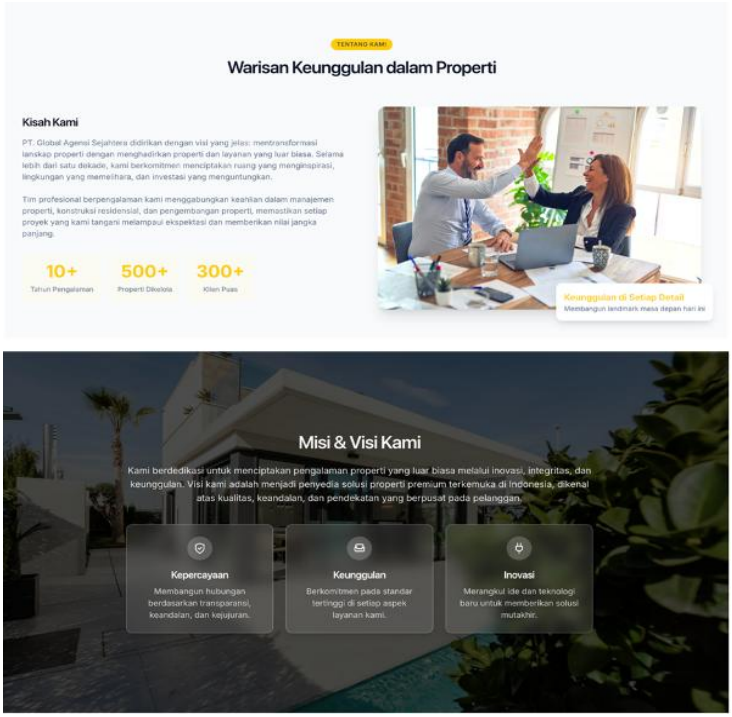

Fig. 4. About section interface.

Fig. 5. Services section interface

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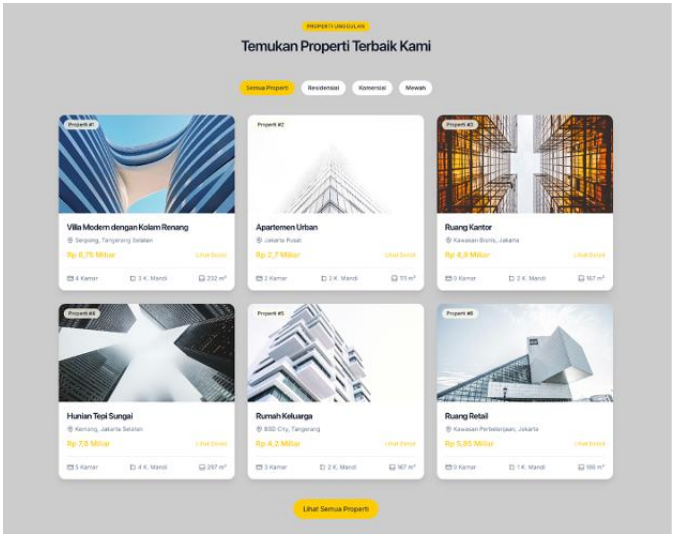

Fig. 6. Projects section interface.

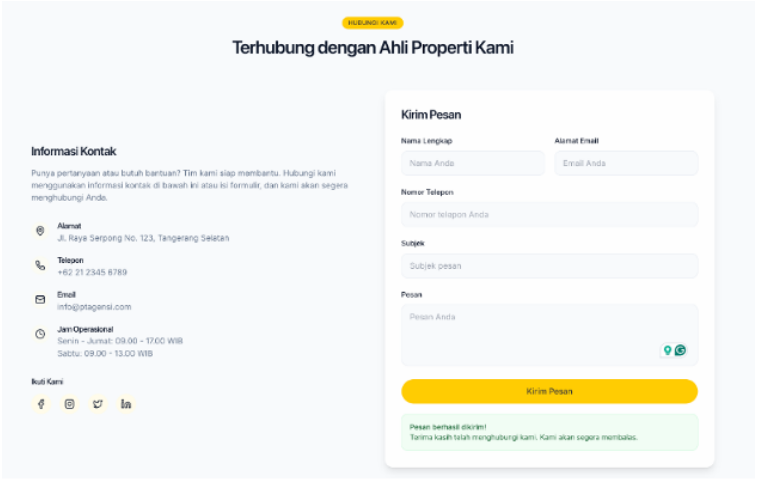

Fig. 7. Contact section interface.

The SPA architecture improves interaction smoothness by eliminating full-page reloads between sections, and the selected component structure supports maintainability for future development.

4) Black-Box Testing Phase

Table 2 summarizes the functional testing results. All scenarios produced a valid status.

TABLE 2

BLACK-BOX TESTING RESULTS

No	Skenario Uji	Hasil yang Diharapkan	Hasil Uji	Status
1	Navigasi menu utama SPA	Bagian tujuan ditampilkan tanpa reload penuh	Sesuai harapan	Valid
2	Adaptasi responsif pada viewport seluler	Tata letak, navigasi, dan grid tetap dapat digunakan	Sesuai harapan	Valid

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3	Validasi form negatif (field wajib kosong)	Submit ditahan dan muncul peringatan input	Sesuai harapan	Valid
4	Validasi form positif (data valid)	Form terkirim, notifikasi sukses tampil, pesan diterima	Sesuai harapan	Valid
5	Interaksi elemen portofolio	Kartu/elemen visual tampil proporsional	Sesuai harapan	Valid

B. Discussion

The findings align with prior studies demonstrating that RAD is effective for web projects requiring rapid development cycles and intensive stakeholder feedback [6], [9]. From a business perspective, the iterative pattern helped the company ensure that the features built genuinely addressed communication needs with prospective clients. The technologies used functioned as enablers rather than ends in themselves: the primary value lies in the outcome—company information is now more structured, public access is easier, and the contact pathway is clearer. Formspree integration also enabled the company to receive inquiries without requiring a separate backend system [11], [14].

Compared to prior works in the property domain, this study is distinctive in two respects. First, it addresses a property agency SME with no prior digital presence, rather than a large-scale e-commerce property platform [10], [18], [21]. Second, the deliberate adoption of a modern SPA stack (React + TypeScript + Vite) within RAD—as opposed to the PHP, CodeIgniter, or plain HTML/CSS approaches prevalent in comparable studies [11], [16], [20]—demonstrates that RAD can accommodate component-based front-end architectures, resulting in a system that is more performant and maintainable in the long term.

V. Conclusion

This study successfully designed, developed, and validated a company profile website for PT Global Agensi Sejahtera using the three-phase RAD approach. System requirements were identified through observation, interviews, and literature review; the system design was validated through UML modeling and high-fidelity prototyping; implementation produced a responsive SPA that has been publicly published. Black-box testing across five scenarios confirmed that all primary functions operate correctly and the system is ready for deployment. These findings confirm that the initial research challenges were addressed in full, covering user requirement documentation, unified information flow, multi-device functional validation, and the establishment of an official digital presence accessible to the public in real time. The results demonstrate that RAD is well-suited for rapid company profile website development in a property business context, while simultaneously improving public information access, strengthening initial digital trust, and providing a more structured communication pathway. For future development, it is recommended to integrate a Content Management System (CMS) to enable non-technical users to update content independently, apply continuous Search Engine Optimization (SEO) strategies to improve search engine visibility, integrate analytics and a lead management pipeline to enable more measurable evaluation of digital marketing performance, and configure a personalized domain aligned with the company's branding.

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